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CHAPTER: 1
PROLOGUE

1.1 INTRODUCTION

Multan City is the 3rd largest in the Province, and is located on National Highway (N-5) leading to Bahawalpur and Muzaffargarh/Dera Ghazi Khan enroute to Karachi, passing through core of the City. The City lies east of Chenab River, more or less in the geographic centre of the Country, at a distance of about 966 km from Karachi.

Multan is known as the 'City of Sufi Saints (Pirs) and Shrines'. The City has many superbly designed mosques, shrines and tombs. A network of rails, highways and air flights connect Multan to the rest of the Country. The city offers trading facilities to the entire region for vegetables, grains and agro-based products.

About 2000 acres of land is under forest in this rich agriculture area. History once called it "city of Gold" & today it is called a cotton mine with 35,000 power looms manufacturing exported cotton goods. It's extremely talented artisans are known for their handmade beautiful blue pottery, ceramics, camel skin lamps, wooden crafts, furniture, metal handicrafts, multani khussa (embroidered leather shoes) & hand embroidered cloths, which makes the strong cottage industry of Multan adding to national exchequer.

Multan is the financial hub of southern Punjab. Multan is a versatile city with economy base ranging from rich heritage artifacts to modern day industry. Multan's vast economy is based on industry which includes Sugar & flour mills, foundries, fertilizer factories, Textile & weaving & dyeing industry, & most importantly agriculture.

1.1.1 Multan's Historical Background

It is important to know chronological backdrop of a City, as its evolutionary progression gives worthwhile insight for its future planning. Historical evolution of Multan can be divided into different periods such as Pre-Arabs period, Arabs Rule, Karmatians Period, Moghal Invasion, Moghal Empires, Pathan and Sikh Rule, British Period and Post Independence period after the creation of Pakistan *(Figure-1.1)***.** These eras are briefly described below:

i) Pre-Arabs Period (Up to 700 A.D)

The history of Multan in the above period is little known. But there is evidence to suggest that the City originated thousands of years back in the past, and is linked to non-Aryan civilization flourishing in Sindh Valley five thousand years B.C., as well as with Mohenjodaro and Harrapa civilizations. It is nearly certain that Alexander passed through this area sometimes during B.C 325-326. Philip was appointed by Alexandar as 'Satrap'. In B.C. 327 Macedonians were ousted by Chandragupta and remained in power till the beginning of second century B.C when overpowered by Bactrian. Then from about 30 B.C to 470 A. D Kashan tribes were the predominant power and from 470 to about 550 A.D. Epthalites or White Huns are believed to have been in authority.

Early history by Arab Geographers indicates that Multan has also been capital of Sindh province, and was then ruled by Chach who remained in power till his death in A.D. 671. During the period of Chach towards the end of 641 A.D, the Chinese pilgrim Hiuen Tsang passed from Multan. Accounts of his travel briefly state that "leaving the right bank of Indus, he arrived at the Kingdom of "Mulo-San-Lu" (Mula-Shana-Pura) and also gives short description of the Sub-Temple in the city.

ii) Arab Rule (700-970 A.D)

The Arabs after outrage of mids of lower Sindh in 712 A.D. defeated Raja Dahir near Sakkar and marched on towards Multan under the leadership of victorious General Muhammad Bin Qasim who paved the way for subsequent conquest of India. As the time passed on, the power of Caliphate began to weaken and by the end of the 9th century Multan was for all practical purposes independent of Baghdad. The main powers of the region of those times i.e. in Punjab and Delhi were too weak to have much effect on the Muslim garrison of Multan, and other in Kandhar and Kabul were occupied in resisting Muslim aggressions in their direction. Multan remained for three centuries the outpost of Islam in India while practically the whole of the rest of Punjab remained under Hindus rule and there was no war during three centuries.

iii) Karmatians Period (970-1206 A.D.)

In 891 when Caliphate grew weaker, the tendency to Schiam Persia was increased. One Abdulla (Karmat a secret communicator) with his doctrine "everything allowable" proceeded to carry out his views with violence. After their success in Syria, Basra, and Kufa and even Mecca were pillaged, and after their defeat in Egypt and Iraq, they appeared gradually to have pushed

themselves with their doctrine into the Indus Valley. Towards the ends of 10th century they seized Multan, destroyed the Hindu temple and altered the site of orthodox mosques.

At that time Daud Lodhi Pathan was governor of Multan. His family had come under the influence of Karmatians. They now became obnoxious to that zealous defender of the faith Mahmood of Ghazni, who twice marched against them and ultimately deported the governor Daud Lodhi from Multan to Afghanistan. Meanwhile, a Raja of the native Sumra family enjoyed full power backed by Karmatians. After remaining in their hands till two centuries, the city of Multan was ultimately delivered to Mahmood Ghori who in the course of his expeditions passed several times through Multan.

iv) Moghal Invasion (1206 - 1526 A.D)

In 1218 Chingiz invaded Western Turkestan and for next three hundred years the history of Multan is practically the history of the incursion from Western and Central Asia to which the Moghal invasion of Chingiz gave rise.

As time went on, the invading armies became less strangers for this area. Number of them gradually mixed with the local inhabitants, At least ten important invasions of the Southern Punjab by Central Asia hordes are recorded in the centuries between 1221 and 1528. In 1284 the Moghal raiders under Taimur Khan defeated and killed the Prince Martyr and ruled Multan. In 1327 a force under Turnisharin Khan came to Multan who was retreated on payment of a bribe. In 1397 came Tamerlane himself whose troops occupied Uch and Multan. In 1430 Shah Ruukn dispatched a force against the province. Then in 1524-25 we find Arghan Turks after a large siege, occupying and sacking the city. And finally in 1528 came peaceful transfer of the province to the emissaries of the last great invader, the Babar.

v) The Moghal Rule (1528-1752 A.D)

Multan enjoyed a long period of peace and entitled as 'Dar-ul-aman' during the strong centralized Moghal rule. For at least two hundred years from 1548 to 1748 there was no warfare in this part of Punjab. The cultivation remained for the most part confined to the riverain lands. The area immediately around and north of Multan was available for settlers in Shah Jehans reign and was colonized by men from all parts of North Western-India. Commerce seems to have flourished and Multan itself became a noted emporium for trade between Hindustan and Persian Empire.

As the time when Moghal power began to fall, the city of Multan was not affected from devastation as compared to other parts of India. The armies, of

Nadir Shah and Ahmad Shah Abdali with their awful attendant evils left Multan unscathed and it was only from minor and subsidiary contentions that this place had suffered.

As the central power weakened the government became more and more a government by contract or a money-making concern and got into the hands of Hindus. From the instinct of Hindus we own the origin of those local farming of revenue which in turn led to that development of canal irrigation, that from the one bright spot amid the general confusion of succeeding period before the day of Diwan Sawan Mal.

vi) Pathan and Sikh Rule (1752-1843)

In 1752 Multan became a province and the 1oyalities of this province were with Afghan Kings of Kabul. The country was ruled for the most part by Governor of Pathan extraction under the rule of Soddazai family. Chief of Soddazais from time to time had fled from Afghanistan to take refuge in Multan and then absorbed a good deal of power. A kingdom which was for all purpose independent was set up by Nawab Mazaffar Khan and Sarfraz Khan, the Multani Soddazais. Under their government, lands were conferred freely on the Pathan families.

The rule of this Pathan government began to weaken due to mismanagement in administration. For some time they resisted against Sikh aggressions with the help of arms brought by British businessmen. Ultimately half of Multan district remained in the hands of Pathans and rest was with the Dauduputra. During these periods the canal system improved. Wali Muhammad canal was built at the time which irrigated land around Multan. Two small cuts, now the Shahpur and Durana Langana Canals were constructed at an early date. Sikandarabad Canal was constructed by the powerful Khokhar family for the irrigation of their own land. Towards the end of their rule efforts were made to extend irrigation northwards by construction of the Khadal, Tahirpur and Matital cuts. Raja Ranjit Singh stormed the Multan fort in 1818 and took over Multan. In 1821 Diwan Sawan Mal was made the Governor of Multan and for next 13 years this area remained under the rule of Sawan Mal.

vii) Multan During British Rule (1845-1947)

After the first Punjab war of 1845 when Mulraj, the son of Sawan Mal resigned the charge, English officers who were sent to replace him were massacred in April 1848. There were three phases of Multan campaign by the British, during 1848-49. Finally the City was captured and Mulraj surrendered. Possession of the district had been taken in the name of British Government. Multan became the headquarters both of a division and of a district.

After strengthening their rule, the British made following changes/development in Multan.

- In 1850 a hospital was established
- In 1856 an English Medium School was started at Hussain Agahi
- In 1857 the new fort in Multan Cantt was started and army residences constructed.
- In 1858 the central block of Courts Building was constructed.
- In 1859, Multan Lahore Railway line was constructed in 1859, which was connected with Indus Delhi State Railway in 1878
- In 1988 Clock Tower of Multan was constructed and Multan Municipal Committee began to operate in this building.
- Railway Bridge on Chenab was constructed in 1890.
- The Government Intermediate College was established in 1920, which was upgraded to Degree College in 1934.
- The Airport was constructed in 1919, however regular service was started in 1938.

The above had good impact on the economy, especially because of improved transportation/ mass-communication and irrigation. On one hand this development facilitated the people, but also resulted in sweeping the raw material from East to the West. There was a lot of cultural diffusion as a result of English Education System, and law & order considerably improved in the region.

viii) Multan after Creation of Pakistan

In 1947-48, a large number of refugees arrived from various parts of India and there were problems of resettlement. During 1947-57, Multan Improvement Trust initiated fifteen housing schemes, including Hassan Parwana Colony, Officers Colony, Shamshabad Colony, Willayatbad Colony, Abadali Colony, Jamalpur Colony, Lawyer Colony, Chowk Guldin Colony etc. Housing and Settlement Agency also developed two important housing schemes namely Mumtazabad and Gulgasht Colonies.

The following developments are worth mentioning:

- Nishtar Medical College and Hospital were established in 1955.
- After the discovery of gas in 1953, fertilizer factory, power station and a number of industrial units were established.
- In I960 Writer's Colony was established on self-help basis
- `Radio Station was established in 1966.

- Pak Arab Fertilizer factory was constructed in 1962.
- New Multan Housing Scheme was launched in late 1970s on Masoom Shah Road.
- MIT was upgraded to Multan Development Authority in 1976.
- A number of development projects including housing schemes, bus stand, truck stand, and roads projects have been completed by MDA.
- Baha-ud-din Zakariya University was established in 1975.
- State Bank established its branch in Multan in 1979.
- Lahore High Court Multan Bench was established in 1981.
- Currently extension/improvement of Northern By-pass and Multan (Southern) by-pass are underway.
- An Industrial Estate has been established towards south-west of the City.
- A number of other developmental projects are underway.
- The current (2008) population of Multan is estimated to be around 1.8 million.

1.1.2 Historical and Architectural Heritage

Multan is well-known for historical monuments and buildings/structures of architectural significance. The City has a wealth of historical and religious heritage. It is regrettable preservation of Multan's old and legendary heritage is not being paid due attention. Historic buildings are disappearing slowly and monuments are suffering. A World Bank report says that there are 131 sites which should be protected, however only 24 of them have this status. Multan has been declared by UNESCO the “World City of Heritage”.

Following is a detail of such buildings/ structures:

i) Multan Fort

The Multan Fort is built on detached mound of earth separating from the City by the bed of an old branch of the Ravi. Its four gates were the Delhi Gate on the west, the Khizar Gate on the northeast, Sikhi Gate on the southeast and the Rehri Gate outside Hussain Aghai. Qasim Bagh has been laid within the wall of the fort. A beautiful panoramic view of Multan city can be had from the highest point of the fort.

ii) Mausoleum of Sheikh Baha-ud-Din Zakariya

The mausoleum contains tomb of the Saint and many of his descendants, including his son Sadr-ud-din. Opposite the door of the mausoleum, is grave of Nawab Muzaffar Khan who died defending himself against the Sikhs. Also

buried in the precincts are Shahnawaz Khan, son of Muzaffar Khan, Makhdum Shah Muhammad, and Makhdum Bahawal Bakhsh.

iii) Mausoleum of Shah Rukn-e-Alam

On the southwest side of the fort is the magnificent mausoleum of Shah Rukn-i-Alam, the grand son of Bahawal Haq. Rukne-e-Alam was man of great religious and political influence during the Taughlak reign. The mausoleum is an octagonal about 16 meters of diameter inside with perpendicular sloping tower towers at angles. This is surrounded by the smaller octagon of about 8 meter exterior side and 8 meter in height. Above this, a dome of about 18 meters exterior diameter. The total height of this tomb is a little above 30 meters but as building stands on high ground, its total height above the road level is about 46 meter, which makes it the most striking feature of the landscape and it visible from 19-24 kilometers distance. It is built entirely of red bricks and exterior is ornamented with glazed tiles of dark azure and white contrast with the deep red of the finally polished bricks. The dome of the mausoleum is reputed to be the second largest in the world after Gol Gumbad of Bijapur (India).

iv) Mausoleum of Musa Pak Shaheed

The Mausoleum of Musa Pak Shaheed is inside Pak Gate. Sheikh Abdul Hassab Musa Pak Shaheed was descendant of Abdul Qadir Jilani and was born in Uch. Among his descendants were Hamid Ganj Bakhsh buried near Musa Pak Shaheed, Yahiya Nawab buried near the Pak gate, and Inayat Wilayat buried near Haram Gate in a conspicuous tomb, while Jan Muhammad is buried in Delhi. Another shrine is that of Shah Dana Shaheed near the Delhi Gate.

v) Mausoleum of Shah Shams Tabrez

Close to the shrine of Baba Safra lies the mausoleum of Shah Shams Tabrez so named after one Shams-ud-din of Sabzwar in Afghanistan, a descendant of Imam Jaffar, who was born in 1165 A.D. The mausoleum was rebuilt by one of his followers in 1718 A.D. South of the tomb of Shams Tabrez is the Aam Khas Garden so called because in the days of Shahzada Murad Bukhsh, son of Shah Jehan, public receptions were held here, private receptions being held in the court.

vi) Gardezi Shrine

It is the shrine of Muhammad Yousaf Gardezi near Bohar Gate. Muhammad Yousaf was descendent of Holy Imam Hassan and was born in Gardez. He

came to Multan in about 1088 A.D., and settled here. The shrine is rectangular dome-less building decorated with glazed tiles, work of considerable beauty.

vii) Mosques

Amongst mosques of note is the Wali Muhammad Mosque in the Godri Bazaar in the heart of the city, which was built by Ali Muhammad Khan Khakwani, the Pathan Governor in 1785. The Phulhattanwali Mosque in the Chopar Bazar is said to have been built by Emperor Farukh Siyar.

viii) Eidgah

About 1.6 kilometers northeast of the city is idgah, which was built by Nawab Abdus Samad Khan, Governor of Lahore in 1735. It was for sometimes used as the Deputy Commissioner's Kutchery. It is 74 meters long and 16 meters broad and has a central dome with open chamber on either side. Three kilometers east of Idgah near the Durana Langana Canal is the Bakirabadi Mosque built by Baqir Khan who was Subedar of Multan in 1720. To the south of Idgah is the Shrine of Baba Safra.

ix) Samadhi of Diwan Sawan Mal

To the east of the tehsil building is the grave of Diwan Sawan Mal. To the south of the railway line about 6.5 kilometers from the Multan is Suraj Kund, which is connected with the tale of Harakash.

x) The Prahladpuri Temple

This Temple was partially destroyed by protesters as a result of destruction of Babri Mosque. Only remains now exist on the north edge of the fort. The temple was situated close to the shrine of Bahawal Haq.

xi) Churches

There two important churches in Multan are Christ Church along LMQ road and Saint Mary's church in Cantonment. These are remnants of British rule over the sub-continent, and presently local church bodies are looking after their maintenance.

xii) Some other buildings of archaeological significance are as follows:

- Town Hall
- Cantt. Railway Station, Multan

- Railway Club Multan
- Nishtar Medical College
- Tomb of Sher Shah
- Tomb of Ali AKbars's mother
- Tomb of Bibi Pakdaman
- Tomb of Saeed Khan Qureshi
- Shrine of Sakhi Yahya Nawab
- Shrine of Hafiz Jamal
- Tomb of Khawaja Awais Khagga
- Tomb of Mai Meharban.
- Tomb of Shah Dana Shaheed.
- Tomb of Abu'l Fatah Shah Hussain Abdali
- Tomb of Shah Muhammad Khan Baddozai.
- Tomb of Sheedy Lal.
- Tomb of Qazi Muhammad Bakhsh (Qazi Mithoo)
- Tomb of Hazrat Khawaja Ubaidullah Multani.
- Tomb of Pir Inayat Ullah Shah Qahiree.
- Tomb of Syed Ahmad Saeed Kazmi
- Tomb of Hamid Ali Khan
- Shrine & Mosque of Pir Gohar Sultan.
- The Walled City and its Gates

xiii) Defensive Wall

One of the oldest living cities in the world, Multan is a significant example of old Islamic urbanization. The original defensive wall — 40-50 feet high, dating from the seventeenth century was demolished in 1854 after the British captured Multan but its lower sections survived. The present remains of the wall preserves the semi circular form of bastion at intervals. The wall was reduced to 10-12 feet during the British period. It contained seven gates, of which Lahore, Delhi, Daulat and Khizeri gates have disappeared. Dilapidated Khuni Burj (Bloody Tower) named after the bloody battle fought here when British force stormed Multan in January 1848 still survives.

xiv) Circular Road

A circular road runs around the walled city connecting the surviving gates, Khuni Burj and Hussaim Agahi entrance. Three of the six gateways - Bohar, Haram and Delhi - were rebuilt in the latter half of the nineteenth century with pointed arches and castigated towers. All of them badly need renovation.

xv) Lahori Gate

Once an imposing gateway, Lahori Gate existed even in the nineteenth century. It was damaged when the British annexed Multan and totally demolished in 1854. The new gate built on this site is a combination of two double story towers with a flat band above and is without much decoration.

xvi) Haram gate

Haram gate comprises of two pylons on each flank, with a large four cantered pointed arch in the middle. The castigated towers on flanks are double storied.

xvii) Delhi Gate

Delhi Gate, one of Multan's oldest landmarks, existed even before arrival of the British. The present gate was rebuilt during the British rule. Its construction is similar to Haram Gate except that its arch has a wider span. The gateways have been white washed and painted several times with water based earth colours and none of the original work has survived. The wooden doors have also disappeared.

xviii) Walled City

The walled city is like a citadel with these gates. The life inside these gates is quite different from other parts of Multan. Still it is a hub of Multan's business. The four congested bazars which start from the gates merge into the centre of Wall City called Chowk Bazaar. Beside Khuni Burj (Tower), there are few other towers which are still intact between Pak Gate and Daulat Gate.

The gateways are surrounded and engulfed by encroachments, and hundreds of advertisements and hoardings. As for the wall itself, its present condition is ruinous and at no place does it maintain its original shape. At most places, it is totally missing. Most salient portion exists between Daulat Gate and Pak Gate. Rows of houses and shops have been erected on the strip of land between the outer face of the circular road and the inner face of the wall, in the process concealing several notable historic features. This crossing is however, still called Daulat Gate.

However ruined it maybe, the wall still defines the edge of the old city far more clearly than the circular road and is an immediate reminder of Multan's historic character. The circular road is in fairly good condition through its width and right of way has been considerably reduced due to unchecked encroachments.

1.1.3 Decay of Heritage Buildings: A Discourse

For a number of reasons, the historical and architectural heritage of Multan has decayed, and the process is continuing. Over the years, a large number of oddly designed structures, which do not assimilate well with the surroundings, have emerged near and around the historical and architectural heritage of Multan. Besides, hectic commercial activities, vendors and encroachers have played havoc with heritage sites. There has also been lapse in the maintenance and repair of the buildings, partially because of huge funds required for the purpose, overlooking by Auqaf Department, and also inadequate development control by the concerned authorities.

There would be hardly any testimony to the history, past traditions and lifestyle if heritage properties are destroyed recklessly. A survey of heritage buildings needs to be conducted to assess the costs required, and allocation of sufficient budget for renovation. The importance of an individual heritage building lies in its architectural qualities, but the entire inner area of Multan needs conservation, as the urban fabric of this entire area is an integrated architectural entity. This particularly includes the Walled City and the adjacent area, particularly towards its north.

There is an urgent need to safeguard and conserve Multan's unique cultural heritage, including regeneration of Walled City. A Conservation Plan for Multan needs to be prepared, which should include necessary surveys and studies, analysis for better management and regulations for improved heritage. Initially, a pilot project for a selected area may be prepared, to test methods and processes by creating a prototype, which can then be scaled-up across other historical centers in the City. There are a large number of heritage buildings in Multan which should be brought under conservation scheme urgently. Conservation of heritage will greatly enhance the image of Multan.

MDA is already taking some measures for conservation of cultural heritage of Multan. For example, Gol Market, located between Ghanta Ghar and the Qila, was blocking the view of Fort and some other buildings of interest. It comprised of some godowns, flower shops etc. This market has been demolished. Similarly, a katchi abadi from Qila Qasim Bagh is planned to be shifted. The Town Hall is being renovated. These are important steps, but considering Multan's rich heritage and large number of such buildings which are yet unattended, a lot more needs to be done.

The Antiquities Act 1975 and the Punjab Special Premises (Preservation) Ordinance 1985 are not sufficient to protect historic cities. A new concept for area conservation is required to be developed through government polices and public education. Towards this end, the departments of archaeology, Auqaf and civic bodies all need to work together to save what remains of a once glorious medieval Islamic culture.

1.1.4 Location, Surroundings, Population and Geographical Importance of Multan

District Multan is spread over 3,720 sq. kms and its population as reported in 1998 Census was about 3.06 million. The District is the regional centre of Southern Punjab, rich in agricultural produce particularly cotton, wheat, mangoes, sugarcane and other fruits/food grain, which are transported not only within the Country but exported as well. The District lies between 29^{o}-22' to 30^{o}-24' north latitude and 71^{o}-03' to 72^{o}-28' east longitudes. It is bounded by District Khanewal towards north and north-east, District Lodhran towards south-east, District Bahawalpur towards south, and District Muzaffargarh/River Chenab towards west.

The District is roughly linear in shape along north-south axis. Various canals from River Sutlej & River Chenab pass through Multan & its adjoining districts making this area heaven of fertile land for agriculture. Adding to it in summer, the extreme hot weather can reach above 50°C which are the ideal conditions for mango, citrus & cotton productions. Along with these many other crops are ideal for these areas.

Agriculture is thus unquestionably important major factor in Multan's economy. While main crops remain mangoes, citrus, sugarcane, cotton, and wheat others includes rice, maize, tobacco, vetch, lentils and oil seeds. A large number of fruit farms also grow fruit crops, which include dates, pears, bananas and guavas. Potatoes, Onion and Cauliflower are the main vegetables grown in the district.

i) Seismicity

Seismically, Multan lies in minor damage zone; distant earthquake can cause damage to structure with fundamental periods greater than 1.0 second, which corresponds to intensity V and VI of the M.M. scale[1].

ii) Climate[2]

District Multan lies in Warm Composite zone[3], where the climate is dry hot in summer and cold in winter. The hottest months are May, June, July and August. The heat and dust of Multan are proverbial. Day temperature in the summer months between May and September is high but the nights are comparatively cool. The highest day temperature is recorded in the months of May, and June. The winter is pleasant. The coldest months are the later half of December and January. The maximum and minimum mean temperatures in summer are 42 and 29 degree centigrade whereas in winter it is 21.0 and 4.5 degree centigrade respectively.

[1] Source: National Reference Manual for Planning and Infrastructure Standards, Map 3.1, Page 26.
[2] Source: District Census Report of Multan, 1998, Page 2, Section 1.8.
[3] National Reference Manual of Planning and Infrastructure Standards, Table-3.2, Page-29.

Wind storms have been one of the chief characteristics of Multan in olden days. In recent time, the frequency of the windstorms has considerably decreased because of the extensive agricultural development in and around the district. The normal annual rainfall is about 186 millimeters most of which falls during monsoons from July to September. Winter rain is rare.

iii) Flora and Fauna[4]

The principle trees of the District are the Jand (Prosopis spicigera), Karril (Capparis aphylla), Farash (Taxarix articulata), kikar (Acacia arbica), Shisham (Dalbergia sissoo), Beri (Zizyphus jujaba), Malberrry or toot (Morus maraceae), Bohar (Fucus indica), Sirin (Albizzia lebbek), Amb (Mangifera indica), Nim (Melia indica), Piple (Ficus religiosa), Dates or Khajji (Phenix doctylifera), and Bhan (Populus euphratica).

The first four are found all over the bar and flourish in the dry arid tracts; the others require a moist soil and are found on moist or irrigated soil. Of these Kikar is the most useful to the agriculturist, and its wood is used for beam and roofs of houses and for carts, water-lifts etc.

The only deer to be found is Chinkara and the 'hog deer'. Wild boar is also found particularly in riverine areas. Sandgrouse visit the district during winter. Quail, plover, and pigeons are fairly common.

iv) Soil[5]

The soil of the District is of alluvial character of very recent origin formed by rivers and their changing courses and sand can be found a few feet below the surface. It is more due to the fact that Ravi flowed along eastern boundary of the Walled City in the reign of Aurangzeb. It is devoid of any economic minerals, however salt fitra is manufactured on a small scale and a limited amount of Kankar is found in the old bed of Ravi.

v) Rivers, Canals and Nullahs[6]

The whole of Multan plain is made of alluvial soil sloping gently from North-East to South-West with a slight slope also from North-West to South-East. The formation is of very recent origin formed by the ever changing course of Chenab and Ravi. It is clear from the fact that one will find sand below a few feet of clay. Ravi had in the past changed different courses. In the time of

[4] District Census Report of Multan 1998, Page-2, Section 1.6 and 1.7.
[5] Source: Multan Master Plan 1987, Page-26, Section 2.2
[6] Source: ibid, Section 2.3.

Aurangzeb, Ravi flowed along the Eastern fringe of the walled city or along the Fort between the shrines of Hazrat Baha-ud-Din Zakariya Multani and Shah Shams Sabzwari and in fact a revenue mohalla is still named as Taraf Ravi where Ravi flowed previously. Eastern part is irrigated by the Multan Branch of Siddhnai Canal fed by Ravi. Nullah Wall Muhammad dug in 1750 A.D. under the orders of Nawab All Muhammad Khan, the then ruler of Multan, irrigates the North-Western area. The portion of the nullah within the habited area has now been converted to urban functions like roads, offices and residences. Second important Canal is Slkandari Canal, an offshoot of Shujabad Canal dug by Nijabat Khan, a landlord in 1777 A.D

1.1.5 Growth Trends

Since 1987, the city has grown in all directions, particularly towards north and east, as suitable land was available and could be accessed through main roads radiating out from the City. The growth has also taken place towards south, but has remained limited because of the railway line, the railway stations and their ancillary installations. Towards west, the growth of the city is inhibited by the Cantonment and the airport.

The expansion of Multan has been more radial than concentric. In other words, linear industrial, commercial and residential developments have taken place along major inter-city radial roads, leaving vast tracts of agricultural land in between.

1.2 ADMINISTRATIVE SET UP

1.2.1 City District Government, Multan

Under the Devolved Local Government System, Multan has been declared a City District, comprising of six Towns, each administered by a Town Municipal Administration (TMA) *(Figure-1.2).* The Towns are further divided into a total of 129 union councils *(Figure-1.3),* as given below:

Table 1.1: Towns and Union Councils in City District, Multan

S. No.	Towns	No. of Union Councils
1	Bosan	24
2	Shah Rukne-Alam	25
3	Musa Pak Shaheed	24
4	Sher Shah	24
5	Shujaabad	17
6	Jalalpur Pirwala	15
Total City District		**129**

About 50% of the District's total area is occupied by Shujjabad and Jalalpur Pirwala Towns. In terms of area thus, these two Towns are the largest in the District, but are

least populated, and thus have lowest population densities. Mumtazabad Town has the least area (8.64% of the District Total). The areas of the remaining three towns i.e. Bosan Town, Shah Rukn-e-Alam Town and Sher Shah Town vary between 13% to about 15%.

Population of the four northern towns of the City District is roughly similar, varying between 17.5% to around 19.6% of the District Total. The population of the two southern towns is relatively lesser; Jalalpur Pirwala's population is less than 12% of the District-total, while the population of Shujjabad Town is less than 14%.

Gross Population Density of each Town has been calculated using areas and population given in the Table given below. The density is calculated on basis of number of persons per acre (PPA). The overall density of City District Multan is 3.33 PPA. The density of Mumtazabad Town is highest (7.17 PPA), while that of Jalalpur Pirwala and Shujjabad Town is lowest (1.57 and 1.86 respectively). The population density of the remaining three towns is more or less similar, ranging between 4 to 5 PPA.

Table 1.2: Areas Under City District Multan and its Constituent TMAs

TMAs	Town Area (sq km)	% (w.r.t. District)	Population (1998)	% (w.r.t. District)	Pop. Density[7]
Bosan Town	499.92	13.44%	566,427	18.52%	4.59
Shah Rukn-e-Alam Town	492.88	13.25%	600,365	19.63%	4.93
Musa Pak Shaheed Town	321.52	8.64%	569,144	18.61%	7.17
Sher Shah Town	546.85	14.70%	534,047	17.46%	3.95
Shujjabad Town	920.00	24.73%	422,759	13.83%	1.86
Jalalpur Pirwala Town	939.01	25.24%	364,714	11.93%	1.57
Total District	3720.18	100.00%	3,057,456	100.00%	3.33

The six Towns of the City District are described below:

i) Bosan Town

Boson Town is the northern-most Town of the District. Its total area is about 500 square kilometer, and its population in 1998 was 566,427, implying a gross population density of about 4.6 persons per acre. In terms of percentage, the Town's area and 1998 population are 13.44% and 18.52% respectively. The Town has 24 union councils.

[7] Number of Persons per Acre (1 square km=247 acres)

ii) Shah Rukne-Alam Town

Shah Rukne-Alam Town lies toward north-east of the District. Its total area is about 493 square kilometer, and its population in 1998 was 600,365, implying a gross population density of about 4.9 persons per acre. In terms of percentage, the Town's area and 1998 population are 13.3% and 19.6% respectively. The Town has 25 union councils.

iii) Musa Pak Shaheed Town

Musa Pak Shaheed Town lies toward east of the District. Its total area is about 322 square kilometer, and its population in 1998 was 569,144 implying a gross population density of about 7.2 persons per acre. In terms of percentage, the Town's area and 1998 population are 8.6% and 18.6% respectively. The Town has 24 union councils.

iv) Sher Shah Town

Sher Shah Town lies more or less in the centre of the District. Its total area is about 547 square kilometer, and its population in 1998 was 534,047 implying a gross population density of less than 4 persons per acre. In terms of percentage, the Town's area and 1998 population are 14.7% and 17.5% respectively. The Town has 24 union councils.

v) Shujaabad Town

Shujaabad Town lies between Sher Shah Town in the north and Jalalpur Pirwala Town in the south. Its total area is about 920 square kilometer, and its population in 1998 was 422,759 implying a gross population density of 1.86 persons per acre. In terms of percentage, the Town's area and 1998 population are 24.7% and about 14% respectively. The Town has 17 union councils.

vi) Jalalpur Pirwala Town

Jalalpur Pirwala is the southern-most Town of the City District. Its total area is about 939 square kilometer, and its population in 1998 was 364,714 implying a gross population density of 1.57 persons per acre. In terms of percentage, the Town's area and 1998 population are 25.2% and about 12% respectively. The Town has 15 union councils.

1.4.3 Union Councils in TMAs of Multan City District

Union Councils of the six TMAs falling in the City District, Multan, are presented in Table 1.5 below:

Table 1.5: UCs falling in TMAs of the City District

Sr.No.	Boson Town	Shah Rukne Alam Town	Musa Pak Shaheed Town	Shershah Town	Shujjabad Town	Jalalpur Pirwala Town
1	Bagh Dewan	Nazimabad	Saleem Colony	Pir Colony	MC Shujjabad-I	Jalalpur Pirwala Town-I
2	Gulgasht Colony	Abid Colony	Iqbal Nagar	Ashraf Colony	MC Shujjabad-II	Jalalpur Pirwala Town-II
3	Officers Colony	Shams Abad	Niazabad	Timber Market	Ponta	Darab Pur
4	Meherban Colony	WAPDA Colony	Mumtazabad	Latifabad	Chah R.S.	Khan Bela
5	Sadiq Colony	Akhtar Abad	Panjnand Colony	Glass Factory	Sikandarabad	Bait Kaitch
6	Tibba Masood Pur	Hasan Abad	Qasbapura	Gulnar Colony	Shahpur Ubha	Inayat Pur
7	Alamdi Sura	Peoples Colony	Gulshan-e-Faiz	Abbas Colony	Gajju Hatta	Ghazipur
8	Taraf Mubarak Doem	Shah Ruknne Alam Colony	Gulzaib Colony	Khanqah Inayat Shah	Basti Mithu	Alipur Sadaat
9	Neel Kot	Ghous Pura	Shah Risal	Hassan Parwana	Raja Ram	Jhan Pur
10	Durana Langana	Writers Colony	New Nizamabad	Gul Din Colony	Kotli Nijabar	Mian Pur Belay Wala
11	Jahangir Abad	Sharif Pura	Abbaspura	Qadeerabad	Rasool Pur	Karam Ali Wala
12	Binda Sandila	Manzoor Abad	Mohalla Kamangran	Shadman Colony	Matotli	Lal Wah
13	Buch Khusro Abad	Jamal Pura	Shah Gardez	Rangeel Pur	That Ghalwan	Nou Raja Bhutta
14	Saleh Mehay	Khawaja Farid Colony	Hakeem Wala	Kayan Pur	Punjani	Kotla Chakar
15	Punj Koha	Bahani	Dera Budhu Malik	Muzaffarabad	Jalalpur Khakhi	Bahadar Pur
16	Lutaf Abad	Piran Ghaib	Jhok Lasharpur	Bakhar Arbi	Gardazpur	
17	Bosan	Bangla Wala	Bootay Wala	Billi Wala	Mahra	
18	Ailam Pur	Loother	Makhdoom Rashid	Kabir Pur		
19	Matti Tal	Tate Pur	Khanpur Maral	Lar		
20	Qadir Pur Rawn	Dumra	18-MR	Qasba Maral		
21	Abbas Pura	Kotla Muharan	Chah 5-Faiz	Ayyazabad Maral		
22	Qasim Bela	Multani Wala	Qadirpur Lar	Khokhar		
23	Muhammad Pur Ghota	Bundla Sant	Basti Malook	Hamidpur Kanora		
24	Garden Town	Kothay Wala	Rana Wahin	Sher Shah		
25		Gharyala				
	Total: 24	**Total: 25**	**Total: 24**	**Total: 24**	**Total: 17**	**Total: 15**

1.2.2 Multan Development Authority (MDA)

1.2.2.1 Town-wise Composition of MDA Area

The area under the jurisdiction of Multan Development Authority (MDA) is 362 sq. kms, which works out to be around 9% of the total District Area. Parts of four northern TMAs constitute the MDA area. However, no parcel of TMA Shujjabad and Jalalpur Pirwala lies in MDA limits.

MDA area is located in the northern part of District Multan, having Shershah Town and Musa Pak Shaheed Town towards south, Shah Rukn-e-Alam Town towards east and Boson Town towards north *(Figure-1.4).* Cantonment Area and River Chanab lie towards its west.

Table 1.3: Town Areas Vs. Town Areas in MDA Limits

TMAs	Total Town Area (sq km)	Town Areas in MDA Limits	
		Sq. Kms	% w.r.t. Total Town Area
Bosan Town	499.92	122.77	24.56
Shah Rukn-e-Alam Town	492.88	91.95	18.66
Musa Pak Shaheed Town	321.52	66.81	20.78
Sher Shah Town	546.85	80.47	14.72
Total	1861.17	362.00	19.45

Table 1.4: Composition of MDA Area

TMAs	TMA Area in MDA Limits (sq km)	% w.r.t. MDA Area
Bosan Town	122.77	33.91
Shah Rukn-e-Alam Town	91.95	25.40
Musa Pak Shaheed Town	66.81	18.46
Sher Shah Town	80.47	22.23
Total	362.00	100.00%

The total area of TMA Boson Town is about 500 sq km., of which about 122.77 sq km lies within MDA limits (Table 1.3). In other words, 24.56% of the total area of TMA Boson Town lies within MDA limits. From the Table it is clear that parcels of TMA areas, falling within MDA limits vary from about 14% in case of Sher Shah Town to 24.56% in case of Boson Town.

Apart from the above analysis, the composition of the MDA area itself may also be of interest. Of the total 362 sq kms, more than one-third (33.31%) is a part of TMA Boson Town, 25.62% of MDA's area is in TMA Shah Rukn-e-Alam, about 19% in TMA Musa Pak Shaheed Town and around 22% lies in Sher Shah Town.

CHAPTER: 2
POPULATION FORECASTS

2.1 INTRODUCTION

Demographic factors are important components of both the causes of and responses to future economic, environmental, and social change. Interdisciplinary studies of future change can draw on projected trends in population size and growth rate, age structure, urbanization, and migration, among other variables. New thinking is being employed on how best to express uncertainty, on new methodological approaches to projections, and on the likely future courses of fertility and life expectancy. In addition, projections have demonstrated the importance of demographic variables.

The analysis of size and composition of the population is the decisive factor for the deciding what institutions and facilities are to be planned. Since different people have different needs, the characteristics of the population of any area - age, sex, family structure, socio-economic class, level of education and skills, ethnic characteristics or religious beliefs as well as their total number and geographical distribution, are crucial.

2.1.1 Importance of Population Forecasts

Forecasting is Fundamental to Planning Analysis and projection of population is at the base of almost all major planning decisions. Knowledge about past populations and assumptions about future populations are fundamental to planning decisions in every aspect of community life. Population forecasts are necessary to:

- Predict future population changes
- Analyze determinants of population change
- Present alternative futures
- Promote agendas
- Provide a base for other projections
- As inputs to a sound planning process

2.2 PAST POPULATION AND GROWTH RATES

This Chapter describes the current and past populations, growth trends, and population forecasts of the City District and its six Towns.

The populations of District Multan in previous five Census Years (1951 to 1998) are presented in Tables 2.1. The population of the District, as enumerated in the latest Census of 1998, was about 3.12 million.

The growth rates have generally been declining (Table 2.2). The annual average growth rate during 1951-61 was 3.1%, which rose to 3.7% during 1961-72. In the next decade (1972-81), the growth rate fell to 3.2% and declined further to 2.7% during 1981-98.

Table 2.1: Past Populations of City District[1]

Year	Population
1951	725,000
1961	984,000
1972	1,506,000
1981	1,970,000
1998	3,117,000

Table 2.2: Past Population Growth Rates[2]

Inter-Census Period	Average Annual Growth Rates (%)
1951-61	3.1
1961-72	3.7
1972-81	3.2
1981-98	2.7

Populations of six TMAs, for the year 1998, are given in Table 2.3. These have been collated by adding the UC-wise population falling in each TMA. When the TMA populations are added, there is discrepancy of 60,544 between the sum thus obtained, and actual District Population as given in the District Census Report of 1998. This number has been adjusted on pro-rata basis among the six TMAs, to get to the actual District population of 3,117,000, so as to accord with the 1998 Census.

Table 2.3: Population of TMA's: District Multan, 1998

TMAs	Population[3]	% (w.r.t. District Population)	Adjusted Population
Bosan Town	566,427	18.53%	577,646
Shah-Rukn-e-Alam Town	600,365	19.64%	612,256
Musa Pak (Shaheed) Town	569,144	18.62%	580,417
Sher Shah Town	534,047	17.48%	544,630
Shujjabad	421,759	13.80%	430,114
Jalalpur Pirwala	364,714	11.93%	371,937
Total District Multan	3,056,456	100.00%	3,117,000[4]

[1] Source: District Census Report, Multan, 1998, Table 2.1, Page 25.
[2] Source : ibid
[3] Source: "Working Paper regarding proposal for establishment of City District/Towns", District Coordination Officer, Multan, dated 16.6.2005.
[4] Population of District Multan as enumerated in 1998 Census.

2.3 POPULATION FORECASTS CITY DISTRICTS AND TOWNS

Population of Multan District has been projected till the year 2028 by using regression analysis, which is a robust technique for forecasting purposes. The methodology is described below:

The population of the District in all Census Years i.e. 1951, 1961, 1972, 1981 and 1998; and the inter-census growth rates were noted. The population in 1951 was 725,000 while the average annual growth rate during 1951-61 was 3.1%. Based on this growth rate and using compound formula, population for each of the intervening years i.e. 1952, 1953, 1954 etc (till 1960) was calculated.

For 1961, the actual census population was used, and the inter-census growth rate for 1961-72 (3.7%) was applied to estimate the yearly population for 1962, 1963… until 1971. The same procedure was repeated to estimate the yearly population till 1998, the year when latest population census was conducted. In this way, thus, a series of yearly population for 48 years (1951-1998) for the district was generated.

For forecasting the population from the year 1999 onwards (till 2028), regression analysis was employed to generate the best-fit equation. To generate this equation, a 'scatter graph' was prepared on computer; using two variables i.e. serial numbers of the years (i.e. '1' for 1951, '2' for 1961, etc), and their corresponding populations. Trend lines were then added on the graph and the R-squared[5] values were obtained for different regression equations i.e. linear, logarithmic, polynomial, power and exponential. The values thus obtained are given in Table 2.4.

Table 2.4: Values of R^2 (Coefficient of Determination)

Sr. No.	Regression Equation	Value of R^2
1	Linear	0.9829
2	Logarithmic	0.7294
3	Polynomial	0.9991
4	Power	0.8479
5	Exponential	0.9955

It is seen that for the given set of data, the value of R^2 is highest for polynomial equation, for which the computer-generated equation is:

$Y = 529.15x^2+25036x+670727$

[5] R-squared value (also known as coefficient of determination) is a number from 0 to 1 that reveals how closely the estimated values for the trend line correspond to actual data. A trend line is most reliable when its R-squared value is at 1 or nearest to 1.

Where y represents the population and x is the serial number of year for which population is required. Using the above equation, population forecasts till 2028 are presented in Table 2.5. Based on these forecasts, the implicit growth rates have also been calculated and are presented in Table 2.6.

Table 2.5: Population Forecasts

Year	Population
2003	3,484,017
2008	3,902,876
2013	4,348,191
2018	4,819,965
2023	5,318,195
2028	5,842,884

Table 2.6: Implicit Growth Rates

Year	Growth Rate (%)
1998-2003	2.25
2003-2008	2.30
2008-2013	2.18
2013-2018	2.08
2018-2023	1.99
2023-2028	1.90

Using these growth rates, population forecasts have been made for the six TMAs and are presented in Table 2.7.

Table 2.7: Population Forecasts for TMAs of District Multan

TMAs	2003	2008	2013	2018	2023	2028
Bosan Town	645,588	723203	805720	893139	985461	1082686
ShahRukne-Alam Town	684,261	766525	853985	946641	1044494	1147543
Musa Pak (Shaheed)	648,724	726715	809633	897477	990247	1087944
Sher Shah Town	609,007	682223	760064	842531	929621	1021337
Shujjabad	480,794	538597	600050	665155	733911	806318
Jalalpur Pirwala	415,643	465613	518739	575022	634461	697056
District Total	**3,484,017**	**3,902,876**	**4,348,191**	**4,819,965**	**5,318,195**	**5,842,884**

2.4 MDA AREA POPULATION

Population projections for MDA area have also been made using the regression methodology elaborated earlier. Table 2.8 presents values of R^2, amongst which highest (0.9995) is for polynomial equation i.e.:

$Y=162.46x^2+17554x+221422$

Based on the above equation, population forecasts for MDA area are presented in Table 2.9. The Table also presents the implicit growth rates on five-year basis.

Table 2.8: Values of R^2 : MDA Area

Sr. No.	Regression Equation	Value of R^2
1	Linear	0.9934
2	Logarithmic	0.7760
3	Polynomial	0.9995
4	Power	0.9215
5	Exponential	0.9747

Table 2.9: Population Forecasts : MDA Area

Year	Population	Implicit Growth Rates	
2003	1,608,134	**Period**	**Growth Rate**
2008	1,786,069	2003-08	2.12%
2013	1,972,128	2008-13	2.00%
2018	2,166,309	2013-18	1.90%
2023	2,368,613	2018-23	1.80%
2028	2,579,041	2023-28	1.72%

As given in the table, in the year 2008, the population of MDA area is estimated to be about 1.8 million, which by the end of plan period (i.e. by the year 2028), will grow to about 2.6 million; i.e. an increase of around 44%.

2.5 POPULATIONS OF URBAN SETTLEMENTS

Applying the calculated growth rates of District Multan as given in Table 2.9, the population of the twelve urban settlements till 2028 has been projected. Forecasts on 5-yearly basis are presented in Table 2.10.

Table 2.10: Population Forecasts for Urban Settlements

S.NO.	Urban Settlements	Years						
		1998	**2003**	**2008**	**2013**	**2018**	**2023**	**2028**
1	Bosan	7,983	8,922	9,997	11,135	12,342	13,620	14,964
2	Qadirpur Ran	17,308	19,345	21,674	24,142	26,759	29,530	32,444
3	Nawabpur	13,460	15,044	16,855	18,775	20,810	22,965	25,231
4	Adda Matital	11,925	13,328	14,933	16,633	18,437	20,346	22,353
5	Makhdoom Rashid	10,216	11,418	12,793	14,250	15,795	17,430	19,150
6	Basti Malook	12,632	14,119	15,819	17,620	19,530	21,552	23,679
7	Lar	11,719	13,098	14,675	16,346	18,118	19,994	21,967
8	Qasba Maral	17,153	19,172	21,480	23,926	26,520	29,265	32,153
9	Budhla Sant	14,564	16,278	18,238	20,314	22,517	24,848	27,300
10	Shujabad	57,409	64,165	71,891	80,076	88,758	97,948	107,613
11	Sikandarabad	14,283	15,964	17,886	19,922	22,082	24,369	26,774
12	Jalalpur Pirwala	32,219	36,010	40,347	44,940	49,813	54,970	60,395

2.6 SOCIO-ECONOMIC SURVEYS

2.6.1 General

Field surveys were conducted to assess existing socio-economic conditions and related problems pertaining to provision of services/facilities. The relevant information was collected through questionnaire which was discussed with the concerned officials. It covered demographic features, employment pattern, income levels, housing, status of basic urban services and related information. This activity was undertaken not just to meet the TOR requirements, but also for preparation of realistic Master Plan.

The survey and subsequent analysis of the collected information established a credible baseline for profile of Multan. To meet the key requirements of timelines and extent, and to ensure a representative sample, a well-tested methodology with a standardized approach was adopted for the survey. The methodology is given below:

2.6.2 Survey Methodology

Field work was commenced in early January, 2008 and lasted for about one and a half month. Three survey teams were constituted, each comprising of five enumerators and a supervisor. A survey coordinator monitored all aspects of field work with the help of the three supervisors. The survey universe consisted of area under the jurisdiction of MDA. The population of MDA area was estimated for the year 2008, and sample size was calculated as follows:

Total Population of MDA Area (estimate for 2008) = 1,786,069
Density Rate = 7.2 persons per house
Total No. of Houses = N = 248,065
Expected Error = e = 2%
Sample Size = $n = N / (1 + N \times e^2)$
= $248,065 / (1+ 248,065 \times 0.02^2) = 2,475$

Thus a total of two thousand, four hundred and seventy five (2,475) households were to be interviewed. The sample size thus calculated is based on scientific basis, and is appropriate to provide dependable information, within acceptable limits of reliability.

To facilitate enumeration work and to ensure that no sampled units are left un-enumerated or enumerated twice, the surveys were conducted on union council basis. Based on population size of the union councils, the sample of 2,475 households was proportionally allocated to all the union councils falling in the MDA area; systematic sampling technique was adopted for the surveys.

The inferences pertaining to housing, education, health, transportation etc have been included in the relevant chapters. The inferences specific to socio-economic aspects are presented below:

2.6.3 Demographic Characteristics

i) Household Sizes

The average household size in Multan is 7.1. The household is defined as the persons living at the same address and sharing the housekeeping, particularly kitchen.

As presented in table 2.11, 57% of the cases, the average household size is 4-7 persons, followed by about 21% cases in which the household size is 8-10 persons. Larger households having more than 10 members are 13.4%, while smallest household category (1-3 persons) is less than 9%.

Table 2.11: Household Sizes

Household Size	Number	%
1-3	266	8.7
4-7	1734	57.0
8-10	633	20.8
More than 10	409	13.4
Total	**3042**	**100**

ii) Age-Sex Distribution

The age-sex distribution of project area is presented in Table 2.12. Age and gender are two significant characteristics of population. Sex ratio is defined as the number of females per 100 males[6]. The overall sex ratio, all age-groups inclusive, is 84, i.e. there are 84 females for every 100 males, which is significantly lower than the national average of 95.

For different age groups, there is significant variation in these ratios. The gap is minimum for the age-group 10-16 years, for which the ratio is 91. It gradually declines with the advancing of age groups, and is only 53 for the population of 70 years and above.

[6] Sex ratio is also defined as number of males per 100 females, depending upon the objective of analysis.

Statistics regarding marital status and the educational levels are presented in Tables 2.13 and 2.14 respectively, and are self-explanatory.

Table 2.12: Age-Sex Distribution

Age-Groups (Years)	Gender				Total		Sex Ratios
	Male		Female		N0.	%	
	Number	%	Number	%			
Below 1	263	2.3	198	2.0	461	2.1	75
1 – 5	1142	9.8	1017	10.4	2159	10.0	89
5 – 10	1350	11.6	1133	11.5	2483	11.5	84
10 – 16	1593	13.6	1454	14.8	3047	14.2	91
16 – 25	2745	23.5	2156	21.9	4901	22.8	79
25 – 50	3464	29.7	3137	31.9	6601	30.7	91
50 – 60	659	5.6	466	4.7	1125	5.2	71
60 – 70	322	2.8	190	1.9	512	2.4	59
Above 70	137	1.2	72	0.7	209	1.0	53
Total	**11675**	**100**	**9823**	**100**	**21498**	**100**	**84**

iii) Marital Status

Table 2.13: Marital Status

Status	Number	%
Married	8,730	40.6
Unmarried	12,476	58.0
Divorced	20	0.1
Widow/Widower	272	1.3
Total	**21,498**	**100**

iv) Educational Levels

Table 2.14: Education Levels

Level	Male		Female		Total	
	No.	%	No.	%	No.	%
Under Primary	542	4.4	405	4.4	947	4.4
Primary	1908	15.4	1680	18.4	3588	16.7
Middle	1317	10.6	856	9.4	2173	10.1
Matric	1539	12.4	919	10.1	2458	11.4
Intermediate	753	6.1	464	5.1	1217	5.7
BA/B.Sc.	679	5.5	355	3.9	1034	4.8
MA/M.Sc.	275	2.2	134	1.5	409	1.9
Professional	515	4.2	18	0.2	533	2.5
Vocational/Technical	514	4.2	5	0.1	519	2.4
Students	1828	14.8	1375	15.1	3203	14.9
Others	1049	8.5	944	10.3	1993	9.3
Illiterate	1453	11.7	1971	21.6	3424	15.9
Total	**12372**	**100**	**9126**	**100**	**21498**	**100**

2.6.4 Earning Members and Employment

More than 50% of the households have one earning member, while around 28% have two. Households having three earning members are 13.5%.

The average number of earning members per household is 1.8. Since the average household size is 7.1, the dependency ratio is 3.9; i.e. on average, 3.9 household members are dependent per earning member (table 2.15).

Table 2.15: Number of Earning Members

Earning Members	**Number**	**%**
1	1540	50.6
2	865	28.4
3	411	13.5
4	164	5.4
5 & above	62	2.0
Total	**3042**	**100**

The working population is 25.52 percent of the total population, of which 45.22% are self employed, 40.19% are working in private sector while around 14% are employed in various government, offices. Among males, the non-working population is 55.6%, while among the females this percentage is 97 (table 2.16). As already stated, the overall non-working population is about 74.5%.

Table 2.16: Nature of Employment

Employment	Male		Female		Total	
	No.	%	No.	%	No.	%
Government	710	13.69	77	25.75	787	14.35
Private	2103	40.54	102	34.11	2205	40.19
Self Employment	2365	45.60	116	38.80	2481	45.22
Others	9	0.17	4	1.34	13	0.24
Total Working (25.52%)	5,187	100	299	100	5,486	100
Not Working (74.48%)	6,488	55.6	9,524	97.0	16,012	74.5
Total	**11,675**		**9823**		**21,498**	

Regarding the occupation of earning members, more than 28% are laborers, and about 24% are businessmen. Thus these two categories comprise about 52% of the total earning members (Table 2.17).

Table 2.17: Occupation of Earning Members

Occupation	Male		Female		Total	
	No.	%	No.	%	No.	%
Labor	1488	28.70	61	20.40	1549	28.25
Teacher	191	3.68	59	19.73	250	4.56
Army/Police	76	1.47	0	0	76	1.39
Bankers	76	1.47	0	0	76	1.39
Doctor/Engineers	60	1.16	10	3.34	70	1.28
Businessmen	1294	24.96	0	0	1294	23.60
Farmers	111	2.14	0	0	111	2.02
Others	1888	36.42	169	56.53	2057	37.51
Total	**5184**	**100**	**299**	**100**	**5483**	**100**

2.6.5 Household income and Inequalities

The average monthly household income is Rs. 12,873. However, averages hide important internal variations. There are 17.6% households which earn less than Rs. 5,000 per month; while around 33% households earn between Rs. 5,000 to 9,000 per month. If these two categories are combined, more than 50% households have monthly income of Rs. 9,000 or lesser.

The above statistics show significant income inequalities. In other words, income distribution is highly skewed, more wealth being concentrated in fewer hands, while majority of households fall in 'poor' category. The category-wise details of household income distribution and expenditure are given in Tables 2.18 and 2.19 respectively.

Table 2.18: Monthly Household Income

Monthly Income (Rs)	Number of HHs	%
Below 5,000	536	17.6
5,000-9,000	1006	33.1
9,001-15,000	796	26.2
15,001-20,000	324	10.7
20,001-25,000	174	5.7
Above 25,000	206	6.8
Total	**3042**	**100**

Table 2.19: Monthly Household Expenditure

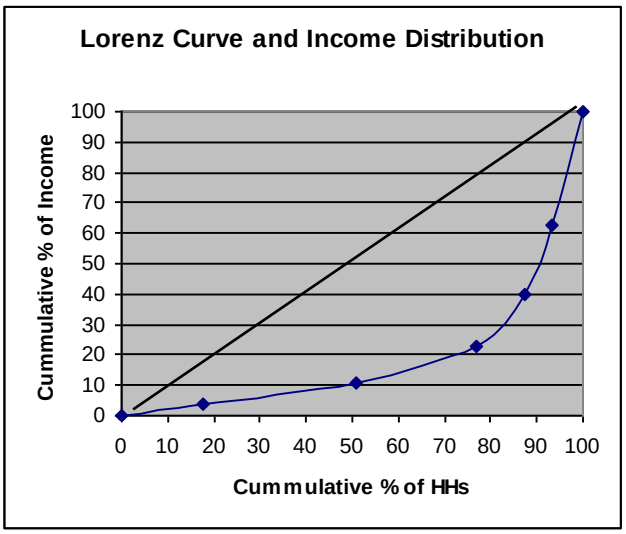
Monthly Expenditure (Rs)	Number of HHs	%
Below 5,000	654	21.5
5,000-9,000	1180	38.8
9,001-15,000	758	24.9
15,001-20,000	256	8.4
20,001-25,000	98	3.2
Above 25,000	96	3.1
Total	**3042**	**100**

The Gini coefficient is one of the most commonly used indicators of income inequality. The Gini is derived from the Lorenz curve, which plots the cumulative share of total income earned by households ranked from bottom to top. If incomes were equally distributed, the Lorenz curve would follow the 45° diagonal. As the degree of inequality increases, so does the curvature of the Lorenz curve, and thus the area between the curve and the 45° line becomes larger.

The Gini is calculated as the ratio of the area between the Lorenz curve and the 45° line, to the whole area below the 45° line.

Theoretically, the value of Gini coefficient varies between 0 and 1. The lower the Gini coefficient, more equitable is the income distribution; the higher its value, more are the income inequalities.

The value of Gini coefficient in Multan is calculated to be 0.63, which indicates severe income disparities.



2.6.6 Problems Perceived by People

A large percentage of households (about 49%) perceived sewerage to be the major problem, followed by water supply (21%) and Roads (16%); (ref. Table 2.20).

Roads/Commercial areas were ranked as top priority, followed by water supply and sewerage. Households who give other opinions about perceived acute problems were lesser and included school, hospital and gas etc.

Table 2.20: Acute Problems Faced by People

Problems	Number of HHs.	%
Priority 1: Roads & Streets	496	16.3
Priority 2: Water Supply	638	21.0
Priority 3: Sewerage	1478	48.6
Priority 4: School / Hospital	153	5.0
Priority 5: Gas	94	3.0
Others	183	6.0
Total	**3042**	**100**

2.7 POPULATION SPLIT IN THE CITY DISTRICT

Split of 2008 population in the City District and its constituent administrative entities is presented in the Table 2.21, 2.22 and 2.23. Following are the main inferences:

i) In the City District as a whole, about 48% population lives in rural areas and 52% in urban areas. Of the urban population, 45% is in MDA area, and 7% in smaller urban settlements of the District.

ii) The most urbanized Town in the City District is Shah Rukne-Alam Town. Its total population in 2008 is estimated to be 766,525, of which more than 69% is urban (66.8% in MDA limits and 2.4% in smaller urban settlements). About 31% of the Town's population lives in rural areas.

iii) In terms of urbanization, Shah Rukne-Alam Town is closely followed by Musa Pak Shaheed Town and Sher Shah Town. In each of these Towns, about 68% population is urban, and around 32% is rural.

iv) The percentage of rural population in Bosan Town is relatively higher (about 42%) among the four northern Towns of the City District. Its urban population is slightly more than 58% (about 50% in MDA area and about 9% in smaller urban settlements).

v) No part of Shujaabad and Jalalpur Pirwala Towns fall in MDA limits. Jalalpur Pirwala is the least urbanized Town. Over 91% of its population lives in rural areas and less than 9% in urban centre.

vi) Shujaabad is also predominantly rural Town; more than 83% of its population is rural and about 17% is urban.

Table 2.21: Population Split in the MDA Area

Towns	Population			Additional Population		% Population (2008)
	2008	2013	2028	2008-13	2013-2028	
Bosan	357,624	394,846	516,498	37,222	121,653	49.5
Shah Rukne-Alam	512,234	565,547	739,793	53,314	174,246	66.8
Musa Pak Shaheed	462,317	510,435	667,701	48,118	157,266	63.6
Sher Shah	425,000	469,234	613,806	44,234	144,572	62.3
Total	**1,757,174**	**1,940,062**	**2,537,799**	**182,888**	**597,737**	**45.0**

Table 2.22: Population Split in the City District Excluding MDA Area

Towns	Population			Additional Population		% Population (2008)
	2008	2013	2028	2008-13	2013-2028	
Bosan	302,120	340,189	471,196	38,069	131,006	41.8
Shah Rukne-Alam	236,053	268,124	380,450	32,070	112,326	30.8
Musa Pak Shaheed	235,786	267,328	377,414	31,542	110,086	32.4
Sher Shah	221,068	250,558	353,411	29,490	102,853	32.4
Shujaabad	448,820	500,052	671,931	51,232	171,879	83.3
Jalalpur Pirwala	425,266	473,799	636,661	48,533	162,862	91.3
Total	**1,869,114**	**2,100,050**	**2,891,062**	**230,936**	**791,012**	**47.9**

Table 2.23: Population Split in the Urban Settlements

Towns	Population			Additional Population		% Population (2008)
	2008	2013	2028	2008-13	2013-2028	
Bosan	63,459	70,685	94,992	7,226	24,307	8.8
Shah Rukne-Alam	18,238	20,314	27,300	2,076	6,986	2.4
Musa Pak Shaheed	28,612	31,870	42,829	3,258	10,959	3.9
Sher Shah	36,155	40,272	54,120	4,117	13,848	5.3
Shujaabad	89,777	99,998	134,387	10,221	34,389	16.7
Jalalpur Pirwala	40,347	44,940	60,395	4,593	15,455	8.7
Total	**276,588**	**308,079**	**414,023**	**31,491**	**105,944**	**7.1**

CHAPTER: 3
URBAN GROWTH STRATEGY

3.1 INTRODUCTION

The Urban Growth Strategy is the comprehensive review of the growth issues faced by the city of Multan. There is a need for a single, unified concept to guide decisions on City-wide issues. This Strategy should provide an integrated approach to coordinated growth management of the City for the next 20 years.

The population of Multan District grew from about 725,000 to 3,117,000 between 1951 and 1998 and is projected to increase to about 6 million i.e. almost double in the next 20 years. About 45% of the total District population will be lining in MDA controlled area which is less than 15% of the total District land. The Urban Growth Strategy has to evaluate where and how this growth should be accommodated, through examining existing growth patterns committed land developments in public & private sector, urban land expansion requirements, and capacity of existing development to absorb future growth etc.

The Urban Growth Strategy (UGS) also examined the issues affecting how development should occur. This included considerations such as the urban boundary, phasing, commercial development, "smart growth," density, infilling, alternative development standards and related issues, many of which were raised by the stakeholders during consultation process. The aim of the UGS is to provide long term guidance for the management of our urban environment in and around Multan, so we can enjoy the variety of lifestyles the City offers while living and working in clean and safe surrounds.

This Strategy identifies those areas most suitable for urban growth based on providing a suitable and sustainable urban form. The timing, environmental, servicing, land use and other issues relevant to facilitating urban development will also be important determinants in identifying expansion areas.

In doing so the Strategy represents an integral tool in ensuring progressive and planned expansion of the Multan urban area. This will enable government/servicing authorities and the development industry to confidently proceed with accommodating

urban growth within an established framework in a manner consistent with the unique character of Multan and its surrounds.

3.2 DISTRICT SPATIAL STRATEGY

How will Multan be in next twenty years? Are the City District Government, Town Municipal Administrations, Multan Development Authority and other local municipal entities equipped to operate successfully in future? How will the City District be affected by environmental degradation? reduced resources? decreased agricultural land? increased population? Strategic long-term planning attempts to answer such questions.

Strategic Plan is a flexible plan or road map of sector strategies, subtly integrated, and derived from analysis of surveys, investigations and consultations with different stakeholders. It is likely to steer the City District Government, TMAs and Multan Development Authority in a focused direction. Strategic planning is more than just long-term planning, where goals are set for a specific period of time; Strategic planning is more pro-active, based on anticipated changes over a period of time, thus making corrective alterations in the Plan after appropriate intervals, and involving various stakeholders at different levels of planning process.

Broadly, goals of a long-term planning strategy are to address the major challenges facing District Multan. The towns and villages in the District should maintain their character and vitality. The growth opportunities should be supported throughout the District, and not just in the urban areas. At the same time however, there should be minimum adverse impacts on agricultural land and the environment (especially water quality), and public services. Agriculture should remain a vital part of life in the District, without compromising industrial development and planned urban growth. But growth benefiting the agricultural economy and agro-based industry should be strongly encouraged.

Comprehensive District level decision-making approaches are needed to explore future expansion alternatives and promote growth patterns that are economically viable and environmentally sustainable.

3.3 EVOLUTION OF URBAN FORM OF MULTAN

Present Urban Form of Multan City is primarily based on the historical evoluation of the city spanned over 1000 years. The Qila Kuhna Qasim Bagh Fort and Walled City were developed during Pre-Muslim & Muslim periods upto 1848 AD. During British period the Cantonment was developed on western side of the Walled city and the area between Cantt. & Walled City was gradually filled in. At the time of the independence in 1947, total built up area of Multan city was only about 30 Sq.Km. During initial 15 years upto 1960 the area was almost got doubled. The Multan

Improvement Trust (MIT) & Multan Development Authority launched various housing scheme projects during 1960's upto 1980's and a large University Campus was established on east of Bosan Road which not only guided city's future growth pattern but also led to substantial increase in built up area of the city.

Multan continued to experience unprecendented growth in the post independence era along all its intra city radial roads in an uncontrolled and unregulated manner. The main radial corridors where most of the linear growth/ sprawl took place are Khanewal Road, Bosan Road, Lodhran Bahawalpur Road and Muzaffargarh/ Sher Shah Road.

3.4 DEVELOPMENTS OF RECENT PAST INFLUENCING URBAN FORM

The significant developments of the recent past, which would have far reaching influence on the future urban form are:-

i) New road infrastructure projects such as:
   a) Development of Inner Ring Road including 6 Nos. Flyovers.
   b) Southern Bypass
   c) Widening/ Improvement of Bosan Road.
   d) Construction of Head Muhammad Wala Link.
   e) Construction of Ghaus-ul-Azam Road.
   f) Construction of Multan Khanewal Motorway (M4)
   g) Construction of Road from Jinnah Chowk to Multan Public School via Northern Bypass
   h) Dualization of Old Bypass, Bahawalpur Road and Vehari Road.
   i) Dualization of Old Shujabad Road upto M4 Interchange including Nag Shah Flyover.

ii) Construction of Judicial Complex on Matital Road Northern Bypass

iii) Development of Fatima Jinnah Housing Scheme by MDA adjacent to Southern Bypass.

iv) Development of Multan Industrial Estate Phase-II near Old Bypass.

v) Construction of New Railway Station near Nau Bahar Canal,

vi) Upgradation of Multan Airport to International Standard including New Passenger Terminal.

vii) Proposed shifting/ Re-location of wholesale markets/ truck stand on Southern Bypass/ Dunyapur Road.

viii) Development of new educational & health Institutions such as:

a) Women University on Matital Road

b) Cadet College near Budla Sant Road, South of Old Bypass

c) DHQ Hospital at Old Bypass Road

These development actions are expected to modify the form through engulfing the green wedges that had been left undeveloped earlier. The urban structure beyond the present built-up areas is also expected to shift from a predominantly low-density low-rise scattered development to medium density developments interspersed with high-rise buildings particularly along main inter city radials and Bypasses.

3.5 FUTURE VISION FOR GROWTH OF MULTAN

3.5.1 OBJECTIVES OF THE SPATIAL GROWTH STRATEGY

The objectives of the Spatial growth strategy for Multan are to provide:

i) Optimum utilization of land by channalising the developments in the right directions and locations.

ii) The right land for development of the Multan by recognizing the existing growth trends and strengthening the most needed infrastructure links.

iii) Efficient transportation network, integrating work, living, shopping and recreation areas to arrive at balanced developments.

iv) Wider scope for decentralized employment locations and economic development.

v) Preservation and conservation of ecologically sensitive areas and natural and built heritage (orchards, historically significant built heritage, natural water bodies).

3.6 IDENTIFICATION OF AREAS OF EXPANSION

In order to identify the opportunities for urban growth, it is necessary to consider three factors:-

a) The existing pressures for development: The expansion of the urban area is occurring rapidly in certain directions. Recommendations must take account of these pressures and their causes. Existing development pressures can be channeled or diverted to a greater or lesser extent but it is unrealistic to expect that planning controls can completely reverse them.

b) The constraints on development presented by natural conditions, the lack of suitable infrastructure, highland prices or other reasons.

c) The opportunities presented by particularly favourable natural conditions, the presence of infrastructure with spare capacity, low land prices and other reasons.

3.6.1 PRESSURES FOR DEVELOPMENT

The location of pressures for development can be deduced from three sources. These are:

- an analysis of recent historical growth trends, based on comparison of census data and survey maps of different dates;

- a review of locations of unapproved private housing schemes, slums and katchi abadis as a reflection of spontaneous selection of convenient sites;

- a visual inspection of current building activity supplemented by satellite imagery.

Detailed patterns of growth cannot easily be deduced from census data partly because enumeration district and ward boundaries change between censuses. However there is sufficient information to indicate that the majority of growth is being absorbed in new development areas and infill around the fringe of the previously urbanized area. There is also evidence to suggest that growth in the older parts of the city may be slowing down but has by no means halted or been reversed to date.

Examination of survey maps reveals that the major areas of growth in the 80s and 90s lay in substantial infilling of previously vacant land within the urban area where agriculture had become less profitable, and in the development of similar land beyond the existing urban area.

Unapproved housing schemes and land subdivisions by private developers respond to the short-term need to provide shelter and as such are a good guide to immediate pressures for development. Such schemes of various sizes are invariably found around the existing urban area. Notable concentrations however occur:

a) To the north following the spur outwards along Bosan Road and Northern Bypass and

b) To the south in proximity to the old Shujabad Road/ Askari Bypass and old Bypass

c) along Vehari Road.

Slum areas and katchi abadis also provide an indication of pressures for development satisfied by short term responses. In contrast with private housing schemes these are almost all found within the urban fabric rather than at the fringe, and there is a major concentration of such developments within the Inner Ring Road and close to historic walled city of the Multan.

By observation and from the recent SPOT imagery (December 2006) and subsequent latest Google Earth Images, it is apparent that one area in particular is in the process of large scale but uncoordinated development. That is the area north of LMQ Road and east of Bosan Road, corresponding generally to the area on both sides of the Northern Bypass. Other areas of evident development lie in the east on the urban fringe between Budhla Sant Road, Vehari Road and Dunyapur Road and to the south in a strip along Bahawalpur Road.

3.7 CONSTRAINTS AND OPPORTUNITIES ON URBAN EXPANSION

The main physical (and to a certain extent psychological) constraint on growth is the presence of the River Chenab although it is not accompanied by a high water table, which from a development point of view, would have added to building costs by raising construction above the influence of the water and the increased infrastructure costs.

3.7.1 Utility Constraints and Opportunities

Electricity supplies are relatively evenly spread throughout the MDA area so that they present no special constraint or opportunity for any particular area. Similarly, the presence of accessible groundwater throughout the area means that water supply has no significant influence of an urban growth strategy.

This leaves sewerage and drainage which do have an influence. Trunk sewerage/ sludge carriers are being laid in the northern and southern side of the Urban fringe to cater for present and future requirements of Multan. In the short term, the presence of trunk sewers presents the possibility of providing served development in these areas.

All other areas require not only new trunk sewers but also, new outfall stations will have to be constructed,

3.7.2 Access and Transport Constraints and Opportunities

The main access constraint on development is the lack of roads capacity to serve areas outside the existing built up area. This means that any new developments in these areas will throw additional traffic onto existing roads. Improvements to existing roads will not be sufficient to cope with increased traffic flows and new road access must be provided if the respective sectors of the city are not to become completely choked. Existing roads and rights of way will form part of the secondary distribution network but there is an urgent need for new primary distributors to serve both the northern and southern areas.

Elsewhere new roads will be required to serve new development areas. Recent Road sector development projects in the urban fringe as well as improved connectivity of new development within the central city will influence the pace of growth in Multan. Upgradation of all major city radials, development of Northern & Southern Bypasses and construction of Motorway in Multan will greatly effect pace & direction of growth in Multan in the years to come.

Travel between new development areas and other parts of the city, particularly centres of employment, must be considered. Much of this travel will be by public transport, both public and privately owned. A possible constraint for low-income developments will be the cost of travel and this will mitigate against new schemes which are remote from existing centres of employment.

3.7.3 Opportunities for Urban Expansion

Analysis of the land potential have identified very few absolute constraints. Among these are major power lines to the east and south, burial grounds, military land (though some of this could be released at a later date), and a no-development reserve to the north and south of the main airport runway. The areas of brick kilns may be developable as the lower land costs may make the necessary land reclamation and formation works viable particularly for public parks and lakes, where the depressions are a positive opportunity.

Other than these specific constraints, urban expansion could occur in all directions around Multan. Only one significant boundary has been identified – the River Chenab and Cantonment area in the west. Limits to the sensible development of the city to the north, south-east and south occur because of the long distances involved in journeys to central areas. Even so, distance will diminish as a constraint after the development of road network in all periphery areas as well as after introduction of a quality public transport service on all primary corridors. When the costs identified can be overcome, it is likely that further development will occur.

3.7.4 Land Values

The main issue which affects the decisions on the preferred areas for urban expansion is land price as this reflects the existing land use and aspects of locational advantage. In this respect the marked differential between land values for frontage properties and for back land is especially important. In certain cases extreme differentials of up to 10 times may be found for properties in close proximity, but in all cases differences of 2 to 3 times are found between front and back lands. This pattern reflects the availability of services or the expectation of the same – and ease of access along road frontages, but the same pattern is also found to a lesser extent along canals.

In addition, there is a general gradient of values falling away radially from the central areas to the city limits and this pattern is found both north and south of the town with differentials for similar uses of 6 to 7 times from the inner ring road to the edge of the urban area.

There are clear distinctions between current use values at the same locations, so that residential land prices are some 3 to 5 times greater than agricultural land prices in the same area. However, in certain fringe urban areas of the city the distinction has become blurred and prices reflect potential future use values, especially in areas where development projects have already been announced or are expected. Such inflation of values may well be expected in areas targeted for development in the Integrated Master Plan.

3.8 DEVELOPMENT REQUIREMENTS

3.8.1 Density Assumptions & Land Requirements

To calculate the areas of land needed to keep pace with the requirements for urban growth, we have used the estimates of housing demand for the expected population growth and applied various density assumptions.

The starting point is the percentage of different types of housing that are affordable to the expanding population. From the demographic analysis, following guidelines can be drawn:

- 10% of the population are upper income and will require a low density plots of between 12 – 20 marla.

- 35% of the population are middle income and will require medium density plots of between 6 – 10 marla; and

- 55% of the population are low income and will require high density plots of between 3– 5 marla.

To simplify the figures and to allow a small surplus of land for localized development difficulties we have assumed average net residential densities as follows:

- 10% of the population to live at 20 dwelling/ hectare
- 35% of the population to live at 40 dwelling/ hectare
- 55% of the population to live at 80 dwelling/ hectare

This represents an average net residential density of about 45 dwellings/ hectare for a balanced population.

Within large expansion areas around cities in Pakistan we would expect the total land use to be in the order of:

Residential plots	40-50% of urban expansion land	
The road network	30%	"
Commercial development	5-7%	"
Industrial zones	5-7%	"
Social facilities/ recreation	3-5%	"
Open spaces	7-10%	"
Others	2-5%	"

If it is assumed that 45% of the overall expansion land is made up of residential plots, then using the overall net residential density of 45 units/ hectare, an average gross town density of 20 units/ hectare can be expected on total urban expansion land with a balanced population. This includes all urban development land except for regional roads like Motorways and Railway and major open spaces dividing communities, such as forests/ orchards, river embankment, etc.

It is assumed that an average household size of 7 persons unit for the new expansion areas will apply. This is slightly less than the 1980 figures for Multan of 7.1 persons/ dwelling which has probably been increasing up to 1990. The lower figure is used as the same level of overcrowding is less likely in new developments.

Using this average household size of 7 persons, the population per average hectare of urban expansion land is around 140 persons or for one square kilometer, 14,000 persons.

To account for decongestion in the inner core, urban regeneration, existing huge back log in recreational public facilities and shifting of non-compatible uses from the inner core as well as to safeguard and preserve the orchards in the urban fringe, 20% allowance in the above proposed density is considered. Therefore, the proposed density in the urban expansion land would be 112 persons per hectare or 45 persons per acre. According to the 1990 Development Studies and Pilot Projects of Multan, not all population analysis made in increase would give rise to new

households moving on to hitherto non-urban land. The absorption capacity of the existing built-up areas of Multan was very considerable-particularly in the newer areas, but it is assumed that the Walled City and the immediate surrounding areas are, for planning purposes, fully saturated and in fact, accommodate the considerable housing backlog comprised of multiple occupancy. In that development studies, it was assumed that the average absorption capacity of the existing built-up area in relation to total population increase and new household formation would gradually diminish during the planning period.

The current (2008) population within MDA area is estimated to be 1,786,069; while after 20 years, in the year 2028, the projected population is assessed to be 2,579,0411. The net incremental population after the next 20 years would thus be 792,972.

The gross land requirements for the incremental population till the year 2028 have been calculated on 5-yearly basis (Table 3.4).

Table 3.4: Land Requirements for Future Population

Time Period	Incremental Population	Land Requirements @ 45 PPA (Acres)	Cumulative Land Requirements (Sq Km)
2008-2013	186,059	4135	16.75
2013-2018	194,181	4315	34.32
2018-2023	202,304	4496	52.42
2023-2028	210,428	4676	71.35
Total	**792,972**	**17,622**	**71.35**

In total, therefore, about 71.35 square kilometers of land suitable for all categories of urban growth around the existing built-up area of Multan are required. However this includes the area under those ongoing housing schemes where over 80% plots are still lying vacant or likely to be occupied during next 4-5 years.

3.8.2 Strategies for Urban Expansion

This metropolitan growth scenario based on the vision is proposed to be effected through the following strategies:

a) Encouraging growth outside the MDA controlled area on the main corridors.

b) Strengthening the potential for growth in the form of new Satellite Towns to relieve the pressure on existing built up areas.

[1] Source : Existing Situation Report, Multan Master Plan (2008-2028), Section 2.2.2, Page 19, Table 2.12.

c) Creating new urban nuclei in the amorphous developments in the City as well as in the outlying smaller urban settlements incorporating social and economic hubs.

d) Providing opportunities for development of composite neighbourhoods on the Outer Ring Roads.

e) Demarcating areas of significant ecological and water resource values for preservation and conservation areas along banks of River Chenab and Multan Branch Canal.

f) Instituting specific Area Development Projects for upgrading quality of life in existing neighbourhoods.

g) Restructuring the zoning strategy to promote regulated development & control the sprawl.

h) The main problem of the inner city area is excessive concentration of population and economic activities. The trend of migration for gainful employment is by and large towards the Multan city, resulting in diseconomies of scale. The situation calls for channalisation of economic activities in the other major town of Southern Punjab Multan Division.

i) Devise workable infill development program, as scattered and leap frog development creates lots of trapped vacant pockets still vacant or under agriculture use.

3.9 BROAD STRATEGIES FOR DEVELOPMENT

Multan is expanding in all directions; expansion is however more pronounced in some directions because of a number of factors such as existing physical & social infrastructure, better transport linkages, easier accessibility to different facilities and services and the resulting economies of scale.

In some directions of Multan urban area, the expansion is restricted or limited because of certain physical constraints; for example towards west, the expansion of City is restricted by Cantonment, Airport, River Chenab, and the flood-prone areas. Presently, the area south of railway line has limitations such as lack of appropriate/sufficient infrastructure, longer travel distances to work and city centre, and relative dearth of civic amenities. However, this is the area in which the future urbanization will take place. Industrial expansion in the south is extensive, though mainly in sporadic manner along major roads, trapping fertile agricultural land in between, although a planned industrial estate also exists in the south.

There is potential for major expansion on all directions except limited expansion to the north – west and south west. Each zone has its particular advantages and disadvantages.

Though the costs of utility infrastructure provisions will vary only slightly with the development of different areas around the city, the provision of a suitable road network would require different phasing with greater early investment for growth in some locations. Equally the travel to work costs would vary significantly. The benefits to future populations of creating attractive and functional environments can be best achieved in new communities, whereas infill development can provide the greatest benefits to the existing population by introducing new trunk infrastructure. The main implementation concerns are the extent to which any strategy requires government action to assemble and develop land and the extent to which the private sector can be guided to develop in the most appropriate manner and locations. Flexibility is necessary in any strategy especially where the private sector will be required to provide significant development efforts.

The primary issues identified as affecting the selection of a strategy for growth are land costs versus accessibility to work: and the opportunity to improve existing under serviced areas with integrated new development versus the opportunity to create new and well planned, balanced and self-funding communities in open land.

These and the other considerations provide the basis of the two significantly different strategies for development to be evaluated. There are four areas of criteria for evaluation and the suggested measures enable the strengths and weaknesses of each approach to be identified.

3.9.1 Alternative One

"To concentrate the majority of the urban expansion on the least expensive land, where agriculture is not so successful and where there are fewer existing settlements so enabling new, well planned communities to be created".

This strategy would result in extensive development around the university area, to the north, around the industrial area to the south, and east beyond the fertilizer plant area.

Expansion in any of these areas would bring forward in time the requirement for major new radial routes from these areas to the city centre and an alternative to the southern section of the existing ring road. The travel time and distance to the main city employment areas (Grain and Timber Markets, Walled City, Government offices, and Cantonment bazaar area) is the second major cost. The impact of this would be significant on low income families. The major cost advantage is the much lower land costs than those closer to the walled city. The extent to which this lower cost can

attempt to compensate for the other costs will be demonstrated in more detail in the next stages of work.

The benefits are the increased opportunity to develop; new well planned communities. In this strategy the primary benefits go to the expanding population who are relocating rather than those who will remain in their existing mohallas.

With this strategy there are greater opportunities for government (MDA) involvement in the land acquisition and development. This could enable the rate of land availability to be speeded up and the implementation of a significant programme to relieve the housing needs. Opening up these new areas will require government intervention, since development in these areas would be unlikely without government involvement.

In terms of flexibility, the issue of the need for government involvement creates some limitations. The private sector could not be expected to assemble the land for extensive new areas and make the major investments necessary. Significant infrastructure links are required in advance with this strategy, which can only be economically justified by completing that area. Once a new community is started, it should be completed at the earliest possible date.

3.9.2 Alternative Two

"To concentrate most of the development close to work opportunities and in locations where existing under serviced urban areas could be upgraded in conjunction with the integration of new communities and developments. The emphasis of this strategy would be the opportunity to assist the existing low income families where they are living now, and to provide future opportunities that do not require heavy travel to work costs".

The main centres of employment are the Grain/ Timber Markets, Walled City, the administrative area in the Cantonment, bazaar area and the industrial area. The most extensive existing urban areas of significant deficiencies are to the south of the Walled city. In this strategy the areas for most urban expansion would be infill to the south of the existing ring road.

The significant cost with this strategy will be the land costs. The full implications of this cost and the extent to which it affects the affordability levels of low income housing schemes will be tested in the detailed shelter studies. The indirect costs of travel to work and facilities will be low.

The great benefits of this strategy are the opportunities to improve the trunk infrastructure in the existing under serviced areas and to locate new development in locations preferred by the majority of the residents. On the other hand it will not be so

easy to create large attractively planned areas as much of the development in this strategy will be smaller scale infill between existing unplanned areas.

To implement this strategy there is less requirement for government involvement in plot development. Within a local plan framework the private sector developers could be guided both by the sitting of trunk infrastructure and planning controls to ensure development is not located in a haphazard manner. However, the difficulties in slotting roads into congested, unplanned areas should not be underestimated. Apart from this, though there will be less dependence on Government action with this strategy, developed with appropriate housing for the needs of the expanding population. A large housing programme will almost certainly require government intervention.

This strategy will depend on a larger number of smaller scale actions. As such it will be more flexible to implement and will not depend on a long term irrevocable commitment to one course of action.

3.9.3 The Preferred Approach to Development

Both strategies have significant strengths. As a result of this evaluation it is considered that the most appropriate approach for the expansion of Multan is to start both strategies and to introduce development predominantly in the north-east and the south of the city.

We wish to emphasize the concern and importance for assisting lower income families. With this as a priority, we recommend that much of the early expansion the first half of the twenty year planning period, is concentrated south of the old city as described in Alternative two. This should provide the greatest benefits to both the existing residents and the lower income families requiring houses within short travel distances of their work. It will also support the justification for a relief distributor road south of the existing ring road, together with new radial links.

Naturally, after construction of Askari Bypass and Southern Bypass, the thrust of the Private Developers/ Investors has been directed along these primary corridors. Along these roads, it has been observed that new land subdivisions and housing schemes are coming up at much faster pace.

In order to achieve coherent and integrated expansion, the vacant areas in north triangular made by Bosan Road/ Northern Bypass/ LMQ-Matital Road and Southern belt which falls in the areas between Old Bypass, Askari Bypass and Wali Muhammad Distributory should be considered as first priority by the district authorities.

3.10 STRATEGY FOR INFILL DEVELOPMENT

Infill development is the process of developing vacant or underutilized parcels within existing urban areas that are already largely developed. Multan City has a significant potential for infill and redevelopment on lots, which for various reasons have been passed over in the normal course of urbanization.

The prime objectives of the Infill Strategy would be: -

i) Promote infill development, rehabilitation and reuse that contribute positively to the surrounding area and assists in meeting neighborhood and other city goals.

ii) Redesign regulatory processes and create more flexible development standards for infill development

iii) Provide focused incentives and project assistance for the development of infill sites, including fee adjustments/waivers and cost avoidance strategies

iv) Prepare Area Specific Action Plans including Subdivision Regulations to support infill development goals.

v) Engage the community to ensure infill development addresses neighborhood concerns and to gain greater acceptance and support for infill development.

Our City Development Authorities should use infill incentives to promote the development of vacant land or rehabilitation of existing structures in already urbanized areas where infrastructure and services are in place. Prime locations for infill development include downtowns, transit corridors and locations near employment, shopping, and recreational and cultural amenities.

Various infill incentives may be offered for a number of reasons:

- Infill development reuses properties that may have been underutilized or blighted, helping to catalyze revitalization.
- Infill has the potential to boost jobs, purchasing power, and public amenities in urban core neighborhoods and generate tax dollars for local government.
- Infill housing is dense in comparison with housing in suburban areas and represents an effective way to meet a jurisdiction's affordable housing or population growth needs.
- Located in proximity to existing transit routes or within walking distance of services and entertainment, infill development can reduce auto use and accompanying congestion and pollution.

Infill development is an important smart growth strategy for regional equity. Infill development is not, however, always a developer's first choice. Challenges associated with infill include the small, scattered nature of many infill parcels, complex title issues, outdated infrastructure serving the infill site, and environmental contamination.

3.11 LAND ACQUISITION ISSUES

The concern for flexibility also reflects an awareness of the problems connected with land acquisition. The land around Multan is owned by a diversity of landowners. Any attempts by either the public or private sector to assemble large tracts of land for development have to face the difficulties of negotiating with numerous individuals.

Most landowners are reluctant to sell as their land provides the livelihood for their family. In most cases, it has been passed down through generations and there are strong emotional ties.

Although variations in priorities can be expected to occur, the proposed strategy presents an appropriate balance between social needs, and the known land and infrastructure costs and opportunities. As a result the broad approach described should be followed even where this requires significant political determination. Land assembly will be the key problem.

Compulsory purchase at current value is possible, but where there is local resistance, programmes of development can be held up for long periods. The present methods of land pricing for land acquisition need to be reconsidered. The 1894 Land Acquisition Act requires a uniform average price per unit area of property to be offered as compensation to owners. When a large area of land is required, the average price will seem much too low for those in the most favourable locations which command high market prices. As a result their resistance can hold up important projects i.e., sites and services schemes, as well as commercial-cum-recreational centres.

Another significant policy option is to consider the introduction of betterment charges, where considerable increase in value is created, by the introduction of major public infrastructure. The most important instance of this will be the construction of the new roads and the consequent increase in value of land within their proximity as happened in case of Askari Bypass and Southern Bypass. However, as has been found in the case of sewer connections elsewhere, potential beneficiaries will be unwilling to pay for something that others expect from the public sector as a right.

In order to overcome land acquisition difficulties, a policy of guided land development is currently being recommended and put into operation elsewhere. It seeks to ensure a fair return on investment to the private owner/ developer, whilst making available a

much larger proportion of serviced sites, for allotment to lower income families at affordable prices, than anything currently proposed in Multan so far.

Within this framework, variations as to the actual location and rate of development may occur. It is only in the case of the inner city roads that significant flexibility will not be possible if a realistic programme of inner city improvements is desired. The land required for these roads should be purchased at an early date.

3.12 LAND MANAGEMENT

An effective land management and development control system is required for Multan. A major objective of urban land management is to reduce and to anticipate unplanned physical growth. Such growth causes high costs to the community because of irrational spatial patterns and speculation.

The formal measures aim at posing restrictions on the use that can be made of land; these include planning and zoning regulations, environmental controls, building regulations and limitations with respect to land tenure.

Urban development depends very much on the capability to actually implement planned physical growth patterns. In spatial terms, the proposals of 1987 Master Plan have generally been implemented. Planned developments for housing have taken place in the North-east, as proposed in 1987 Master Plan.

MDA currently does not have sufficient financial resources, which is severely limiting its effectiveness. Voluntary sale of private land to public authorities is, in theory, the fairest and most efficient method of land acquisition, involving willing buyers and willing sellers. However there are some practical difficulties confronting sellers and buyers alike. In a buoyant land market and under the condition of rapid urbanisation, the seller may not be tempted to sell his lands to the government because of justified fears of unnecessary delays in payments and in transactions. Instead he may well be tempted to sell to private sector buyers. In case of satisfying the needs of the low income groups it may be effective to use the cross-subsidies in various forms. (For example, the additional cost recovered through auction of commercial plots can be used to subsidise land for low income groups). Almost the entire land developed in the private sector by different housing cooperatives is acquired through negotiations with the owners in Multan's fringes.

The National Housing Policy suggests measures like land banking and streamlined land acquisition procedures to overcome housing and developed land shortages. The need to formulate a rational land policy has been emphasized in the recommendations of the National Human Settlements Policy Study.

3.12.1 Land Readjustment

Land banking is a technique by which the public sector acquires privately owned land in advance of demand and then releases the land for development as needed. Land banking however, does not have a successful history in developing countries, as it requires huge resources and an efficient and powerful institution/agency. Hence the preferred option is Land Read justment.

There are various forms of land readjustment/land pooling techniques. The aim of such schemes is to develop land and rationalize its delivery at little or no cost to the public sector at the urban fringes. This technique can equally be applied to redevelop inner city areas. Typically the process begins by declaring an area of privately owned land to be the subject of such a scheme. A layout plan of the area is prepared and calculations are made for the percentages of land required for roads, infrastructure and community uses. The cost of infrastructure and such services is calculated and a proportionate land is deducted which can yield the costs incurred on putting the infrastructure and community uses. The remainder of the land is returned to the owners, who now hold a developed smaller land parcel but one, which has increased in value because of the investment in infrastructure and services. The city meanwhile sells its share of the improved land to recover the cost of services installed. Alternatively, the city's share can be sold to provide low-income housing or any such priority needs to the disadvantaged groups.

An additional advantage of this technique is in the instance when the land to be developed is held in small fragmented parcels. The readjustment process can be used to consolidate and allow replotting of parcels into more rational and more viable plots for sale and development. Given adequate administrative setup and political, such programmes appear to meet many of the criteria for efficient and equitable land management.

In Land pooling, ownership of the land is transferred from the land owner to the pooling agency, consolidated and returned to the owner in one parcel. In Land readjustment, ownership remains with each landowner but the readjustment agency has the right to enter and undertake construction activities on the land. The technique may be used by MDA/ GDGM or selectively by a highway authority or a group of landowners on cooperative basis.

The benefits of land pooling/readjustment to the city authorities include the opportunity to structure urban fringe development as and when required with appropriate subdivision layouts, infrastructure, community land uses, at little or no cost to government. The landowner receives a net gain in the value of his land either because off-site services are made available and/or because he can develop land parcels that may not have been suitable for urban development separately. However, land readjustment/land pooling arrangement scheme does not necessarily ensure that land returned to the landowners will not be held vacant for speculative purposes.

In such a case building/planning conditions and zoning laws need to be imposed on land returned to the owners. Alternatively, either the agency and private land owners or the land owners themselves could work out/ agree upon various profit sharing arrangements on land development. MDA should seriously examine this technique to guide future urban land development at the fringes and undertaking urban renewal projects in the CBD. This concept is also recommended in the National Human Settlements Policy Study under the nomenclature of ADR (acquire, develop and return).

Private sector formal and informal land developers and owner-builders increasingly dominate land development in Multan. At the same time, MDA is increasingly beset by financial and management constraints. In such situation it is imperative for the public sector to develop a new relationship with the private sector in pursuing land and urban development objectives. The role of the public sector will be restricted to the provision of basic infrastructure to guide the general direction and form of urban growth and the use of limited tools for regulating land use. The city authorities will therefore need to adopt the general principle of legitimising the activities of the private sector and to apply basic environmental protection measures.

Few incentives to land development will be needed in the areas of preferred urban expansion. Such incentives can include: the rights of way for future infrastructure; purchase of selected sites for future community uses; financial incentives for commercial and residential development such as tax holidays; relaxation of building regulations to allow minimum affordable plot sizes, reduced land transaction charges, etc. The current trend of land development by private sector at the city fringes can be categorised in this cadre, where no financial or other incentives are provided by MDA or any other regulating agency.

3.13 RATIONALIZED LAND DEVELOPMENT PROGRAMME BY MDA

Over the years MDA has not been able to generate financial surplus to enable it to carry out large investments in trunk infrastructure. Its large asset of developed plots in various schemes has been depleted through policies of quota system and discretionary allotments by the bureaucracy and the politicians. A major problem has been the lack of land distribution strategy which could ensure a steady flow of serviced urban land for all segments of the population. Since the abolition of Punjab Acquisition of Land (Housing) Act 1973 in 1986, MDA has not been able to acquire land at market price to launch any new housing scheme due to exorbitant market values of land. This has created a land bottleneck for MDA. To get out of this situation, MDA would have to examine the option of land readjustment. The land would not be acquired by MDA upon payment, but will be consolidated in a scheme framed by MDA with proportion required for roads and other amenities. It will be returned to original owners in the proportion held by them minus the land used for roads/streets and amenities. MDA, in order, to recover the cost of infrastructure will retain and dispose off a proportion of developed land through public auctions.

In line with the recommendations of the National Housing Policy, future housing schemes of MDA should be planned and developed keeping in view the target groups--mainly low income and middle income groups. A small proportion of plots targeted towards upper income groups may also be planned which would provide the required funds through auctions.

3.14 DUAL LAND MARKETS

Increasingly, cities in the developing countries are characterised by a dual land market in which a formal market, controlled by zoning, density and other statutory regulations and serving predominantly middle and high income households and businesses, contrasts with a rapidly growing informal market, characterised by a variety of settlement types, with few or no services. Informal land transactions are often subject to control by middlemen and serving predominantly low income households.

Existing regulations suggest that decision makers and planners continue to resist recognising the existence of this type of economic activity. It usually involves small, often family-based, labour-intensive households that would benefit from the allowance of mixed land use and freedom from harassment by authorities.

The emergence of informal land settlements reflects the inability of the formal land market to supply adequate land for the urban poor. In the case of Multan, a vibrant informal land development sector is in existence in various parts of the city, which caters to the housing needs of the low income groups.

Investment in land is a prime vehicle for personal saving as alternative avenues for investment are either absent or not trusted. This practice leads to land speculation. The use of fiscal measures as an effective tool of managing land especially as a method of curbing speculation and price escalation has not been tried much in Multan.

3.14.1 Formal and Informal Land Development in Multan

In Multan we can observe two institutions of different nature, which are involved in development of lands located on urban fringes. The first one is the formal sector which includes MDA and organized private sector. The other is the informal sector which develops land, also at the urban fringes but in a more relaxed manner and in an uncontrolled environment. The target groups of these two institutions are also different. While the formal sector caters to the upper and middle income groups, the informal sector caters to the shelter needs of the vast majority of low (and medium) income groups. On the other hand, the formal sector housing schemes are developed to high standards, the informal sector uses the incremental approach which makes the plots affordable to the specific target group. While most of the plots developed in the formal housing market average between 250 to 420 sq.m (12

Marlas to 1 Kanal), the informal land market produces small-sized plots affordable by the low income groups averaging between 63 to 147 sq.m (3 to 7 Marlas). Further more, most of the plots (75% to 80%) in the formal housing market are held vacant probably in the hands of speculators, the plots in the informal sector are built upon immediately by the owners as they are in need of shelter.

The infrastructure in the formal sector schemes is put in well before the plots are handed over to the owners. This results in deterioration of the infrastructure by the time the scheme is occupied. Moreover there is general lag of five years between the launch of the scheme and completion of infrastructure at site. This time difference adds to the development costs and the market value of the plots is also enhanced, which is encashed by the allottees.

3.14.2 Land for Urban Poor

The housing shortage for the low income groups can be overcome through better access to land by the following measures:

3.14.2.1 Cross Subsidies

Cross-subsidies are common techniques for reducing land costs to low income groups. Such subsidies are often built into site and services projects, for example, whereby the profits from selling some of the plots at market prices for commercial use are utilised to subsidise the cost of other plots. This principle can also be applied in land readjustment schemes and has been recommended in the National Housing Policy as well.

3.14.2.2 Affordable Standards

Since the level of infrastructure and services is a major factor affecting the cost of land, the application of affordable standards can have a great impact on increasing low income groups' access to land. First, lower permissible standards can be introduced either city wide or in areas likely to serve low income groups. The second approach, that of incremental upgrading, may be more satisfactory because it allows more low income groups to have access to affordable land.

A strong sectoral recommendation of the National Human Settlements Policy Study is to reduce the plot sizes and rationalize bylaws and building codes in line with the financial affordability. Controls need to be reformed for low-income residential development to allow incremental construction of shelter. Planning controls should be flexible to allow incremental installation of services.

3.15 URBAN RENEWAL FOR CENTRAL CITY AREAS

The National Housing Policy also suggests launching of a nationwide urban renewal programme with the participation of public and private sectors for old and dilapidated parts of the nation's cities.

Multan has a unique cultural heritage manifested in its special architecture and urban design. Stronger focus is required on the Walled City areas and its precincts. Much of the commercial and administrative areas in the Central Multan may be revitalized by effective control of changes in building use, upgrading the level of existing physical infrastructure and building conservation.

An urban revitalization programme identifying areas requiring urban renewal would be initiated. The criteria for identification of urban revitalization sites should include availability of sizable tracts of vacant land in high population density areas, land in the vicinity of high priced commercial property, aging and structurally unsound buildings, areas with deficient infrastructure, incompatible land uses etc.

CHAPTER: 4
LANDUSE POLICY AND ZONING

4.1 INTRODUCTION

Landuse profile of a city portrays the relationship of human activities and spatial uses. This is essential for better urban planning in general and landuse zoning in particular. Landuse pattern in Multan, like elsewhere, is controlled by economic forces, mobility of residents and changes/adjustments that occur in the dynamic urban scene.

Like all urban areas, landuse pattern in Multan is also a reflection of two elements; i) nature of landuses and their location, and ii) level of spatial accumulation, which indicates their intensity and concentration. Central areas have a high level of spatial accumulation and corresponding intensity of landuses, while peripheral areas have lower levels of accumulation.

Landuses are inter-related. For instance, commercial landuse involves relationships with its supplier and customers. Thus, a level of accessibility to both systems of circulation must be present. Since each type of landuse has its own specific mobility requirements, transportation is a factor of **activity location**, and is therefore associated intimately with landuse.

A key for understanding urban entities like Multan lies in the analysis of patterns and processes of the landuse system. This system is highly complex and involves several relationships between the **transport system, spatial interactions and landuse**:

Transport system: Considers the set of transport infrastructures and modes that are supporting urban movements of passengers and freight. It generally expresses the level of accessibility.

Spatial interactions: Considers the nature, extent, origins and destinations of the urban movements of passengers and freight. These take into consideration the attributes of the transport system as well as the landuse factors that are generating and attracting movements.

Landuse: Considers the level of spatial accumulation of activities and their associated levels of mobility requirements. Landuse is commonly linked with demographic and economic attributes.

Landuse is the most stable component of urban dynamics, as changes are likely to modify the landuse structure over a rather long period of time. This comes as little surprise since most real estate is built to last at least several decades. The main impact of landuse on urban dynamics is its function of a generator and attractor of movements.

In any existing urban area, which has expanded on basis of indigenous growth, there is no 'standardized' landuse distribution of activities. The proportions and forms of urban scape are the resultants of past and present socio-economic forces. The market processes have a strong pervasive power, and hence the scope of planned interventions in urban landuse pattern needs to be understood. Following is an analysis of landuse distribution in Multan:

4.2 LANDUSE TYPOLOGY

The landuse survey was carried out for the entire MDA area, spread over 362 square kilometers. The information obtained through landuse surveys was fed into GIS. The analysis of survey information reveals that around 63% of the total surveyed area is under agriculture/orchards and about 37% is built-up. This is a significant variation from 1986, when 78% was under agriculture/orchards, and only 22% was built-up. This implies that over the past 20 years, additional 15% area has been urbanized. As a corollary, the agricultural area has shrunk by the same percentage.

The overall landuse pattern of Multan is diffused and the city has been expanding haphazardly. Development continues mostly along the major roads. The railway track passing roughly through centre of the MDA area, divides it into two parts; northern and southern. Bulk of the built-up area lies towards north of the railway track.

The City is expanding in all directions, but the major growth is towards north and north-east, particularly in the corridors formed by Bosan Road-LMQ Road, and LMQ Road-Railway track. The growth in these corridors is more contagious. In other directions, spatial growth is less intensive, sporadic and along the main roads, particularly along Vehari Road, Dunyapur Road, Bahawalpur Road, Shujaabad Road and along Multan By-Pass. Such leap-frog developments cause unnecessary urban sprawl, increasing the cost of infrastructure, distances, travel time, traffic and pollution. The fertile agricultural land between the ribbon developments along main roads gets trapped, reducing agricultural fertility/production and ultimately its conversion to other uses.

The Old City is bound by Circular Road, and contains admixture of landuses, which apart from residential, include intensive commercial activities, small-scale industrial establishments and also many heritage buildings.

The built-up area is currently about 136 square kilometers, the largest portion of which is under residentiary uses (62.6%). It is important here to distinguish between 'residential' and 'residentiary' uses. Residentiary uses include not only residential uses i.e. land used for dwelling units, but also internal roads & streets, pedestrian lanes, parking & loading areas, local mosques, play areas for children, kindergartens, local libraries, personal services (hair dressers, tailoring, shoe-makers, laundries etc.), and residentiary manufacturing such as repair shops, inoffensive production or manufacturing carried on in or adjacent to residences and properties[1].

The area under commercial uses is about 1063 acres, which is about 3.2% of the built-up area. There has been a phenomenal growth in commercial area, from 210 acres in 1986 to 1063 acres in 2008; or from 1.14% of the total built-up area in 1986 to 3.17% in 2008. This could be because of economic regeneration, increased commercial 'area of influence' of Multan in the Country, particularly in South Punjab; it could also be due to disguised unemployment.

The industrial area currently is about 2,578 acres, as against 2,184 acres in 1986, an increase of 394 acres. However, in percentage terms, there has been a drop from 11.83% of the built-up area in 1986 to 7.69% in 2008. This implies that proportionally, overall urban expansion of Multan has been more than expansion of area under industries in the same period of time. However, even the present percentage is within the observed range of landuse proportions in large cities.

The areas under educational institutions, parks & play grounds, transportation and graveyards have considerably increased in terms of absolute numbers (acres) as well as percentages (Table 4.1).

[1] Adapted from National Reference Manual on Planning & Infrastructure Standards, Appendix 10.1, Sections 1.1 and 1.2, Page 398.

Table: 4.1 Land use distribution (2008 Vs 1986)

Land Uses	2008		1986	
	Sq Km	%Age	Sq Km	%Age
1. Residentiary	85.02	62.62	41.74	55.82
2. Commercial	4.30	3.17	0.85	1.14
3. Industry	10.44	7.69	8.84	11.83
4. Educational Institutes	8.72	6.42	5.44	7.28
5. Public Building & Govt. Offices	2.99	2.21	4.73	6.33
6. Parks and Playgrounds	1.63	1.20	1.12	1.50
7. Grave Yards	1.99	1.46	1.67	2.23
8. Transportation	15.63	11.51	9.10	12.18
9. Canal and Water Bodies	1.79	1.32	1.27	1.70
Total Built-up Area of MDA	**135.77**	**100.00**	**74.77**	**100.00**
Percentage w.r.t. Total MDA Area	**37.46%**	**---**	**22.30%**	---

4.3 LANDUSE AT DISTRICT LEVEL: POLICY CONCERNS

What should be the appropriate Landuse Policy for Multan District? It is a basic question for orderly growth of the District and unnecessary conversion of agricultural land for urbanization. There is an established trend in our Country to lay more emphasis on 'new schemes', which is understandable. For private sector, there is money in it. The Government invests in such projects to create 'symbols of development'; the real benefits hardly filter down to common man.

Multan's urban growth is characterized by dispersion of residential, commercial and industrial developments at the City's periphery and adjoining rural areas. The City is expanding with low density linear growth. The urban expansion is largely taking place because of housing schemes (MDA sponsored as well as private), indigenous unplanned residential growth due to population spill-over from inner city and other localities, and industrial expansion along inter-city radials and on the trapped agricultural land between these roads. Thus primary landuse concerns may be itemized as below:

4.3.1 Conversion of Prime Agricultural Land

Conversion of District's prime agricultural land for urban uses should be a major policy concern for the City District Government as well as MDA. There are long-term consequences of such conversions on the productive capacity and economic viability of the agricultural sector. The carrying capacity of natural resources is limited, and there are already severe food shortages and resource depletion.

Apart from reduced agricultural productivity, these landuse conversions also have adverse impacts on urbanized areas. Impacts vary from over-extraction of groundwater resources, groundwater contamination from private septic systems, and contamination from industrial and commercial sources.

4.3.2 Sprawl of Urban Settlements in the District

The *urbanized* area within the jurisdiction of MDA was about 12,500 acres in 1986, which has increased to about 31,000 acres in 2008, implying that Multan's urbanized area expanded at an average rate of about 2.3 acres or about 18.5 kanals per day during the stated period. The City District Government, Town Municipal Administrations and Multan Development Authority should be concerned about the impacts of unscrupulous urbanization. There is a strong need to create balance between urban and rural growth, check uncontrolled developments and their negative impacts.

4.3.3 Landuse Conflicts

In the District as a whole as well as within Urban Area, there are significant conflicts due to non-compatibility of landuses and problems of their management. Besides, rapid population growth and service demands have outpaced even the most basic infrastructure needs, such as drinking water supply, sewage disposal and treatment, and general education and healthcare facilities.

4.3.4 What needs to be done?

Different problems, some identified above, have erupted because of flawed landuse policy that lacks incentives or regulatory controls to revitalize residential, commercial and industrial landuses in established urban area or close to it. Some possible measures to rectify the situation may include the following:

i) Revitalize Old City

What is needed is to restore the Old City and the surrounding areas into more livable, vibrant and economically viable entities. The demand for additional land can be reduced by reinvesting in the Old City. There is a need to effectively limit the supply of rural land for urban expansion for environmental well as other reasons stated earlier.

ii) Re-Develop Abandoned Sites

The vacant sites within urban area, including abandoned sites of Old Vegetable & Fruit Market, Old Bakar Mandi site along Hazoori Bagh Road, the site for Old Hide and Skin Market near Town Hall, and many other underutilized properties should be redeveloped.

iii) Emphasize Urban Renewal and Slum Upgrading

The goal to optimize expansion can be accomplished by reviving the functionality of the built-up area, its employment and income potentials and enhancing the overall quality of life through urban renewal and slum up-grading.

iv) Zoning and Regulatory Measures

Planned and optimal urban expansion and segregation of incompatible landuses can be accomplished by implementing the Master Plan and through zoning regulations and local ordinances for landuse conversions and subdivisions. Zoning is the most widely used form of landuse regulation. Ordinances may include permitted landuses in specific zones the height and size of buildings, lot sizes, permissible density, parking requirements, and other characteristics of development.

v) Infill Development

Infill development is the process of developing vacant or underutilized parcels within existing urban areas that are already largely developed. Multan City has a significant potential for infill and redevelopment on lots, which for various reasons have been passed over in the normal course of urbanization.

Our Development Authorities should use infill incentives to promote the development of vacant land or rehabilitation of existing structures in already urbanized areas where infrastructure and services are in place. Prime locations for infill development include downtowns, transit corridors and locations near employment, shopping, and recreational and cultural amenities

vi) Preserve the Natural and the Built Heritage

Multan being among the oldest living civilizations, has very rich history of architectural heritage and at the same time among the top mango producing area of Pakistan. Any future development plan without giving due emphasis on preserving its cultural heritage, and orchards would be a disaster.

vii) Develop new urban nuclei / magnets of growth

To relieve the pressure of the existing developments, to denogest the high density walled city and its environs, and to prevent further decay of the historic urban core, new urban nuclei in the periphery needs to be developed as new economic & social hubs of the city.

viii) Define New Growth Boundaries / City Limits

In order to accommodate the haphazard development in the urban expansion land, and to get the upcoming major projects under the regulatory control of MDA, the present MDA limits needs to be revised / expanded in the prospective urbanizing zones. This will help promoting guided development in the areas presently beyond the MDA control.

4.4 PROPOSED MASTER PLAN ZONES

There is a strong need to protect and enhance the quality of Multan's well established residential areas. Zonal boundaries have to be clearly delineated to distinguish residential, large-scale commercial, industrial and other landuses in the City. Presently, the area under the jurisdiction of MDA is about 362 sq. kms, which is proposed to be extended upto 566 Sq Km. This area has been divided in different landuse zones, according to present and potential use of properties. The purpose is to control and direct the use and development of those properties. Primary objective of zoning is to improve the efficiency derived from agglomeration economies, ensure minimum standards of health and safety and provide land for public goods and services.

The criteria for earmarking the zones were based on the following characteristics:

- Physical and Urban Characteristics
- Predominant landuses
- Intensity of development
- Land requirements for urban expansion

In subsequent Chapters, specific set of regulations/guidelines have been proposed for better landuse control in each zone; these regulations are mainly influenced by the characteristics of the zones, and their perceived development pattern.

The proposed zones are described below:

4.4.1 Educational/ Health Facilities Zones

Educational institutions are of course scattered throughout the project area.

However, separate zones are required for higher order educational facilities. These are proposed as follows:

- On Matital Road adjacent to Women University Site
- On Southern Bypass / Budhla Sant Road junction
- Qasba Maral Road south of Old Bypass

All the above mentioned areas are presently deprived of such facilities and due to being located in the urban fringe will help boost the growth in these areas. Already a number of higher order educational institutions are operating/are planned in these areas, and would accommodate higher order education institutions.

Apart from contributing high level of educational facilities, these zone also offer advantages of providing easy access through Martital Road, Southern Bypass and Proposed Outer Ring Roads.

The following educational projects under the PM Package for development of Multan has been proposed:

- Women University on Matital Road in north - east
- Cadet College on Qasba Maral Road in the south.
- Boys Colleges
- Women Colleges including upgradation of existing Girls Degree College to University located in Katchehry Chowk.
- Proposed Engineering University at Chak Faiz in south.

4.4.2 Institutional Zones

There is no formally earmarked institutional zone at present. However, the area where bulk of major existing institutions are located, may be declared as institutional zone, so that zonal landuse regulations can be applied to retain its character and improve the zonal environment. In the Master Plan, like all other zones, specific landuse regulations have also been formulated for institutional zone to facilitate better and effective planning control in the area.

The existing institutional area described below, has become congested and there is hardly any space for establishment of new institutions. Therefore it is imperative to create a separate Zone for the new institutions to be established in future; some of the existing institutions can also be shifted to the new Zone to help deconges the inner City. Four new institutional/ administrative zones to decentralize the public administration areas are thus envisaged, as discussed below:

a) Existing Institutional Zone

This zone is located towards north-west of the urban area, close to the core of the city and its immediate vicinity. Majority of the administrative, health and educational institutions are located here (Table 4.8). Nishtar Hospital and Medical College, District Jail, and Circuit House are clustered around District Jail Chowk. Fatima Jinnah Hospital and Civil Hospital are also nearby, situated on Abdali Road. Social Welfare Hospital for Women is located on the road connecting MDA Chowk and Kalma Chowk, District Courts on Kachehry Road and Custom House are also in the same direction.

Degree College for Boys is situated on Civil Lines Road, while Female Degree College is located along Kachehry Road. Besides, this area offers diversity of educational facilities ranging from basic education to vocational training centers, schools and colleges, Teachers Training College, law institutes, and paramedical training center. A number of cinemas such as Rex Cinema, Star Light Cinema and Citizens Movie Cinema as well as Multan Arts Council are also located in this area. Most of the major public buildings are thus located in the heart of city, and this area may be reclassified as Institutional Zone.

Table 4.8: Facilities in the Existing Institutional Zone

Health Institutions	Law & Order	Other Institutions
1. Nishtar Medical College & Hospital	1. District Jail	1. State Bank
2. Fatima Jinnah Hospital	2. Police Station	2. Income Tax Office
3. Civil Hospital	3. Police Lines	3. Forest Department
4. Cardiology Center	4. Police Training School	4. District Council/ City District Offices
5. Police Hospital	5. Anti-corruption office	5. Custom House
6. Childern Hospital	6. Commissioner House	6. Circuit House
	7. District Courts	7. Director Public Relations
		8. MDA & TMA Offices
		9. Chamber of Commerce & Industry

There are of course residential and other uses as well in this area. The prominent residential colonies here are Justice Hamid Colony, Gulistan-e-Zahra Colony, Jalki Colony, Calro Colony, Meharban Colony, and Hassan Parwana Katchi Abadi etc. Commercialization is rampant along main roads particularly along Bosan Road and LMQ Road. The zone has no significant parks and open spaces, except local level open spaces in some residential colonies, and sports ground affiliated with Government College, Civil Lines. The zone includes major part of one of Multan's largest graveyards, along Hassan Parwana Road.

b) New Administrative/ Institutional Zone

The newly proposed institutional zone interfaces with the proposed site for new judicial Complex, between Matital Road and Khanewal Road.

The Judicial Complex included in Prime Ministers Development Package is located nearby. Besides, as already stated, some of the government establishments in existing Institutional Zone may be shifted in the new Zone to ease congestion in the inner city.

The proposed Administrative Zones may include offices of public sector departments such as District Offices, Development Authority & other Civic agency offices like MDA, WASA, TEPA, PHA, MEPCO, PTCL, SNGPL etc. Public dealing offices like Passport Office/ Nadra Office, Motor Vehicle licensing & Registration Offices, should also be located in the periphery to reduce congestion in the core city.

These Institutional-cum-Administrative zones would become future Business Districts of Multan which will accommodate all kinds of city level facilities such as health, education, sports & recreation, commercial/ cottage industry as well as public/ community facilities such as Rescue, Police, Post Office, Communication Centres, Cultural Centres, Cinemas & Theatre, Exhibition Halls, Food Courts, Auditoriums etc. with all allied services & ample parking/ outdoor sitting/ landscaping areas.

4.4.3 Delineation of Central Business District (CBD)

The area encircled by Inner Ring Road has been delineated as proposed Central Business District of Multan. The Inner Ring Road of Multan is being developed as main transport corridor of the inner city providing improved connectivity of the walled city with all other parts through numerous flyovers constructed recently.

The area to be declared as New CBD of Multan would exclude planned / approved housing schemes such as Mumtazabad, New Multan, Shah Rukne Alam Town,

Wahdat Colony,Shamsabad Colony, MEPCO Staff Colony, Railway Colony and Railways officers Bungalow, Tughlaq Town etc.

This CBD area is a blend of emerging commercial & business hub like Abdali Road, Nusrat Road and Old Bahawalpur Road (Qaswar Gardezi Road), traditional whole sale establishments like grain market, timber market and iron market, the inner city linear bazaars and the oldest Multan Fort and Qila Kuhna Qasim Bagh areas.

It is the area characterized by:-

- High land values,
- High density
- Concentration of non residential activities
- Mixed landuses (residential-commercial-service /cottage industry) all in single premises.
- Highest ranked facilities such as:-
    - Administrative offices like Commissioner office, DCO office and District Govt. Offices.
    - Financial institutions like head offices of National Bank, State Bank, Allied Bank etc.
    - Public buildings including historic shrines of Multan
    - Wholesale & retail business
    - Hotels, restaurants & cafes like Ramadah, Sheza inn, Zanzibar etc.
    - Multistorey commercial centres
- Geographical centre of the urban fabric
- Historic core of the ancient city including Walled City, Multan Fort and Qila Kuhna Qasim Bagh
- Main Public Transport Terminals (Rail & Road)
- Goods Transport Terminals.

4.4.4 Prevailing Landuse Zones in CBD Area:-

As CBD area of Multan mainly consists of old city which continuously experience regeneration and revitalization, therefore Reclassification of the whole CBD area is imperative to achieve optimum utilization of the land while simultaneously enhancing historical significance of the area. Reclassification would be on the criteria and procedure as laid down in the Punjab Landuse Rules 2009. However, apparently following landuse zones presently prevail within proposed CBD Area:-

1. Historically Significant areas as about 37 out of 53 listed monuments are located within proposed CBD Area.
2. Approved Housing Schemes such as Mumtazabad, New Multan, Shah Rukne Alam etc.
3. Established Built Up Residential Areas
4. Established Built Up Mixed Use Areas (Residential-commercial-industry)
5. Established Built Up Industrial Areas
6. Urban Renewal / Redevelopment Areas such as Old Bus stand and fruit and vegetable markets site near Dera Adda, sites to be vacated after proposed shifting of grain market, timber market, iron market etc according to Reclassification scheme to be prepared as per Punjab Landuse Rules 2009.
7. Roads permitted for landuse conversion / Commercial use (MDA Controlled Roads and District/ Town Roads) as per List A prepared according to Rule 62 (5) of Punjab Landuse Rules 2009.
8. Established Public Buildings / Parks / Play grounds/ public & goods transport terminals, places of worship, places of burial, public sector institutions etc

4.4.5 Future Commercial Zones

In the master plan, four (4) commercial zones have been proposed for the towns falling in MDA area to fulfill the requirement of land for commercial use in Short Term and Long Term Plans period for projected population. One (1) commercial zone has been proposed for each town having area ranging from 200 acres to 250 acres each. This zones will accommodate community / city level large commercial centres and it is in addition to commercial areas to be provided in housing schemes which will cater for mohallah level & neighbourhood level commercial activities

4.4.6 Trade Zone

Because of market forces, rapid landuse conversions are taking place, particularly from residential to commercial. This is creating multifarious problems including traffic congestion, pollution, delays, inefficient energy consumption, and loss of community character. The relationship between uses such as residential, commercial, industrial, institutional, educational and recreational, and the intensity of each use, directly impacts the City's character and quality of life. Any landuse conversion thus deserves thorough review by MDA or the concerned TMA/s, whichever is relevant for a particular location.

Multan has few city-level planned commercial centers with adequate parking. Generally, landuse pattern in Multan is mixed and commercial activities take place in many residential areas and along main roads. This trend is more pronounced in densely populated residential areas where ground floor is used for commercial

purposes and subsequent floors for habitation. This is particularly true for inner areas of Multan such as along Circular Road, Aurangzeb Road, Hazoori Bagh Road, Tughlaq Road, Eidgah Road, Bosan Road, Makhdoom Rashid Road, Mumtazabad Road, parts of Abdali road, and area between Mumtazabad Station and General Bus Stand. Commercial activities also prevail along most of the outer roads such as Nawabpur Road, LMQ Road, Vehari Road, Multan Bypass and the area in vicinity of Vehari Chowk. Due to congestion & parking issues in the inner core, new commercial activities are getting sudden boom particularly on Abdali Road, Bosan, Nusrat Road in the Cantt area. There are also local level planned shopping facilities in some residential neighborhoods.

Future landuse policy for Multan should respect the fact that much of Multan's distinct character lies in its diversity of landuses, and its physical, economic and cultural characteristics. Complete segregation of landuses, particularly in the inner areas is neither possible nor desirable. However rampant landuse conversions, which impede easy flow of traffic and a non-amendable living environment for the local residents must be controlled. Congestion is not the only curse of indiscriminate landuse conversion. It also puts further pressure on the already overburdened infrastructure and public services. Commercial areas are of course part and parcel of any human habitat. Planned commercialization itself is not bad; it is the indiscriminate conversion of landuses which should be controlled.

Commercial activities of higher order like wholesale markets and trade centers are presently fragmented, located in different parts of the City. A separate, properly planned Trade Zone for Multan will maximize the aggregate convenience of traders and the inhabitants. It is important to realize that a goal for Multan's development includes accepting a larger share of southern Punjab's commercial and industrial growth. By providing such a Centre, the present Central Business District of Multan and the inner city can be decongested, and the residents can avoid areas of traffic clogging. Besides, people living away from the central area and those living south of the railway line will not have to travel to inner areas for major shopping and related purposes.

The Central Business District of Multan is highly overcrowded, and there is no space for further expansion. A comprehensive policy is imperative to revitalize and regenerate the old city areas for maximizing both the economic potential and the cultural heritage value of the area. A number of wholesale markets have already been shifted from here. Even as a matter of principle, wholesale markets should be shifted from the central as well as other urbanized areas, as land in the inner and intermediate zone of the City is expensive, and wholesale markets which require large areas should be shifted in outer but easily accessible areas. Moreover, wholesale markets attract and generate high volumes of traffic which further aggravate the traffic congestion in the central areas.

The proposed Trade zone is easily approachable from different directions and is bounded by Southern Bypass Road, M4 (Motorway), Dunyapur Road and Faizpur Distributry. It will cater for different kinds of clientele, and attract regional and city trade. It will include wholesale markets which are usually associated with bulk disposal of grains, fruits, vegetables, meats, and will also house large warehousing, storage facilities and *Gawala* Colony. The proposed Trade Zone will not be isolated from the existing commercial establishments in other parts of the City and the District, as it will be accessed through a network of Primary Road such as Southern Bypass, Motorway (M4) Interchange at Bahawalpur Road and is. The total area of the proposed Trade Zone is 1500 acres.

The proposed Trade Zone shall not only serve the urban or MDA area but also City District Multan as a whole.

4.4.7 Industrial Zone

Industrial establishments are scattered throughout the Project Area, but most of these lie towards south of the railway line. The industries in Multan can broadly be described as being located in the following areas:-

- Multan Industrial Estate (Phase I & II)
- Inner City Core

Industries in the inner city core are mostly cottage industries, concentrated in Rehmat Colony, along Waterworks Road, Jail Road and other inner city roads as well as , between Ansari Colony Road & Railway line near General Bus Stand

Industries in the vicinity of urban area are located in the area between Vehari Road (segment connecting Vehari Chowk to Walaytabad Road opposite Cantonment Railway Station), and the Sui Gas Road Area between Shujabad Road and the railway line, adjacent to south-eastern boundary of the Cantonment, Pak-Arab Fertilizer Factory along Khanewal Road and scattered industrial units on Khanewal Road between Qadirpur Ran Bypass and Northern By-Pass.

In the outer MDA Area, industries are mostly located along inter-city radial roads such as Sher Shah Road, Multan Bypass, Shujaabad Road, Bahawalpur Road, Vehari Road, Khanewal Road and in the area west of Matital Road.

The proposed industrial zones have been located as follow:-

a) Light / Cottage Indsutry Zones

In the master plan, three (3) Industrial Zones for Light / Cottage industry have been proposed. These zones are evenly distributed in MDA area one each in

Bosan Town(Along Khanewal Road), Shah Rukne Alam Town (Along Southern Bypass) & Sher Shah Town (Shujabad Road /M4 Intersection).

In addition to these, the vacant areas on west & south of MIE Phase I & II have also been proposed to be utilized for light industry, EPZ and Dry Port Extension facilities. The above mentioned three industrial zones would accommodate light & cottage industries, handloom village / handloom clusters, and Fruit / Vegetable precessing Zones EPZ for Mangoes at appropriate locations.

b) Medium / Heavy Indsutry Zone

A new industrial zone for short & long term industrial growth requirements of four northern towns of Multan has been proposed in the south of under construction Multan-Khanewal Motorway (M4) which would be accessible both from Bahawalpur Road & Dunyapur Road. A low income housing zone has also been proposed adjacent to it. This state of the art industrial zone would be equipped with labour housing colonies, recreational parks, technical training centres, educational institutions for boys / girls and hospitals to facilitate the workers in the Industrial estate.

The proposed Industrial Zone has the following objectives:-

- To gain economy of scale through industrial agglomeration. In other words, concentration of industries in a planned and delimited area, with dedicated infrastructure reduces costs.
- To be able to attract new business by providing an integrated infrastructure in one location.
- To set aside industrial uses from urban areas to try to reduce the environmental and social impact of the industrial uses.

To provide for localized environmental controls those are specific to the needs of an industrial area.

4.4.8 Area of Historic Monuments Conservation

Multan is rich in religious and cultural heritage, particularly the inner (walled) City, and the adjacent areas hosting many of the shrines, mausoleums, religious buildings, monuments, and cultural heritage sites. These need to be preserved and protected. The prime responsibility for this lies with the Department of Archeology and Museums. Under the Prime Minister's Directive, the Department has already initiated the project to conduct surveys and studies for '*Preparation of Conservation Plans for Preservation and Restoration of Historical Monuments of Multan'*.

Under this project, a list of 53 selected monuments was provided for which complete documentation, topographical survey of the site, historical background, intervention study and an environmental assessment report was prepared.

The list of monuments provided in Table 4.2 below. The monuments primarily comprise Tombs, Shrines, Mosques, Temples Dharamsalas, Gateways and City and fort walls. It can be seen that 32 of the 52 monuments are located within the Walled City of Multan and Qila Qasim Bagh whereas 19 are located outside the Walled City. Two of the Monuments are in Uch Gilania.

Table 4.2: List of Monuments Selected for Documentation and Conservation

SR.NO	NAME OF MONUMENTS	LOCATION
1	Shrine of Hazrat Musa Pak Shaheed at Uch Gillania	UCH Gilania
2	Mosque Complex of Hazrat Musa Pak Shaheed at Uch Gilania	UCH Gilania
3	Mosque of Nawab Ali Wali Muhammad Khan	Haram Gate/ Pak Gate
4	Mosque of Hazrat Sakhi Yahya Nawab	Haram Gate/ Pak Gate
5	Shrine of Hazrat Sakhi Yahya Nawab	Haram Gate/ Pak Gate
6	Shrine of Hazrat Musa Pak Shaheed	Haram Gate/ Pak Gate
7	Mosque of Musa Pak Shaheed	Haram Gate/ Pak Gate
8	Gateway Complex of Musa Pak Shaheed	Haram Gate/ Pak Gate
9	Shrine of of Hazrat Hamid Gilani	Haram Gate/ Pak Gate
10	Tomb of Pir Luddan Kuddan	Pak Gate
11	Khuni Burj	Pak Gate & Dehli Gate
12	Pak Gate	Pak Gate
13	Shrine of Hazrat Inayat Wilayat	Haram Gate/ Pak Gate
14	Mosque of Hazrat Inayat Walayat	Haram Gate/ Pak Gate
15	Tarkhana Wali Masjid-2	Haram Gate
16	Mandar Shah Majeed	Haram Gate/ Chowk Bazaar
17	Haram Gate	Haram Gate
18	Bohor Gate	Bohor Gate
19	Jain Mandar	Bohar Gate
20	Mandar Gopal	Bohar Gate
21	Tomb of Shah Yousaf Gardezi	Bohar Gate
22	Delhi Gate	Delhi Gate
23	Dharmshala Dayal Singh	Delhi Gate
24	Shrine of Hazrat Shah Dana Shaheed	Delhi Gate
25	Shrine of Nawab Saeed Qureshi	Delhi Gate
26	Tomb of Mian Dalail	Delhi Gate

27	Tomb of Darbhar Shah Bukhari	Qila Qasim Bagh (North)
28	Shrine of Hazrat Bibi Pak Damna	South Periphery
29	Surj Kund Temple.	South Periphery
30	Tomb of Allah Dad Ghormani	South Periphery
31	Tomb of Shah Ali Mardan	South Periphery
32	Shrine of Khawaja Awais Khagga	South Periphery
33	Mosque of Awais Khagga	West Periphery
34	Masjid Wazir Khan	West Periphery
35	Tomb of Mai Meharban	West Periphery
36	Tomb of Shah Hussain Sadozai	West Periphery
37	Sawi Masjid and Graves	West Periphery
38	Faseel (Walled City) (areas where remnants are available).	Walled City
39	Masjid Khuddka	Periphery
40	Tomb of Shah Ali Akbar	Suraj Miani
41	Mosque of Shah Ali Akbar	Suraj Miani
42	Tomb of Shah Ali Akbar's Mother	Suraj Miani
43	Tomb of Shah Shamas Subsawari	Shah Shams Subsawari
44	Mosque of Shah Shams Subsawari	Shah Shams Subsawari
45	Shrine of Hafiz Jamal	Adjacent to Shah Shamas Tomb/Aam Khas Bagh
46	Mosque of Hafiz Jamal	Adjacent to Shah Shamas Tomb/Aam Khas Bagh
47	Barood Khan (Niggar Khana)	Qila Qasim Bagh
48	Damdama	Qila Qasim Bagh
49	Faseel Qilla Qasim Bagh (areas where remnants are available).	Qila Qasim Bagh
50	Memorial of Patrick Alexander & William Anderson Memorial	Qila Qasim Bagh
51	Perhalad Temple	Qila Qasim Bagh
52	Shrine of Hazrat Shah Rukn-e-Alam	Qila Qasim Bagh
53	Shrine of Hazrat Bahauddin Zakariya	Qila Qasim Bagh

However, emphasis on individual buildings/complexes and the immediate surroundings, related to their alterations, demolition and re-erection will not be sufficient. From planning perspective, the entire area described earlier needs to be delineated and declared as Conservation Zone, in which a set of specifically prepared zoning regulations can be applied for retaining the physical and historic character of the area.

Of course there a number of historic, cultural and religious buildings/structures in other parts of the City as well, but a large number of these is clustered in the above mentioned Conservation Zone. Inclusion of Walled City further augments the above area to be delineated as Conservation Zone.

4.4.9 Proposed Sports Complex Zone

In Multan, disappearance of incidental open spaces and inadequate provision of planned open spaces is a problem. Provision of spaces for active outdoor recreation is hindered by high land prices, pressure on land and high population densities. Thus reserving land for recreational purposes has to be stressed against many competing demands for land.

i) Metropolitan Level Stadium Complex

In addition to the existing facilities, a new Stadium Complex having an area of 240 Acres comprising grounds for cricket, hockey, track and field events, and gymnasium, etc. is proposed near Head Muhammad Wala Link on the Northern side of under construction Bypass. This would be a modern facility with all provisions of seating, public facilities, parking etc. If planned as a single facility, the seating capacity would be in the range of 30,000 to 40,000 persons.

The new stadium complex will cater for local, regional, national and even international sports events. The following facilities are proposed in the Sports Complex:

- Cricket Stadium
- Hockey Stadium } 20 Acres
- Footable Stadium
- Golf Course } 120 Acres
- Polo Ground
- Parking/Circulation/Off-Stadium Facilities (50 acres)
- Land Reserved for Future Expansion (50 acres)
- Total: 240 Acres

The existing orchards located within the proposed Sports Complex Zone site must be preserved and integrated with Sports facilities.

ii) City Level Sports Facilities

Three city level play ground complex cum club comprising an area of about 50 acres each are proposed for the future residential zones at following three locations of Multan:

- Matital Road
- Crossing of Budhla Sant & Southern Bypass
- Adjacent to proposed Cadet College site north of M4.

If a sufficiently large space can be reserved, a gymnasium-cum-indoor sports centre can be added later. This complex may be upgraded to a stadium at a later stage.

4.4.10 Recreational Facilities Zones

As already explained, Multan has an acute shortage of recreational areas. Though a number of parks and stadiums exist, but their numbers are far short of the present and future requirements. In the inner or urbanized areas of Multan, there is hardly any space for the provision of new higher order recreational spaces. In fact, new higher order recreational spaces should be segregated and should be planned in such a way that they can cater to the high volumes of traffic that is generated because of them.

The importance of well-distributed and accessible open spaces closer to residential areas is increasing. The following two categories of parks are proposed within MDA controlled area.

i) Regional Park/ Riverside Amusement Park

To cater for the recreational needs of the city and its catchment area, the existing forest reserve and orchards, located north-west of the city starting from Suraj Miani Head upto Head Nawabpur is recommended to be developed/ preserved as a Regional Park. Covering an area of over 4000 acres, the park would comprise of zoological and botanical gardens, an outdoor theatre, picnic areas and restaurants as well as arts & crafts village etc. Play fields for active recreation can also be developed here, without disturbing the existing flora and fauna of the ara.

This riverside park is proposed to exploit river's recreational potential and introduce boating, fishing and water game facilities in the area facing River Chenab. This park is planned to facilitate the residents of all the towns in the City District Multan as well as other parts of Southern Punjab.

ii) Town Level Parks

Three zones for town level parks have been proposed in future growth areas with site area in the range of 100-120 acres each.

These parks are proposed to cater future needs of Multan for passive recreation and these would include wide range of amusement facilities, joylands, artificial lake, landscaping, children & family areas etc.

Further, the Govt. land available on Matital Road adjacent to Women University measuring about 80 acres is also proposed to be utilized for a city level park as Multan is severly deficient in parks & open spaces.

4.4.11 Residential Zones

The inner parts of the urban area and surroundings have mostly grown organically, infill in the existing built up areas as no clear direction was available to planners. There was also lack of political will, inadequate resources, fragile institutions and lack of community awareness to participate in city development activities. Because of these and other factors, the city did not grow in integrated and coordinated way. However, residential colonies have been planned and developed by MDA itself and also by private sector. Many of these colonies, particularly those developed by MDA have been provided with allied facilities, such as parks and open spaces, shops, schools and clinics etc.

Residential areas have mostly expanded towards north as well as east of the urban area. Comparatively, there has been lesser residential development towards south, across railway line, though since recent past, a number of schemes are now coming up in this direction as well.

Future residential areas in Multan are proposed to be demarcated into four zones, based on current population densities, characteristics and their locations. The proposed zones are:

- Infill zones in existing Builtup Areas.
- Ongoing Housing Schemes/ Land subdivision developments.
- Future Urbanizing Zones.

However, existing residential zones may be categorized as below:

- Northern Residential Zone
- Southern Residential Zone
- Sher Shah Residential Zone
- Inner City Residential Zone

a) Northern Residential Zone

The zone is bounded by MDA boundary towards east, Northern Bypass Road in north, Nawabpur Road and Bosan Road in west, Railway Track in south and Piran Ghaib Road in South west. It is relatively a low density zone

The Zone also has significant industrial presence, particularly along/near Lahore Road and Matital Road. The Pak-Arab Fertilizer Factory along Lahore Road is most eminent among these. Availability of vacant patches and infrastructure are stimulating factors for future growth towards east. Many educational institutions are located along both sides of Boson Road, Lahore Road and Matital road. Commercial needs are effectively fulfilled through commercial areas along the roads as well in the housing colonies. The offices of Sui Northern Gas, OGDC, Power House, and Abbott Laboratory are also located in this zone.

b) Southern Residential Zone

The zone is bounded by Vehari Road in north, Railway line & cantonment in south-west, and Multan Bypass and the proposed Industrial Zone in its south. Typical residential areas situated in the Zone are Pir Colony No. 3, Qasimpur Colony, Shah Shams Colony, Lasani Colony, Sadat Colony, Nurpur Colony, Bilal Colony, New Suraj Khund and few sporadic 'chaks' southwards. For potential future growth, vacant land is available in Railway line-Shujaabad Road Corridor and in Shujaabad Road-Bahawalpur Road Corridor.

Typical non-residential landuses in this Zone are few poultry farms, godowns, Oil Mills, Cotton Mills, hierarchy of educational institutions, Cotton/Agricultural Research Centers, and Central Jail. It is a medium to high density zone.

c) Inner City Residential Zone

The zone is bound by Baba Safra Road &Circular road in West, Railway line in South, and Piran Ghaib Road in East. A segment of LMQ Road (Aziz Hotel to Dera Adda) and Hassan Parwana Road form the north-western boundary.

Typical residential areas of the Zone are Shah Rukne-Alam Colony, Gulberg Colony, Mushtaq colony, Zahid town, Jinnah town, Faisal colony, Naqshbandi colony, Qaisarabad, Rashidabad and Ahamdpura, Muhallah Khokhran, Muhallah Agapura, and Iftikhar Colony. Most of the residential colonies have irregular street layout except Gulberg and Baba safari colony.

This zone is well-served with the recreational facilities as compared to other residential areas of the city. The largest park of the zone is Jinnah Park, located

on the Multan Bye-pass Road. A number of other small scale parks and open spaces are available in planned colonies such as in Jinnah Town, Gulberg colony, Mushtaq colony, Shah Rukne- Alam Town, New Multan Z-Block, U Block, Budla Town etc.

The Public building in the zone include General Post Office (GPO), bank, mosques, Imam Bargah and educational institutions.

A planned Sabzi Mandi in the zone is accessible through Multan Bye-Pass Road. The significant commercialized roads are LMQ road, Multan bypass road, Piran Ghaib road, Masoom Shah Road etc. Similar to the other parts of city, local roads as well major roads are mostly commercial, while at some places these are commercial cum residential. The important nodal point is Daewoo Bus Terminal. Other notable feature of this area is shrine of Hazrat Baba Sakhi Shah, located in Hassan Parwana graveyard, which is one the largest graveyard of the city. Other graveyards are located in Shah Rukne-Alam Colony and Zahid Town.

4.4.12 North-West Orchards Zone

The area is known for high quality mango orchards, mainly situated towards western direction, particularly between Cantonment and MDA boundary, and in the north-western part of MDA area. There is a dire need to preserve these orchards, and hence a separate zone is proposed for their protection. This zone is bound by River Chenab in the west, Cantonment/Nawabpur Road in the east and Sher Shah Road towards south. Orchards are being irrigated by the Khairpur distributory and Shujabad canal which is traversing in this area. The eminent villages are Bairwala Khu, Basti Muhammadpur, Chah Beriya, Chah Laskhar Khan Tajpur, Chah Fazawala, Chah Jhallanwala and Chah Mange Shah Wala. Some residential colonies also exist near and along the Suraj Miani Road and Qasim Bela Road. These include Wasil wala basti, Islampura, Kotli Waris Shah, Maqsoodpur, Muzaffarabad with allied facilities like local shops, middle and high schools and mosques. The land value of this zone is comparatively lower than other parts of city because of flood hazard from River Chenab. It is strongly recommended that the proposed zone should be reserved for orchards.

4.4.13 Agricultural Belt/ Buffer Zones

The peripheral areas and countryside of Multan is a fertile and productive agricultural land. The agricultural land in the vicinity of the built-up area however, has been gradually absorbed by urban growth. Consequently the agricultural main-stay and the rural character and economy of the surrounding villages have shattered. These rural settlements are gradually getting converted to ‘entrapped urban villages’. Due to inevitable expansion of the city area, the nearby agricultural lands, which supplies the

city with much of its needs of vegetables, fruits, and similar items, is getting converted to urban uses.

The area under agriculture in 1987 was around 260 sq. km (Multan Master Plan, 1987). As per landuse surveys conducted by NESPAK in 2008, the agricultural area in MDA limits is now reported to be around 235 sq. km; a reduction of 25 sq. km or 6,175 acres (about 10%).

Agricultural land exists all around the urbanized area of MDA, particularly in the southern and eastern parts. It is dependent upon the extent of arable soil and availability of irrigation water. The agricultural tracts in the Project Area are served with water courses in form of canals and irrigation minors which, with varying degrees flow throughout the year.

An agricultural belt is proposed towards south of city, enclosed by Multan Bypass Road, and proposed Southern Bypass. Some residential areas/rural settlements in this zone are Shorkot Basti, Zulfiqarwala, Wazirabad, and Aftab Town etc. Industries in the zone are mostly situated along the both sides of Multan Bypass Road, and Bahawalpur Road.

4.4.14 Peri-Urban Zones

According to the requirements of the Punjab Development Authorities Landuse Rules 2009, Peri Urban Zones have been earmarked beyond the expected growth areas for the next 20 years plan period. This has been proposed for flexibility in future development zones to accommodate any expected changes likely to be occurred in future.

CHAPTER: 5
HOUSING AND KATCHI ABADIS

5.1 INTRODUCTION

Shelter is the basic & fundamental human requirement that needs to be met on priority basis, yet millions are caught in the struggle to have a roof over their head in Pakistan. It is much broader concept than housing. Investments in shelter not only improve and expand the available stock of housing units, but also improve both the working and living environment.

Housing sector is employment intensive, it generates employment during its construction period and also during its life for proper maintenance. The National Housing Policy also seeks to facilitate provision of affordable shelter for all by creating an enabling environment for housing by the public agencies. Food, clothing and **housing** are required in that order for fulfilling the aspirations of the people. The demand for housing increases due to growth of population, rapid pace of industrialization and urbanization.

Rapid growth in our cities is straining the capacity of their shelter delivery systems. Governments have chosen a variety of implicit and explicit policies to ameliorate these strains. However, these policies are not always consistent with their objectives, often because of a lack of knowledge of how housing markets actually work and how policies affect and are constrained by market behavior.

According to a World Bank Report, Pakistan **is facing an unprecedented shortage of 7.6 million housing units, which forces more than half of the country's urban population to live in slums and squatter settlements.** Total available housing units are 20.5 million. Due to acute housing shortages people are compelled to live in unhealthy conditions. The lack of affordable housing is pervasive because of the exorbitant mark-up on interest rates, high real estate prices and eroding incomes of middle and low-income groups. The report says average national occupancy rate per dwelling is above six persons and density per room is 3.5 people, against the international standard of 1.1 per room.

5.2 EXISTING HOUSING PROFILE

District Multan is facing acute housing shortage, which is likely to aggravate due to population increase on one hand and decrease in effective housing stock in the coming years, on the other. There is a need to increase the housing stock, replenish

the existing housing shortage and cater for the housing demand for additional population. The current situation in housing sector has been analyzed with the following themes in focus:

- Existing housing stock
- Housing characteristics
- Demand, supply and backlog
- Affordability and willingness to pay
- Housing proposals for short-term and long-term plans.

5.2.1 Housing Stock

This Section assesses the current housing stock in District Multan, and evaluates its qualitative and quantitative characteristics. The analysis is based on the housing surveys conducted by NESPAK, data available in the Housing Census of 1998 and 1981, and other sources.

The population of District Multan in 1998 was reported to be 3,117,000, while the household size was 7.1. Dividing population with the household size, the number of dwelling units in the District is estimated to be 439,014. This compares well with the actual number of houses reported in the 1998 Census, i.e. 433,3621 which implies a discrepancy of only 1.3%. Using similar methodology thus, the existing housing stock in the District in 2008 is estimated to be 549,701. Split of housing stock in various spatial entities of the City District is given in Table 5.1 to 5.3 below. Following are the major inferences:

i) The total housing stock in the City District, for the year 2008 is estimated to be 549,700, 48% of which is in rural areas, 7% in smaller urban settlements and 45% in MDA area.

ii) In the four northern towns i.e. Bosan Town, Shah Rukne-Alam Town, Musa Pak (Shaheed) Town, and Sher Shah Town, the stock is around one hundred thousand houses in each.

iii) About two-third of the housing stock in Shah Rukne-Alam Town, Musa Pak (Shaheed) Town, and Sher Shah Town are in the Town boundaries falling in MDA limits, while one third of the stock is in rural areas and smaller urban settlements of the of these Towns.

iv) In Bosan Town, the housing stock is more or less evenly divided among the rural areas and urban area (i.e. area falling in MDA limits and in smaller urban settlements of the Town).

[1] Houses in rural area of the District in 1998=257,063 (Page 241 of 1998 Census Report)
Houses in urban areas= 176,299 (Page 277 of 1998 Census)
Total houses in the District in 1998 = 433,362.

v) In two southern Towns i.e. Jalalpur Pirwala and Shujaabad, there is only one urban settlement in each Town, and both Towns are predominantly rural. Thus 91% of the housing stock in Jalalpur Pirwala and 83% in Shujaabad lies in rural areas.

Table 5.1: Existing Housing Stock in City District Excluding MDA Area

Towns	Population (2008)	Housing Stock (2008)
Bosan	302,120	42,552
Shah Rukne-Alam	236,053	33,247
Musa Pak (Shaheed)	235,786	33,209
Sher Shah	221,068	31,136
Shujaabad	448,820	63,214
Jalalpur Pirwala	425,266	59,897
Total	**1,869,114**	**263,256**

Table 5.2: Existing Housing Stock in Urban Settlements of Multan Disttrict

Towns	Population (2008)	Housing Stock (2008)
Bosan	63,459	8,938
Shah Rukne-Alam	18,238	2,569
Musa Pak (Shaheed)	28,612	4,030
Sher Shah	36,155	5,092
Shujaabad	89,777	12,645
Jalalpur Pirwala	40,347	5,683
Total	**276,588**	**38,956**

Table 5.3: Housing Stock in MDA Area

Towns	Population (2008)	Housing Stock (2008)
Bosan	357,624	50,370
Shah Rukne-Alam	512,234	72,146
Musa Pak (Shaheed)	462,317	65,115
Sher Shah	425,000	59,859
Total	**1,757,174**	**247,489**

5.2.2 Housing Characteristics

The analysis of Socio-Economic & Housing Surveys conducted by NESPAK in January 2008 reveals the following Housing characteristics in Multan:

There are various indicators to gauge overcrowding such as room occupancy, household size, number of rooms per house etc. Table 5.4 presents a comparison of these indicators for 1986 and 2008.

Table 5.4: Housing Indicators

Indicator	1986[2]	2008[3]
Persons per Room	3.3	2.6
Rooms per House	2.2	2.7
Persons per House	7.1	7.1

The statistics reported in 2008 survey generally suggest an improvement in housing conditions than those in 1986. Persons per room have declined from 3.3 in 1986 to 2.6 in 2008; and this is because rooms per house have increased from 2.2 in 1986 to 2.7 in 2008. However, on average, the number of persons per house has remained the same i.e. 7.1. These are clear sign of improvement, at least in quantitative terms. The other findings are as follows:

i) About 74% of the houses are semi-pucca/pucca while about 26% are katcha (Table 5.5).

ii) Most of the houses (more than 60%) were built during the period 1981-2000, 20% during 1947-1980 and 16% after 2000.

iii) Thus most of the housing stock is relatively recent (built after 1980) – Table 5.4.

iv) Majority of the houses are owner-occupied (88%), while about 11% are rented. The houses falling in other categories are negligible (Table 5.7).

v) Most of the houses are single storeyed (77%) while around 20% have two storeys. Houses having 3 storeys or more (in aggregate) are only 2.7% (Table 5.8).

vi) As previously stated, the average number of rooms per house is 2.7. About 38% of the houses have 2 rooms while 27% have 3 rooms. A substantial number of houses (23%) have more than 3 rooms. One roomed houses are only around 12% (Table 5.9).

[2] Source: Multan Master Plan, 1987, Annex. XVIII, Page 338.
[3] Socio-Economic Surveys, Multan, NESPAK, 2008.

vii) More than 75% houses have single bath room while 16% have two bath rooms. Houses having 3 or more bath rooms are 6.5% (Table 5.10).

viii) About 94% of the houses have flush system in the latrine, about 2% have deep wells and about 1% have conservancy system (Table 5.11).

ix) More than 87% houses are used exclusively for residential purposes while parts of around 11% houses are used for commercial purposes. Other uses are much lesser including about 1% for cottage industry, 0.4% for schools and 0.7% for other uses (Table 5.12).

x) The plot sizes of more than 41% houses is less than 5 marlas, while that of about 32% houses is 5 to 7 marlas. Thus in about 73% cases, the plot size is less than 7 Marlas. Only around 5% plots are 15 Marlas and above. Details of other categories are given in Table 5.13.

xi) More than 72% households can afford only up to Rs. 10,000 for improved housing while more than 20% can afford none. Category-wise split is given in Table in Table 5.14. Detailed affordability analysis has been carried out in Section 5.5.

xii) Of the total surveyed households, around 57% are willing to pay for improved housing while about 43% are not (Table 5.15).

Table 5.5: Type of Construction

Type of Construction	Number	%
Pucca	269	8.8
Semi Pucca	1972	64.8
Katcha	787	25.9
Temporary	14	0.5
Total	**3042**	**100**

Table 5.6: Year of Construction

Year of Construction	Number	%
Before 1947	103	3.4
1947-1980	619	20.3
1981-2000	1832	60.2
After 2000	488	16.0
Total	**3042**	**100**

Table 5.7: Tenure Status

Tenure	Number	%
Owned	2678	88.0
Rented	321	10.6
Others	43	1.4
Total	**3042**	**100**

Table 5.8: Number of Rooms

Rooms	Number	%
1	376	12.4
2	1144	37.6
3	820	27.0
> 3	702	23.1
Total	**3042**	**100**

Table 5.9: No. of Bath Rooms

Bath Rooms	Number	%
1	2291	75.3
2	486	16.0
3	111	3.6
> 3	88	2.9
Nil	66	2.2
Total	**3042**	**100**

Table 5.10: Number of Storeys

Storeys	Number	%
Single	2341	77.0
Double	619	20.3
Triple	62	2.0
> Three	20	0.7
Total	**3042**	**100**

Table 5.11: Latrine Type

Type	Number	%
Conservancy	27	0.9
Deep Well	57	1.9
Flush	2853	93.8
Others	105	3.4
Total	**3042**	**100**

Table 5.12: Use for Other Purposes

Purposes	**No.**	**%**
Commercial	321	10.6
Education	11	0.4
Cottage Industries	28	0.9
Others	22	0.7
None	2660	87.4
Total	**3042**	**100**

Table 5.13: Plot Sizes

Plot Sizes	**No. of HHs**	**%**
Less than 5	1259	41.1
5 to 7	968	31.8
7.1 to 9.99	414	13.6
10 to 15	239	7.9
15.1 to 19.99	65	2.1
20 & above	97	3.2
Total	**3042**	**100**

Table 5.14: Ability to Pay for Housing

Amount Affordable (Rs.)	**No. of HHs.**	**%**
Less than 10,000	2198	72.3
10,001-25,000	139	4.6
25,001-50,000	44	1.4
50,001-100,000	17	0.6
> 100,000	22	0.7
None	622	20.4
Total	**3042**	**100**

Table 5.15: Willingness to Pay for Housing

Willingness	**No. of HHs.**	**%**
Yes	1739	57.2
No	1303	42.8
Total	**3042**	**100**

5.3 HOUSING BACKLOG

The main facets that need to be considered for assessing housing backlog include population, existing number of families, household size and the current housing stock. The current (2008) population of the District and its six Towns is presented in the Table below. The required number of Houses (assuming family size of 6), and those currently available (@ household size of 7.1) are presented in the Table 5.16 below. The difference between the two is the current housing shortage, which has been calculated for the District as whole as well as for individual Towns and their components. Based on statistics in the Table, following are the main inferences:

i) The gross housing backlog in the entire City District is around 100,800 housing units.

ii) In the four northern Town, the housing deficit ranges from 17,000 to 20,000 units.

iii) In Shujaabad and Jalalpur Pirwala Towns, the backlog is 12,000 to 14,000.

iv) The backlog in rural areas is around 6,000 units in each of the following three Towns.

- Shah Rukne-Alam
- Musa Pak (Shaheed)
- Sher Shah

v) In rural areas of Bosan Town however, the current backlog is about 8,000 units.

vi) Since Jalalpur Pirwala and Shujaabad Towns are are primarily rural Towns, the backlog in rural housing is also pronounced; there is shortage of about 12,000 housing units in Shujaabad Town and about 11,000 in Jalalpur Pirwala Town.

vii) Bulk of housing shortage in the four northern Towns is obviously in the areas falling in MDA limits, because of higher population concentration over there.

viii) The backlog in smaller urban settlements is much lesser because of their smaller population base.

Table 5.16: Current Housing Backlog in City District Excluding MDA Area

Towns	Population (2008)	Houses Required	Existing Stock	Current Backlog
Bosan	302,120	50,353	42,552	7,801
Shah Rukne-Alam	236,053	39,342	33,247	6,095
Musa Pak (Shaheed)	235,786	39,298	33,209	6,088
Sher Shah	221,068	36,845	31,136	5,708
Shujaabad	448,820	74,803	63,214	11,589
Jalalpur Pirwala	425,266	70,878	59,897	10,981
Total	**1,869,114**	**311,519**	**263,256**	**48,264**

Table 5.17: Current Housing Backlog in Urban Settlements

Towns	Population (2008)	Houses Required	Existing Stock	Current Backlog
Bosan	63,459	10,577	8,938	1,639
Shah Rukne-Alam	18,238	3,040	2,569	471
Musa Pak (Shaheed)	28,612	4,769	4,030	739
Sher Shah	36,155	6,026	5,092	934
Shujaabad	89,777	14,963	12,645	2,318
Jalalpur Pirwala	40,347	6,725	5,683	1,042
Total	**276,588**	**46,098**	**38,956**	**7,142**

Table 5.18: Current Housing Backlog in MDA Area

Towns	Population (2008)	Houses Required	Existing Stock	Current Backlog
Bosan	357,624	59,604	50,370	9,234
Shah Rukne-Alam	512,234	85,372	72,146	13,227
Musa Pak (Shaheed)	462,317	77,053	65,115	11,938
Sher Shah	425,000	70,833	59,859	10,974
Total	**1,757,174**	**292,862**	**247,489**	**45,373**

5.4 HOUSING SUPPLY

5.4.1 MDA and PHATA Schemes

There have not been much efforts to increase/improve formal housing supply in rural areas and smaller urban settlements of the District. Focus has been mainly in area within the jurisdiction of MDA limits. Before establishment of MDA in year 1976 Multan Improvement Trust (MIT) has completed 19 housing schemes within the old Municipal Limits having an aggregate area of 330 acres and about 1600 plots.

After creation of MDA in 1976, It has completed thirteen housing schemes, having an aggregate area of 2,066 acres, and about 20,616 residential plots (Table 5.19). The land for these schemes was acquired, under Punjab Acquisition of Land [Housing] Act, 1973, but with the repeal of this act, MDA could not launch further schemes as under Land Acquisition Act, 1894, land has to be purchased on market value which is beyond the reach of Authority. Nevertheless, MDA with the cooperation of Evacuee Trust Property Board (ETPB) launched Multan Model Town Housing Scheme (phase-I&II) in 1999 on an area of 99 acres with 490 residential plots of 1-kanal and 10-marla size. All the residential plots stand disposed-off by 2004.

Among the recently developed schemes of MDA includes Fatima Jinnah Town (Phase-I & II) over an area of around 1030 acres to provide 7,900 plots and Multan Model Town Phase-III (self income) scheme on 41 acres. Fatima Jinnah Town has been developed on Multan Branch Canal, which is connected to Vehari Road, Dunyapur Road and Southern Bypass. Fifty percent plots of the proposed Housing Scheme has been reserved for the Government employees on no-profit no-loss basis and the remaining area has been allotted through balloting.

Multan Model Town is a joint venture housing scheme between MDA and Evacuee Trust Property Board (ETPB). The land measuring 99 acres belong to ETPB and both the agencies signed an agreement of joint venture in 1999 with approval of the government. All the 490 plots have been disposed off. Development works including water supply, sewerage and roads have been completed.

A summary of housing schemes, initiated/developed by MIT/ MDA is presented in the Table below:

Table 5.19: MDA Housing Schemes

S. No.	Schemes	Area (Acres)	No. of Plots
1	Shah Rukne Alam-1	170	2187
2	Shah Rukne Alam-2	440	5135
3	Shah Rukne Alam-2A (Shaheenabad)	37	1176
4	Tughlaq Town	32	427
5	Lodhi Colony	16	169
6	Qasimpur Colony	18	345
7	New Shah Shams	161	2063
8	Willayatabad Colony-II	18	242
9	Nucleus Houses Under Zakat Funds	4.43	236
10	Multan Model Town (Phase 1&2)	99	490
11	Multan Model Town (Phase-III)	41	245
12	Fatima Jinnah Town (Phase-I)	670	5601
13	Fatima Jinnah Phase-II	360	2300
Total		**2066.43**	**20,616**

5.4.2 Private Housing Schemes

MDA has approved 35 private housing schemes and 109 land subdivisions, on an aggregate area of 2,680 acres under Private Housing Scheme Regulations. Total residential plots thus generated include 11,500 plots in housing schemes while 12,000 plots in land subdivision. In most of the schemes, development works have not been completed, which has caused great inconvenience to general public.

Further, it has been observed that 80-90% plots of some of the major housing scheme developed along Northern Bypass, Vehari Road and Sher Shah Bypass are lying vacant which include:

i) MDA Officers Cooperative Society.
ii) PIA Society
iii) PSIC Society
iv) Gulshan-e-Wahid
v) Gulshan-e-Rehman
vi) Wapda Town Phase-II
vii) Green Forts & Green Fort Plus
viii) Millinium City
ix) Sayyam City
x) Nayyab City etc. etc.

Besides approved housing schemes, MDA has identified more than hundred unapproved housing schemes. Owners/proprietors of such schemes have also not completed the development works but they were leniently prosecuted and hence the

menace continues. MDA could not effectively control the spread of such unapproved housing schemes as people get their plots registered in Revenue Department without obtaining NOC from MDA. Now a fresh campaign has been launched and notices have been served to the owners/proprietors of such unapproved schemes in order to press them to do the needful.

5.4.3 Katchi Abadis

MDA since its inception in 1976, developed 27 katchi abadis having 7,769 housing units (Table 5.20) with a cost of Rs. 42.17 million. Of these 27 enlisted katchi abadis, 14 have been transferred to MDA. The transferred abadis have 5,924 dwelling units, amongst which proprietary rights have been given to 3,487 units. Two slum areas in Usman Pura & walled city spread over 25.7 Acres were also improved with a cost of Rs. 12.21 million.

Table 5.20 : Enlisted Katchi Abadis

Sr. No.	Katchi Abadies	Dwelling Units	S. No.	Katchi Abadies	Dwelling Units
1	Gulshanabad	87	15	Chenab Club	52
2	Qasimpur Colony	617	16	Salamat Pura	55
3	Nala Shah Muhammad	224	17	Sadiq Ki Tali	42
4	Nala wali Muhammad	1386	18	Tariq Abad	185
5	Ghass Mandi	158	19	Purana Baraf Khana	44
6	Dosehra Ground	163	20	New Central Jail	42
7	Ahmed Abad	946	21	Geo Shala	71
8	Ittefaq Pura	130	22	Odan Wali	242
9	Bagh Berian	186	23	Under Railway Bridge	168
10	Arif Pura	235	24	Near Shah Shams	174
11	Basti Miswan	267	25	Nawaz Abad	131
12	Bawa Safra	1093	26	Ram Teerath	141
13	Mumtazabad	367	27	Chah Thelly Wala	501
14	Muhammadi Mohallah	62			
Total Dwelling Units					**7,769**

5.5 HOUSING AFFORDABILITY

The rapidly increasing population of Multan is widening the gap between housing supply and demand. The housing supply in the past has been inadequate and unaffordable by lower-income households, who are unable to afford the conventionally developed plots.

The housing policies of public as well as private sector are heavily skewed in favor of upper and middle income groups. The public sector response in tackling the ever-increasing housing problem has not been realistic. However, just as housing affordability of most households is low, MDA and other housing agencies also cannot

afford extensive subsidies. The solution lies in recovery of expenditure from the beneficiaries, and expenditure can be recovered only if the recovery is affordable, which implies cheaper and affordable housing.

The affordability approach focuses on shelter costs in relation to household income. In order to provide affordable housing, it is obvious to first determine the capital affordable by households for housing. For this purpose, relevant questions were included the Performa used for socio-economic surveys conducted in January 2008. The capital affordable depends on the household's annual ability to pay for housing, the rate of interest and the repayment period. It also includes any down payment that households can afford to pay.

The capital affordable for housing can be calculated as below:

Capital affordable per household = Ability to pay per annum/Capital Recovery Factor. The ability to pay for housing and capital recovery factor are discussed below:

5.5.1 Ability to Pay for Housing

During socio-economic surveys conducted for the Project, the data regarding ability and willingness to pay for housing has collected. Total household incomes were then correlated with ability to pay for housing. It was inferred that generally, households can afford around 15% of their annual income for housing. To gain better insight into the ability to pay for housing, households have been stratified into six income categories. Ability to pay for housing, by each of these categories is presented in Table 5.21 below.

Table 5.21: Annual Ability to pay for Housing

Category	Monthly HH Income (Rs)	Av. HH Income (Rs)	Annual HH Income (Rs.)	Annual Ability to pay for Housing (@15%)
I	Below 5,000	3,750	45,000	6,750
II	5,000-9,000	7,000	84,000	12,600
III	9,001-15,000	12,000	144,000	21,600
IV	15,001-20,000	17,500	210,000	31,500
V	20,001-25,001	22,500	270,000	40,500
VI	Above 25,000	37,500	450,000	67,500

5.5.2 Capital Recovery Factor (CRF)

Apart from ability to pay, the other factor for determining housing affordability is Capital Recovery Factor (CRF). CRF depends u€pon the rate of interest and the repayment period. The rate of interest charged has a strong influence on the level of investment which can be afforded; the lower the interest rate, higher the affordability,

and vise versa. Repayment period also influences the affordability. Clearly, if a loan is to be paid back over a period of five years, the resultant monthly charge would be far more if the loan was spread over twenty years period.

If the interest rate and repayment period are known, the capital recovery factor (CRF) can be determined from mortgage tables. Table 5.22 presents CRFs under various financial terms. These permit to calculate what constant annual payments would be necessary to repay a loan over a given period of time at a stated interest rate. The total payment is a varying combination of both interest rate and the repayment period. Thus if interest rate is 15% and repayment period is 25 years, the capital recovery factor would be 0.155.

Table 5.22: CRF Under Different Financial Terms

Interest Rate	Repayment Period (Years)		
	15	20	25
15%	0.171	0.160	0.155
20%	0.214	0.205	0.202
25%	0.259	0.253	0.251

5.5.3 Capital Affordable for Housing

Based on the above factors, the capital affordable for housing by households of different income categories, under various financial terms, are presented in Tables 5.23 to Table 5.25. The calculations have been made on basis of 15%, 20% and 25% interest rate, spread over time periods of 15, 20 and 25 years.

Table 5.23: Housing Affordability (15% Interest Rate over Different Repayment Periods)

Income Group (Rs. Per month)	Annual Ability to pay for Housing (Rs)	Capital Recovery Factor			Housing Affordability (Rs.)		
		15% over 15 years	15% over 20 years	15% over 25 years	15% over 15 years	15% over 20 years	15% over 25 years
< 5,000	6,750	0.171	0.16	0.155	39,474	42,188	43,548
5,000-9,000	12,600				73,684	78,750	81,290
9,001-15,000	21,600				126,316	135,000	139,355
15,001-20,000	31,500				184,211	196,875	203,226
20,001-25,000	40,500				236,842	253,125	261,290
> 25,000	67,500				394,737	421,875	435,484

Table 5.24: Housing Affordability (20% Interest Rate over Different Repayment Periods)

Income Group (Rs. Per month)	Annual Ability to pay for Housing (Rs)	Capital Recovery Factor			Housing Affordability (Rs.)		
		20% over 15 years	20% over 20 years	20% over 25 years	20% over 15 years	20% over 20 years	20% over 25 years
< 5,000	6,750	0.214	0.205	0.202	31,542	32,927	33,416
5,000-9,000	12,600				58,879	61,463	62,376
9,001-15,000	21,600				100,935	105,366	106,931
15,001-20,000	31,500				147,196	153,659	155,941
20,001-25,000	40,500				189,252	197,561	200,495
> 25,000	67,500				315,421	329,268	334,158

Table 5.25: Housing Affordability (25% Interest Rate over Different Repayment Periods)

Income Group (Rs. Per month)	Annual Ability to pay for Housing (Rs)	Capital Recovery Factor			Housing Affordability (Rs.)		
		25% over 15 years	25% over 20 years	25% over 25 years	25% over 15 years	25% over 20 years	25% over 25 years
< 5,000	6,750	0.259	0.253	0.251	26,062	26,680	26,892
5,000-9,000	12,600				48,649	49,802	50,199
9,001-15,000	21,600				83,398	85,375	86,056
15,001-20,000	31,500				121,622	124,506	125,498
20,001-25,000	40,500				156,371	160,079	161,355
> 25,000	67,500				260,618	266,798	268,924

It is clear from the above tables that the housing affordability of most households is very low. The households falling in the first category are virtually destitute and need subsidized, low cost housing. For others, even under the relaxed financial package of say 15% over 25 years, most households cannot afford even a plot in formally planned/developed schemes. Most of those who purchase plots in such schemes are from upper-income strata, and invest for speculative purposes. They are not in real need of housing; they already have one or more plot/house in other parts of the City. It is thus important to target the low-income groups, and provide them cheap housing with affordable infrastructure. Conventional housing standards will not work for majority of households. Besides, private sector is profit motivated and focuses on upper/middle income housing. Thus the public sector housing authorities should attend to the housing needs of the poor.

5.6 HOUSING PROPOSALS

5.6.1 Prime Minister's Housing Package

In view of the above analysis, the inclusion of low-income housing schemes in the Prime Minister's Development Package for Multan is a step in the right direction. The Package includes six low-income housing schemes. The land for these is to be provided by the Provincial Government and funds by the Federal Government. Originally six locations were identified. Later it was decided by the Prime Minister to club the schemes for four northern towns at one location. For this purpose, an area of about 200 acres has been identified near Chowk Nag Shah. For Jalalpur Pirwala and Shujaabad however, two separate sites have been identified.

5.6.2 Housing Requirements during Short-Term Plan (2008-2013)

i) It is estimated that during the Short-Term Plan period (2008-2013), the entire City District will require around 74,000 additional housing units (Table 5.26), on the assumption that each family of 6 will have one house. About 38,500 of these will be required in rural areas of the District, about 30,500 in areas falling in MDA limits, and an aggregate of around 5,000 housing units in smaller urban settlements of the District.

ii) Between 13,000 to 14,000 houses will be required in each of the four northern Towns.

iii) Shujaabad Town will however need about 8,100 housing units while Jalalpur Pirwala Town will require 8,900 housing units.

iv) The housing need of smaller urban settlements in aggregate are about 5,300 housing units.

v) MDA area as already stated will require about 30,500 additional housing in the short-term period.

5.6.2.1 Housing Supply & Colonization during Short Term Plan

According to data provided by Client, about 80 – 90% of the plots in the on-going housing schemes are lying vacant which need to be colonized during the short term plan. While calculating the net requirement during short term period, assessed supply should be kept in mind which is as follows:

i) Govt. Low Income Scheme about 3000 plots
ii) PGSHF Scheme about 2500 plots
iii) MDA Schemes about 8650 plots

iv) Private Housing Schemes about 8000 plots
v) Private land subdivisions about 5000 plots

This implies that about 27,150 developed plots would be available during short term plan, therefore the net requirement for housing in MDA Area would be as follows:

Table 5.26: Net Housing Requirement during Short Term Plan in MDA Area

Housing Requirement for Additional Population	30,500 (A)
Total Housing Backlog	46,120
50% Backlog to be covered in Short Term	23,060 (B)
Total Requirement (A+B)	53,560 (C)
Assessed Supply	27,150 (D)
Net Housing Requirement (C – D)	26,410
Land Requirement @ 7.5 Units/ Acre	3,521

5.6.3 Housing Requirements during Long-Term Period (2013-2028)

i) It is estimated that during the Long-Term Plan period (2013-2028), the entire City District will require around 249,100 additional housing units (Table 5.27), on the assumption that each family of 6 will have one house. About 132,000 of these will be required in rural areas of the District, about 100,000 in areas falling in MDA limits, and an aggregate of around 18,650 housing units in smaller urban settlements of the District.

ii) From 44,000 to 49,000 houses will be required in each of the four northern Towns.

iii) Shujaabad Town will however need about 34,000 housing units while Jalalpur Pirwala Town will require 30,000 housing units.

iv) The housing need of smaller urban settlements in aggregate are about 17,700 housing units.

v) MDA area as already stated will require about 100,000 additional housing in the long-term period for the additional population while 50% current backlog (2008) i.e. 23,060 will also be covered during long term plan.

vi) It is proposed that due to financial & administrative constraints, fifty perent of the current backlog would be covered during long term plan.

Table 5.27: Future Housing Demand in City District Excluding MDA Area

Towns	Population			Additional Population		Future Housing Required	
	2008	2013	2028	2008-2013	2013-2028	2008-2013	2013-2028
Bosan	302,120	340,189	471,196	38,069	131,006	6,345	21,834
Shah Rukne-Alam	236,053	268,124	380,450	32,070	112,326	5,345	18,721
Musa Pak (Shaheed)	235,786	267,328	377,414	31,542	110,086	5,257	18,348
Sher Shah	221,068	250,558	353,411	29,490	102,853	4,915	17,142
Shujaabad	448,820	500,052	671,931	51,232	171,879	8,539	28,647
Jalalpur Pirwala	425,266	473,799	636,661	48,533	162,862	8,089	27,144
Total	**1,869,114**	**2,100,050**	**2,891,062**	**230,936**	**791,012**	**38,489**	**131,835**

Table 5.28: Future Housing Demand in Urban Settlements

Towns	Population			Additional Population		Future Housing Required	
	2008	2013	2028	2008-2013	2013-2028	2008-2013	2013-2028
Bosan	63,459	70,685	94,992	7,226	24,307	1,204	4,051
Shah Rukne-Alam	18,238	20,314	27,300	2,076	6,986	346	1,164
Musa Pak (Shaheed)	28,612	31,870	42,829	3,258	10,959	543	1,827
Sher Shah	36,155	40,272	54,120	4,117	13,848	686	2,308
Shujaabad	89,777	99,998	134,387	10,221	34,389	1,704	5,732
Jalalpur Pirwala	40,347	44,940	60,395	4,593	15,455	766	2,576
Total	**276,588**	**308,079**	**414,023**	**31,491**	**105,944**	**5,249**	**17,657**

Table 5.29: Future Housing Demand in MDA Areas

Towns	Population			Additional Population		Future Housing Required	
	2008	2013	2028	2008-2013	2013-2028	2008-2013	2013-2028
Bosan	357,624	394,846	516,498	37,222	121,653	6,204	20,276
Shah Rukne-Alam	512,234	565,547	739,793	53,314	174,246	8,886	29,041
Musa Pak (Shaheed)	462,317	510,435	667,701	48,118	157,266	8,020	26,211
Sher Shah	425,000	469,234	613,806	44,234	144,572	7,372	24,095
Total	**1,757,174**	**1,940,062**	**2,537,799**	**182,888**	**597,737**	**30,481**	**99,623**

Table 5.30: Total Future Housing Demand in City District Multan

Towns	Population			Additional Population		Future Housing Required	
	2008	2013	2028	2008-2013	2013-2028	2008-2013	2013-2028
Bosan	723,203	805,720	1,082,686	82,517	276,966	13,753	46,161
Shah Rukne-Alam	766,525	853,985	1,147,543	87,460	293,558	14,577	48,926
Musa Pak (Shaheed)	726,715	809,633	1,087,944	82,918	278,311	13,820	46,385
Sher Shah	682,223	760,064	1,021,337	77,841	261,273	12,974	43,546
Shujaabad	538,597	600,050	806,318	61,453	206,268	10,242	34,378
Jalalpur Pirwala	465,613	518,739	697,056	53,126	178,317	8,854	29,720
Total	**3,902,876**	**4,348,191**	**5,842,884**	**445,315**	**1,494,693**	**74,219**	**249,116**

Table 5.23 below presents summary statistics giveing existing stock, current backlog and future housing requirementing during short-term and long-term periods.

Table 5.31: Aggregate Summary Housing Statistics in City District Excluding MDA Area

Towns	Existing Stock (2008)	Existing Shortage (2008)	Additional Housing Required	
			2008-2013	2013-2028
Bosan	42,552	7,801	6345	21834
Shah Rukne-Alam	33,247	6,095	5345	18721
Musa Pak (Shaheed)	33,209	6,088	5257	18348
Sher Shah	31,136	5,708	4915	17142
Shujaabad	63,214	11,589	8539	28647
Jalalpur Pirwala	59,897	10,981	8089	27144
Total	**263,256**	**48,264**	**38489**	**131835**

Table 5.32: Aggregate Summary Housing Statistics in Urban Settlements

Towns	Existing Stock (2008)	Existing Shortage (2008)	Additional Housing Required	
			2008-2013	2013-2028
Bosan	8,938	1,639	1204	4051
Shah Rukne-Alam	2,569	471	346	1164
Musa Pak (Shaheed)	4,030	739	543	1827
Sher Shah	5,092	934	686	2308
Shujaabad	12,645	2,318	1704	5732
Jalalpur Pirwala	5,683	1,042	766	2576
Total	**38,956**	**7,142**	**5249**	**17657**

Table 5.33: Aggregate Summary Housing Statistics in MDA Areas

Towns	Existing Stock (2008)	Existing Shortage (2008)	Additional Housing Required	
			2008-2013	2013-2028
Bosan	50,370	9,234	6204	20276
Shah Rukne-Alam	72,146	13,227	8886	29041
Musa Pak (Shaheed)	65,115	11,938	8020	26211
Sher Shah	59,859	10,974	7372	24095
Total	**247,489**	**45,373**	**30481**	**99623**

Table 5.34: Aggregate Summary Housing Statistics in City District

Towns	Existing Stock (2008)	Existing Shortage (2008)	Additional Housing Required	
			2008-2013	2013-2028
Bosan	101,860	18,674	13753	46161
Shah Rukne-Alam	107,961	19,793	14577	48926
Musa Pak (Shaheed)	102,354	18,765	13820	46385
Sher Shah	96,088	17,616	12974	43546
Shujaabad	75,859	13,907	10,242	34,378
Jalalpur Pirwala	65,579	12,023	8,854	29,720
Total	**54,9701**	**100,778**	**74,219**	**249,116**

5.6.4 Land for Housing during Short-Term (2008-2013)

i) It is estimated that during the Short-Term Plan period (2008-2013), the entire City District will require around 11,400 acres for additional housing during the stated period (Table 5.35), based on 7.5 housing units per acre. Of this, about 5,130 acres will be required in rural areas of the District, about 4,070 acres in MDA limits, and an aggregate of around 700 acres in smaller urban settlements of the District.

ii) Around 1,735 acres for housing will be required in each of the four northern Towns.

iii) Shujaabad Town will however need about 1,400 acres while Jalalpur Pirwala Town will require 1,180 acres for housing.

5.6.5 Land for Housing during Long-Term (2013-2028)

i) During Long-Term Plan period (2013-2028), the entire City District will require around 38,300 acres for additional housing during the stated period (Table 5.24). Of this, about 20,200 acres will be required in rural areas of the District, about 15,300 acres in MDA limits, and an aggregate of around 2,700 acres in smaller urban settlements of the District.

ii) Around 7,000 acres for housing will be required in each of the four northern Towns.

iii) Shujaabad Town will however need about 5,300 acres while Jalalpur Pirwala Town will require 4,600 acres for housing.

Table 5.35: Land Requirements for Housing in City District Excluding MDA Area

Towns	Housing Requirements		Land Requirements[4] (Acres)	
	2008-2013	2013-2028	2008-2013	2013-2028
Bosan	6,345	21,834	846	2,912
Shah Rukne-Alam	5,345	18,721	713	2,497
Musa Pak (Shaheed)	5,257	18,348	701	2,448
Sher Shah	4,915	17,142	655	2,286
Shujaabad	8,539	28,647	1,139	3,820
Jalalpur Pirwala	8,089	27,144	1,079	3,621
Total	**38,489**	**131,835**	**5,133**	**17,584**

[4] @7.5 housing units per acre

Table 5.36: Land Requirements for Housing in Urban Settlements

Towns	Housing Requirements		Land Requirements[5] (Acres)	
	2008-2013	2013-2028	2008-2013	2013-2028
Bosan	1,204	4,051	160	540
Shah Rukne-Alam	346	1,164	46	155
Musa Pak (Shaheed)	543	1,827	73	244
Sher Shah	686	2,308	92	308
Shujaabad	1,704	5,732	227	765
Jalalpur Pirwala	766	2,576	102	343
Total	**5,249**	**17,657**	**700**	**2,355**

Table 5.37: Land Requirements for Housing in MDA Areas

Towns	Housing Requirements		Land Requirements[6] (Acres)	
	2008-2013	2013-2028	2008-2013	2013-2028
Bosan	6,204	20,276	827	2,704
Shah Rukne-Alam	8,886	29,041	1,185	3,873
Musa Pak (Shaheed)	8,020	26,211	1,070	3,496
Sher Shah	7,372	24,095	983	3,214
Total	**30,481**	**99,623**	**4,065**	**13,287**

Table 5.38: Land Requirements for Housing in City District

Towns	Housing Requirements		Land Requirements[7] (Acres)	
	2008-2013	2013-2028	2008-2013	2013-2028
Bosan	13,753	46,161	1,835	6,157
Shah Rukne-Alam	14,577	48,926	1,945	6,526
Musa Pak (Shaheed)	13,820	46,385	1,843	6,187
Sher Shah	12,974	43,546	1,730	5,808
Shujaabad	10,242	34,378	1,366	4,586
Jalalpur Pirwala	8,854	29,720	1,181	3,964
Total	**74,219**	**249,116**	**9,900**	**33,228**

[5] @7.5 housing units per acre
[6] @7.5 housing units per acre
[7] @7.5 housing units per acre

5.6.6 Low Income Housing

At present the housing policies of government and private housing sectors are highly skewed in favour of upper and middle income groups. The affordability of most low-income households is very low and cannot afford conventional housing. The infrastructure standards are unrealistically high when compared to the housing affordability of low-income households. Zoning requirements regarding minimum plot size, materials used and construction methods mean that even the cheapest publicaly produced house/developed plot usually exceeds the recipient's capacity to repay. Even if some of the low-income households succeed in obtaining plots in formally planned schemes; they are pushed out by market forces. The poorer people have different priorities than living in a relatively decent locality. They need money for more pressing needs. As a result, they are attracted by the price offered for their plot, sell it to relatively well-off families and go back to live in another katchi abadi. They may become slightly richer in the process, or may be able to meet some of their pressing needs, but their housing problem remains unsolved. A pragmatic and practical approach is required to solve the problem. Failure to do so will result in expansion of existing katchi abadis and formation of new squatter settlements.

The approaches can be in form of public-private ownership. At present, public sector is more interested in middle and upper income housing because of better returns. The public sector should focus more on low-income housing and leave the upper/middle income housing to private sector, but be more vigilant with regulations and planning control. Private sector should also be encouraged on low-income housing. Land should be secured/assembled in the private sector under a formal agreement and a percentages of planned/developed plots be returned to the original owners. Trunk infrastructure should be laid and subsidized. Infrstructure standards should be kept low and the development should be incremental, keeping in view the affordability of target households.

CHAPTER: 6
HEALTH SECTOR

6.1 INTRODUCTION

Rapid population growth has exerted severe pressure on health services and facilities. Available facilities are insufficient and improperly distributed. Ignorance of personal hygiene, over-crowding, improper community sanitation, impure water supply, and deficient systems for refuse disposal have caused high morbidity and mortality rates in the country. Given the high unit cost of curative treatment, and the scarcity of resources, the emphasis of national health policies is on preventive medicine emphasizing community and personal hygiene.

Concepts of scale and specialization, related to the frequency and severity of diseases, dictate that health facilities of different orders be provided according to the distribution of population in the country.

6.2 HIERARCHY OF HEALTH FACILITIES

There is a general hierarchy of health care facilities throughout the country at the moment. It is not comprehensive and most rural areas rely heavily on the big cities for general as well as specialist cover. However, national health policies envisage a change from this centralized system to one based upon regions.

The lowest level facility envisaged is the Basic Health Unit (BHU). Existing dispensaries and MCH Centers will be upgraded to BHUs. Depending on the terrain and communications, 5 to 10 BHUs will be linked to a rural health centre (RHC). The main activities of BHUs and RCHs will be to provide poly-immunization, diarrhoea control, traditional birth attendants training, malaria and tuberculosis control services. The Rural Health Centre is sometimes considered as a small hospital rather than field clinic. It refers difficult cases to the Tehsil or District Hospital. In large urban centers, it is usually by passed in the steps of the hierarchy by Poly-Clinic or General Hospital.

6.3 SITUATIONAL ANALYSIS IN THE CITY DISTRICT

The current situation in Health Sector has been assessed in three ways i.e.:

- Current Health Indicators in Multan and Millennium Development Goals
- Health Facilities in Multan and their adequacy in relation to population
- Spatial spread of health institutions

For current health indicators, NESPAK survey teams conducted various primary and secondary surveys. The relevant information thus collected was then compared with the MDGs for comparative analysis and assessment of targets yet to be achieved.

The adequacy of health facilities in Multan has been assessed by comparing these with the national figures as given in the latest 'Pakistan Economic Survey', and by using the guidelines[1] for the provision of health facilities, as formulated by the Health Department, Government of Punjab.

The appropriateness of spatial spread of health institution has been analyzed by plotting the health institutions on maps, and analyzing their locations with respect to one another and with the population concentration in different areas.

6.3.1 Health Institutions in City District

The number of health institutions in the City District is presented in Table 6.1 and 6.2. The District as a whole has 16 hospitals, 17 city medical centres, 77 basic health units, 8 rural health centers, 2 dental clinics, 11 dispensaries and 7 others including 'mother and child health centres'. Besides, there are 71 private hospitals/ health institutions operating in the area *(Figure-6.1)*, the details of which are presented in Table 6.3.
Following are the main inferences:

i) Hospitals:

Of the 16 hospitals, one is in Bosan Town (Red Crescent Female Hospital) and two in Sher Shah Town (Civil Hospital and Nishtar Hospital). Nishtar Medical College & Hospital (which is an autonomous medical institution), also provides undergraduate & post graduate medical education. Multan Institute of Cardiology and Children Hospital Complex are specialized health institutions, and are located in MDA limits. Police, Railway and Social Welfare Departments Hospitals are also located in MDA area and CMH Multan is located in Cantonment area. Shujaabad Town and Jalalpur Pirwala Town have a Tehsil Headquarter Hospital in each.

ii) City Medical Centres:

There are 17 Medical Centres in the City District, which prior to devolution were looked after by the defunct Municipal Corporation. Obviously thus, these are clustered in the former MC area. Two of these Medical Centers are exclusively for Women, and both are located in Union Council No. 6 (Abid Colony), in the localities of Raheemabad and Lahori Gate. Town-wise, 7 of the city medical centers are located in Shah Rukne-Alam Town, 4 in Musa Pak Shaheed Town, 5 in Sher Shah Town and one in Bosan Town. As already stated, all these centers lie in MDA limits.

[1] District Planning Manual, Planning and Development Board, Government of Punjab, 2002, page-58.

iii) Rural Health Centres

A Rural Health Centre (RHC) is normally provided for a rural population of 100,000 persons. The RHCs are normally to be located in big villages or small towns, preferably situated in the heart of 5-6 Basic Health Units.
There are 8 RHCs in District Multan, of which Bosan Town, Shershah Town and Shujabad Town have two RHCs in each, one in Musa Pak (Shaheed) Town, one in Jalalpur Pirwala and none in Shah Rukne-Alam Town. Obviously no RHC falls in MDA limits.

iv) Basic Health Units

The Government policy is to provide one Basic Health Unit (BHU) for every 10,000 persons. However, the policy also states that due to resource constraint, full population coverage may not be feasible in the near future, and that initially it may be more practicable to set up at least one Basic Health Unit in every union council.

The total number of BHUs in the City District is 77. Town-wise split is shown in Table 6.1 and 6.2, and range from 9 BHUs in Shershah Town to 16 in Jalalpur Pirwala. BHUs are basically meant for rural UCs. But even within MDA area, some UCs have rural/semi-urban character, particularly those which lie in the area between border of the defunct Municipal Corporation and the MDA boundary. Of the total 77 BHUs, 10 lie in MDA limits.

v) Dispensaries:

There are 11 dispensaries in the District, most of which lie in Shujabad Town and Jalalpur Pirwala Town (4 in each). Shah Rukne-Alam has two and there is one dispensary in Musa Pak Shaheed Town. There are no dispensaries in Bosan Town and in Sher Shah. Two of these dispensaries lie in MDA Area.

vi) Others

There are two Dental Clinics, both in MDA limits of Shah Rukne-Alam Town, four MCH Centres (one in Shah Rukn-e-Alam Town and three in Musa Pak Shaheed Town), and three GRDs, one each in Bosan Town, Shujabad Town and Jalalpur Pirwala Towns. Shah Rukn-e-Alam and Sher Shah Towns have a Unani Shifakhana in each.

Table 6.1: Health Institutions (MDA Area)

Towns	Number of Health Institutions						
	Hospitals	City Medical Centres	BHUs	RHCs	Dental Clinics	Dispensaries	Others
Bosan	3	1	3	0	0	0	0
Shah Rukne-Alam	3	7	2	0	2	2	0
Musa Pak Shaheed	3	4	2	0	0	0	0
Sher Shah	5	5	3	0	0	0	0
Total	**14**	**17**	**10**	**0**	**2**	**2**	**0**

Table 6.2: Health Institutions (City District Excluding MDA Area)

Towns	Number of Health Institutions						
	Hospitals	City Medical Centres	BHUs	RHCs	Dental Clinics	Dispensaries	Others
Bosan	0	0	12	2	0	0	1
Shah Rukne-Alam	0	0	10	0	0	0	1
Musa Pak Shaheed	0	0	10	1	0	1	3
Sher Shah	0	0	6	2	0	0	0
Shujaabad	1	0	13	2	0	4	1
Jalalpur Pirwala	1	0	16	1	0	4	1
Total	**2**	**0**	**67**	**8**	**0**	**9**	**7**

vii) Private Health Institutions

The details of private hospitals are presented in Table 6.3.

Table 6.3: Private Hospitals

Sr.No.	Name & Address of Hospital
1	Al-Kareem Medical Center Khanewal Road, Multan
2	National Hospital, Gulistan Chowk Masoom Shah Road, Multan
3	Kahkashan Clinic & Maternity Home, Masoom Shah Road, Multan
4	Taiba Medical Center & Maternity Home, 100 Feet Road, Multan
5	Talal Hospital, 40 Feet Road, Smejabad, Multan
6	Navaira Hospital, Peeran Ghayab Road New Multan
7	Sial Medical Center, Katchery Road, Multan
8	Sameen Zafar Medical Center & Maternity Home, 40 Feet Road, Shah Rukn-e-Alam Multan
9	Ali Hospital, Rashidabad Chowk, Khanewal Road, Multan
10	Khalid Bin Walid Hospital Nishter Road, Multan
11	Jinnah Medical Complex Nishter Road, Multan
12	Al-Huda Medical center, Nishter Road, Multan
13	Al-Hafiz Clinic & Maternity Home, Masoom Shah Road, Multan
14	Anum Hospital, Gulistan Chowk Masoom Shah Road, Multan

15	Shan Medical Center, Madni Chowk New Multan
16	Punjab Hospital, Gulistan Chowk Masoom Shah Road, Multan
17	New Rehmat Rehman Hospital, Near Hasanabad Gate No.1, Khanewal Road, Multan
18	Ashraf Nasir Medical Center, Shah Rukn-e-Alam Colony, Multan
19	Medi Care Hospital, Abdali Road, Multan
20	Halima Hospital Complex, Nishter Road, Multan
21	New Al-Rehman Hospital, Nishter Chowk O/S Sindbad, Multan
22	Aysha Clinic & Maternity Shah Rukn-e-Alam Colony, Multan
23	Hussain Medical Center, Nishter Road, Multan
24	Life Poly Clinic, Nishter Road, Multan
25	Rehman Medical Complex Nishter Road, Multan
26	Fatima Hospital Complex Nishter Road, Multan
27	Family Hospital Kumharanwala, Multan
28	Effat Surgical Hospital & Maternity Home, Multan
29	Fatima Medical Center, Rasheedabad Multan
30	Jaffery Hospital, Peeran Ghayab Road, Multan
31	Life Care Medical center & Maternity, Near Eidgah Multan
32	Al-Khaliq Patients Care Hospital, Nishter Road, Multan
33	Nadeem Medical Center, Chowk Kumaharanwala, Multan
34	Marium Medical Center, Near Gulshan Market, New Multan
35	Al-Shifa Clinic & Maternity Home, Near Rahim Chowk Masoom Shah Road, Multan
36	Nafees Medi-Care , Gulgasht Colony, Multan
37	Professors Hospoital, Ghungi No.1, Jamilabad Road, Near Nishter Hospital, Multan
38	Prime Care Surgical & Maternity Clinic, Near Jalal Masjid Gulgasht Colony, Multan
39	Gulgasht Hospital, Gulgasht Colony, Bosan Road, Multan
40	Marie-Stopes Society Clinic Near Chungi No.6 Bosan Road, Multan
41	Al-Aziz Hospital, Near Aziz Hotel Chowk, Multan
42	Razia Iqbal Medical Center, Shalimar Colony, Bosan Road, Multan
43	Gulgasht Dental Hospital, Chungi No.6 Gulgasht Colony, Multan
44	Ali Clinic, Gardezi Market, Gulgasht Colony, Multan
45	Dar Dental Inn, Near Javed Medicos, Gulgasht Colony, Bosan Road, Multan
46	Skin & Gynae Clinic, Near Jalal Masjid Gulgasht Colony, Multan
47	Gulzar Maternity Hospital, Nasheman Colony, Bosan Road, Multan
48	Asif Saeed Free Medical Center, Chungi No.9 Bosan Road, Multan
49	Asif Clinic Near Jalal Masjid Chungi No.6, Multan
50	Faiz Clinic, Gardezi Market, Gulgasht Colony, Multan
51	Children Hospital, Gardezi Market, Multan
52	Fatima Maternity Clinic, Near Bank Al-Habib Gulgasht Colony, Multan
53	Oral Care, Opp. Govt. Science College, Bosan Road, Multan
54	Naeem Clinic, Near Al-Sana Hotel, Multan
55	Jinnah Poly Clinic, Nawabpur Road, Multan
56	Jillani Hospital, Musa Pak Shaheed, Multan
57	Hussain Medical center, Nishter Road, Multan
58	Abdullah Heart Care, Suraj Miani Road, Multan
59	Khurshid Rafiq Hospital, Opp. MEPCO Office Khanewal Road, Multan
60	Mohsin Hospital, Chowk Shah Abbas, Vehari Road, Multan
61	Khan Diagnostic Center, Gulgasht Colony, Multan
62	Fatima Medical Center, Koray Wala, Ghaziabad Chowk, Sayal Hotel Road, Multan
63	Aziz Hospital, Chowk Aziz Hotel, Multan
64	Ameer Medi Care, Allah Shafi Chowk, Lodhi Colony, Multan
65	Aysha Clinic & Maternity Home, Manzoorabad Chowk, Ghungi No.14, Multan
66	Jinnah Poly Clinic, Nawabpur Road, Multan
67	Misali Hospital, Suraj Miani, Multan
68	Zam Zam Hospital, 100 ft. Road, Shah Rukn-e-Alam Colony, Multan
69	Rehman Hospital, 30 ft. Road, Samijabad, Multan
70	Fazal-ur-Rehman Hospital, Musa Pak Shaheed, Multan
71	Yousaf Medical Center, Nishter Road, Multan

6.3.2 Number of Beds

The total number of hospital beds in the City District including Police, Railway and Social Welfare Departments Hospitals and CMH Multan is 2,716, of which 2,546 are in urban area and only 170 in rural area (Table 6.4).

Using the estimated population of 2011 the number of beds per 1000 population are 0.67 in the City District, 1.50 in urban area (MDA limits), and a meager 0.07 in rural areas. Comparing these with the national standard of 2 beds per 1000 population, the number of hospital beds in Multan is far below the required standards. The number of beds in the City has been increased from 1,812 in 1987 to 2,546 in 2011 (Table 6.5).

Table 6.4: Number of Beds

Institutions		Number of Beds in:		
		City District	Urban area[2]	Rural Areas[3]
1. Hospitals				
	1.1 Government	1,700		
	1.2 Police, Railway, Social Welfare Departments and WAPDA Hospitals	450		
	1.3 Pakistan Army (CMH Multan)	250	**2,546**	**170**
2. Dispensaries		24		
3. Rural Health Centres		140		
4. Basic Health Units		152		
Total Beds		**2,716**		
Population (2011)		4,060,000	1,704,000	2,356,000
Beds per 1000 Persons		0.67	1.50	0.07

Table 6.5: No. of Beds in Urban area: 2011 Vs 1987

Institutions	Number of Beds in:	
	2011[4]	1987
Total Beds	2,546[5]	1,812[6]
Population	1,704,000[7]	1,200,113[8]
Beds per 1000 Persons	1.50	1.51

However this increase has been able to keep pace with the increase in population during the same period. Thus, the number of beds has increased by about 40% over the last 24 years, the population increase has been about 42%. This has resulted in reduction of beds per 1000 population from 1.51 in 1987 to 1.50 in 2011. Similar phenomenon has occurred in the City District as a whole (Table 6.6).

[2] Includes area within MDA limits
[3] Includes smaller urban centres
[4] Source: Punjab Development Statistics, 2011, Page 288
[5] Health Department CDG Multan
[6] Source: Multan Master Plan, 1987, Page 131
[7] Estimated (Ref. Chapter on Demography)
[8] Source: Multan Master Plan 1987, Page 76

Table 6.6: Number of Beds in Health Institutions of the City District

Institutions	Number of Beds in:	
	2011	**1998**
1. Hospitals		
1.1 Government	1,700	1,460
1.2 Police, Railway, Social Welfare Departments and WAPDA Hospitals	450	28
1.3 Pakistan Army (CMH Multan)	250	175
2. Dispensaries	24	34
3. Rural Health Centres	140	160
4. Basic Health Units	152	142
Total Beds	2,716	1,999
Population	4,060,000	3,083,000
Beds per 1000 Persons	0.67	0.65

6.3.3 Spatial Spread

There are 129 Union Councils in District Multan. Each of the four northern Towns have 24 to 25 union councils. Shujaabad however has 17 and Jalalpur Pirwala has 15 union councils. Almost all UCs of the District have at least one health facility, mostly a Basic Health Unit (outside city limits). In fact, many UCs of the City District have two health facilities, as detailed in Table 6.7.

Table 6.7: Union Councils with Two Health Facilities

UC No.	UC Name	Facilities	TMA
62	Punj Koha	2 BHUs	Bosan Town
64	Bosan	1 GRD, 1 BHU	
65	Ailampur	1 RHC, 1 BHU	
67	Matital	2 BHUs	
69	Bangalwala	1 BHU, 1 Dispensary	Shah Rukn-e-Alam Town
70	Loother	1 BHU, 1 Dispensary	
71	Tatepur	2 BHUs	
76	Kothey Wala	2 BHUs	
79	Bootay Wala	1 BHU, 1 MCH	Musa Pak Shaheed Town
86	Chak 5/Faiz	2 BHUs	
88	Basti Malook	2 BHUs	
78	Jhoke Lashar Pur	1 BHU, 1 MCH	
91	Ayyaz Abad Marral	1 BHU, 1 RHC	Sher Shah Town
100	Shah Pur Ubah	1 BHU, 1 Dispensary	Shuja Abad Town
105	Rasool Pur	1 BHU, 1 Dispensary	
106	Matotli	1 RHC, 1 Dispensary	
107	Thath Ghalwan	1 BHU, 1 GRD	
102	Basti Mithi	1 BHU, 1 Dispensary	
115	Shehni	1 BHU, 1 Dispensary	Jalalpur Pirwala Town
117	Inayat Pur	2 BHUs, 1 Dispensary	
123	Lal Wah	3 BHUs	
124	Nauraja Bhutta	2 BHUs	
126	Bahadar Pur	1 BHU, 1 GRD, 2 Dispensaries	

6.4

THE NATIONAL CONTEXT

6.4.1 National Health Policy 2009[9]

The National Health Policy 2009: "Stepping Towards Better Health" outlines a shared resolve to ensure progress towards a healthy Pakistan in which all citizens benefit from a better working health care delivery system, particularly the poorest. The Policy builds upon the National Health Policy 2001. There was a felt need to reset the strategic direction due to: a) slow progress in improving health outcomes; b) inadequate sector performance in improving coverage and access to essential health care services especially for the poor; and; c) lack of synchronization of various policy documents and their linkages with Millennium Development Goals (MDGs).

The Policy envisages a long term vision to reorient the health system endorsing the concept of health for all strategy albeit - a health system that: is efficient, equitable & effective to ensure acceptable, accessible & affordable health services. It will support people and communities to improve their health status while it will focus on addressing social inequities and inequities in health and is fair, responsive and pro-poor, thereby contributing to poverty reduction.

6.4.2 Policy Objectives:

National Health policy aims to improve health status of people of Pakistan by achieving the policy objectives mentioned below and it is envisaged that it will also help Pakistan to make progress towards health related MDGs.

i. Enhancing coverage and access of essential health services especially for the poor;
ii. Measurable reduction in the burden of diseases especially among vulnerable segments of population;
iii. Protecting to the poor and under privileged population subgroups against catastrophic health expenditures and risk factors;
iv. Strengthening health system with focus on resources;
v. Strengthening stewardship functions in the sector to ensure service provision, equitable financing and promoting accountability;
vi. Improving evidence based policy making and strategic planning in the health sector.

6.4.3 On-Going Initiatives at National Level

Pakistan is a signatory to the Millennium Development Goals (MDGs). Three out of eight MDGs are directly related to health sector. The MDGs agenda in health sector is

[9] Pakistan's National Health Policy-2009

the creation of a society where women and children enjoy the highest attainable level of health and no family suffers due to loss of mother or child due to preventable and treatable causes. The Government of Pakistan is committed to MDGs as the global agenda for development and reducing the burden of poverty and disease.

To translate this commitment into action, a number of initiatives, new and on-going, have been undertaken. These programs with current and future intervention would help in reducing the premature deaths among women and children and make real progress towards Millennium Development Goals. The most notable health initiatives at national level include:

- National Program for Family Planning & Primary Health Care
- TB (DOTS) Programme
- Women Health Project
- National Nutrition Project
- Micronutrient Deficiency Control Programs (i. Control of Iodine Deficiency Disorder, ii. Control of Iron Deficiency Anemia, iii. Control of Vitamin A Deficiency)
- Nutrition in Primary Health Care (PHC)
- Basic Development Needs Programme
- Tawana Pakistan Project (School Nutrition Package for Girls)
- National Maternal and Child Health Program
- Expanded Program of Immunization

The above programs with current and future intervention would help in reducing the premature deaths among women and children and make real progress towards Millennium Development Goals.

6.5 THE PROVINCIAL CONTEXT

6.5.1 Punjab Health Sector Reforms Program

The objective of the Program is to improve the quality and coverage of Health Services with special focus on Primary Health Care to achieve Millennium Development Goals. The Government of Punjab is committed to provide optimum health care facilities at a free/minimum cost to the community at their doors step, to achieve the targets set in Millennium Development Goals. For this purpose Government of the Punjab has launched Health Sector Reforms Program at a cost of 6.5 billion rupees. In the first phase, the program shall cover the Primary Health Care (BHU's and RHC's). Subsequently in the second phase THQ, DHQ and Tertiary Care Institutions will be strengthened. The role of the private sector has been recognized and will be included in the reforms.

The main weaknesses in the primary health care facilities are:

i. Human resources vacant positions, absenteeism and low morale.
ii. Poor maintenance and lack of certain important equipment
iii. Buildings needing repairs and maintenance
iv. Inconsistent supply of medicines
v. Poor integration of various programs/projects.
vi. Poor monitoring and evaluation.

The strategy adopted for the Reforms Program includes:

- Standardization of yardstick staff, medicines & equipments
- Creation of posts according to new yardstick
- Recruitment against vacant posts.
- Training/Refresher courses.
- House Officers to work for two months at RHC facilities after initial 6 months training.
- Smooth supply of medicines.
- Cash incentives for facility based deliveries through money order to be delivered at home.
- Postmortem work at THQ/DHQ hospitals with incentive for female doctors.
- Provision and maintenance of equipment according to new yardstick
- Renovation of building and provision of missing facilities
- Consistent supply of quality medicines
- Integration of various primary health care programs/projects.
- Effective monitoring and evaluation at Provincial, Regional and District level

The objective of the Health Sector Reforms Program is to provide a sound health care system, practicing with private sector including civil society, which is effective, efficient and responsive to the health needs of low socio-economic groups, especially women in the reproductive age.

6.5.2 Strengthening of Expanded Program on Immunization (EPI)

The Project 'Strengthening of Expanded Program on Immunization (EPI) in Punjab through Global Alliance for Vaccine & Immunization' is being implemented with a cost of Rs. 671.000 million, and the implementation period is 6 years (2003-2009). The Program was initiated in 2003-04. The objective is to expand immunization coverage up to 80% by the year 2009. The Program components are:

- Immunization Delivery System
- Human Resource Development
- Communication and Advocacy
- Program Management

6.5.3 The Punjab Healthcare Commission Act 2010

The Government of Punjab has notified The Punjab Healthcare Commission Act 2010. The Government may, by notification, establish a Commission to be called the Punjab Healthcare Commission. Functions and powers of the Commission are to perform such functions and exercise such powers as may be required to improve the quality of healthcare services and clinical governance and to ban quackery.

6.6 CURRENT HEALTH INDICATORS AND MDGS

A framework of 8 goals, 18 targets and 14 indicators to measure progress towards the MDGs was adopted by a consensus of experts from UN Secretariat, IMF, OECD and the World Bank. The MDGs pertaining to Health include reduction in child mortality and improved maternal health. To obtain comparable data for Multan, relevant health-related questions were included in the Socio-Economic Survey (NESPAK, 2008). Based on these surveys, health-related MDGs and indicators for Multan are presented in Table 6.8.

Table 6.8: MDGs and Health Indicators

Millennium Development Goals (MDGs)	MDG Targets (Between 1990 and 2015)	MDG Indicators	Health Indicators in Multan[10]
Goal 4: Reduce Child Mortality	Target 5: Reduce by two thirds, between 1990 and 2015, the under – 5 mortality rate.	Indicator 13: Under-five mortality rate (UNICEF-WHO) (Deaths under 5 years of age per 1000 live births).	60
		Indicator 14: Infant Mortality Rate (UNICEF-WHO) (Deaths under one year of age per 1000 live births).	24
Goal 5: Improved Maternal Health	Target 6: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.	Indicator 16: Maternal Mortality (Ratio per 100,000 live births) - (WHO, UNICEF, UNFPA).	449
		Indicator 17: Proportion of births attended by Skilled Health Professionals[11] (UNICEF-WHO).	Live Births: 669 No. of attending skilled professionals: 493

[10] Socio-Economic Surveys, NESPAK, 2008.

[11] Skilled health professionals refer exclusively to people with midwifery skills (for example doctors, midwives, nurses) who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose or refer obstetric complications (Births attended by skilled health professionals, per cent)

6.7 HEALTH PLAN

6.7.1 Targets and Standards

The long term national goal is 5 hospital beds per thousand population. Owing to scarcity of resources and apart from a few well provided urban places, the medium term feasible target may be taken as 2 beds / 1000 population.

The standards relate the geographical distribution of facilities and plot sizes to population/ administrative units. Higher incidence of certain diseases in specific regions/ localities may indicate a different distribution and introduction of specialities at lower level. In sparsely populated areas, smaller facilities may be provided. Other areas with good climate are receipients of TB Sanitoriums, etc. In upper income communities in large urban centres, private clinics will take some load and reduce need for public provision.

6.7.2 Prime Minister's Development Package for Health Sector

The health projects in the Prime Minister's Development Package include the following:

- Up gradation of Cancer Treatment Facility at Nishtar Hospital. The existing facility would be upgraded to the level of 100 beds.
- Declaring Multan as Model District in connection with Health:
    - Up-gradation of all BHUs/RHCs/Tehsil Headquarter and New District Headquarter Hospitals etc.
    - Medicines of all kinds would be made available in all BHUs, RHCs and Government Hospitals, round the year.
    - Punjab Health Department will carry out a special study of the above facilities and the medicines etc.
- Upgradation of Railway Hospital, Multan.

6.7.3 Health Departments, Government of Punjab Initiatives to improve Bed Strength in Existing Hospitals

In the following Hospitals (table 6.9) Government of Punjab has started work to enhance bed strength:

Table 6.9: Existing and Additional Beds Capacity

Sr. No.	Name	Existing Beds	Additional Beds	Total No. of Beds after completion of Works
1	Nishter Hospital Multan	1103	697	1800
2	Childern Complex Multan	150	150	300
3	Cancer Hospital	-	100	100
4	DHQ Hospital	-	300	300

6.8 HEALTH PROPOSALS FOR SHORT-TERM PLAN (2008-2013)

i) Basic Health Units

The total number of UCs (urban as well as rural) in the City District is 129, while the number of BHUs is 77. This is understandable, as BHUs are basically meant for rural UCs. The 43 UCs in the inner city are purely urban, are well served with medical facilities, and are not dependent on BHUs. These lie in the Core of Multan which is well served with health facilities including hospitals, medical centres and private health institutions.

However, 31 UCs most of which lie between the edge of the defunct Municipal Corporation and the MDA boundary, need a BHU in each. These have rural/semi-rural character. In other parts of the six Towns, there are 55 UCs which have one or more BHUs.

It is the intermediate area of MDA limits (area between core city and MDA limits) which lacks most in terms of health facilities. It can be argued that being in vicinity of the core city, residents of this area can avail the avail the facilities of city area. But it is essential to have basic health facilities at local level. There are 29 UCs in the peri-urban area of MDA without any health facilities, and 2 UCs in rural areas. Such UCs is listed in Table 6.10 below:

Table 6.10: Union Councils to be provided with BHU in Short- Term Plan

UC No.	UC Name	Town
1	Bagh Dewan	Bosan Town
3	Officers Colony	
5	Mehrban Colony	
41	Sadiq Colony	
53	Alamdi Sura	
7	Shamsabad	Shah Rukne-Alam Town
8	WAPDA Colony	
10	Hassan abad	
11	Peoples Colony	
12	Shah Rukn-e-Alam Colony	
13	Ghaus Pura	
15	Sharif Pura	
16	Manzoorabad	
46	Bahani	
23	Khwaja Farid Colony	
18	Saleem Colony	Musa Pak Shaheed Town
20	Niazabad	
22	Panjnand Colony	
26	Gulzaib Colony	
24	Qasbapura	
28	New Nizamabad	

45	Hakeem Wala	
30	Pir Colony	Shershah Town
31	Ashraf Colony	
33	Latifabad	
35	Gulnar Colony	
36	Abbas Colony	
55	Durana Langana	
48	Rangeel Pur	
93	Hamidpur Knora	
119	Alipur Sadaat	Jalalpur Pirwala

ii) Provision of Rural Health Centres (RHCs)

Based on population criteria of 1 RHC for 100,000 population, a total of 24 RHCs are required by the end of short-term plan period. The existing number of RHCs is 7, entailing a net requirement of 17 RHCs in rural areas of the City District. Town-wise requirements are given in Table 6.11. The required number of RHCs may be provided in each Town, preferably in a larger village/urban settlement for the short term plan.

Table 6.11: Rural Health Centers Required in the Short-Term Plan (City District Excluding MDA Area)

Towns	Population		RHCs Required in 2013	Existing RHCs	Net Required
	(2008)	(2013)			
Bosan	365,579	410,874	4	2	2
Shah Rukne-Alam	254,291	288,438	3	0	3
Musa Pak Shaheed	264,398	299,198	3	1	2
Sher Shah	257,223	290,830	3	2	1
Shujaabad	538,597	600,050	6	2	4
Jalalpur Pirwala	465,613	518,739	5	0	5
Total	**2,145,702**	**2,408,129**	**24**	**7**	**17**

iii) Increasing Number of Beds

Applying the national standard of 2 beds per 1000 persons[12], number of beds required at the end of short-term period are presented in Table 6.12. A total of 8,696 beds will be required by the year 2013 in the City District. The existing number of beds is 2,716, of which 2,546 are in MDA area and only 170 in the rural areas. Thus bulk of additional beds (4,646) will be required in rural areas of the City District, and 1,334 in urban area

[12] Source: National Reference Manual for Planning & Infrastructure Standards, Section 6.2.2, Page 122.

(MDA limits). Town-wise requirements of beds till the year 2013 are presented in Table 6.12 and 6.13.

Table 6.12: Number of Beds Required in the Short-Term Plan (2008 – 2013) (MDA Area)

Towns	Population		No. of Beds Required till 2013	Existing No. of Beds	Additional Required
	(2008)	(2013)			
Bosan	357,624	394,846	790		
Shah Rukne-Alam	512,234	565,547	1,131		
Musa Pak Shaheed	462,317	510,435	1,021		
Sher Shah	425,000	469,234	938		
Total	**1,757,175**	**1,940,062**	**3,880**	**2546**	**1,334**

Table 6.13: Number of Beds Required in the Short-Term Plan (2008 – 2013) (City District Excluding MDA Area)

Towns	Population		No. of Beds Required till 2013	Existing No. of Beds	Additional Required
	(2008)	(2013)			
Bosan	365,579	410,874	822		
Shah Rukne-Alam	254,291	288,438	577		
Musa Pak Shaheed	264,398	299,198	598		
Sher Shah	257,223	290,830	582		
Shujaabad	538,597	600,050	1,200		
Jalalpur Pirwala	465,613	518,739	1,037		
Total	**2,145,702**	**2,408,129**	**4,816**	**170**	**4,646**

6.9 HEALTH PROPOSALS FOR LONG-TERM (2013-2028)

i) Basic Health Units

As already stated, currently the Government is providing one Basic Health Unit in every union council. However in the long-term, the Government policy is to provide one Basic Health Unit (BHU) for every 10,000 persons. The average population of a union council in Multan is around 30,000, implying that in the long term, every union council should have three BHUs. Almost all UCs in rural areas of all Towns have at least one BHU; a few even have two. In the long term plan (2013-2028), two additional BHU needs to be provided in each of the following UCs of the six Towns of the City District (Table 6.14).

Table 6.14: Town-wise UCs Requiring Additional BHU in Long-Term Plan (2013 – 2028)

Bosan Town	Lutafabad (UC 63)
	Bosan (UC 64)
	Ailam Pur (UC 65)
	Qadirpur Rawn (UC 68)
	Abbas Pura (UC 66)
Shah Rukn-e-Alam Town	Banglawala (UC 69)
	Loother (UC 70)
	Tatepur (UC 71)
	Kotla Moharan (UC 73)
	Multaniwala (UC 74)
	Bundla sant (UC 75)
	Kothaywala (UC 76)
	Gharyala (UC 77)
Musa Pak ShaheedTown	Jhok Lasharpur (UC 78)
	Bootay Wala (UC 79)
	Makhdoom Rashid (UC 80)
	Khanpur Maral (UC 81)
	18-MR (UC 82)
	Chah 5-Faiz (UC 86)
	Qadirpur Lar (UC 87)
	Basti Malook (UC 88)
	Rana Wahin (UC 89)
Sher Shah Town	Billiwala (UC 83)
	Kabirpur (UC 84)
	Lar (UC 85)
	Qasba Maral (UC 90)
	Ayyazabad Maral (UC 91)
	Khokhar (UC 92)
	Hamidpura Kanora (UC 93)
	Sher Shah (UC 94)
Shujabad Town	MC Shujabad-I (UC 95)
	MC Shujabad-II (UC 96)
	Ponta (UC 97)
	Chah R.S. (UC 98)
	Sikandarabad (UC 99)
	Shahpur Ubha (UC 100)
	Gajju Hatta (UC 101)
	Basti Mithu (UC 102)
	Raja Ram (UC 103)
	Kotli Nijabar (UC 104)
	Rasoolpur (UC 105)
	Matotli (UC 106)
	That Ghalwan (UC 107)
	Punjani (UC 108)
	Jalalpur Khakhi (UC 109)
	Gardazpur (UC 110)
	Mahra (UC 111)

Jalalpur Pirwala Town	Jalalpur Pirwala Town-I (UC 112)
	Jalalpur Pirwala Town-II (UC 113)
	Darab Pur (UC 114)
	Khanbela (UC 115)
	Bait Kaitch (UC 116)
	Inayatpur (UC 117)
	Ghazipur (UC 118)
	Alipur Sadaat (UC 119)
	Jhanpur (UC 120)
	Mianpur Belaywala(UC 121)
	Karam Ali Wala (UC 122)
	Lal Wah (UC 123)
	Nou Raja Bhutta (UC 124)
	Kotla Chakar (UC 125)
	Bahadarpur (UC 126)

ii) Provision of Rural Health Centres (RHCs)

Town-wise proposals for RHCs in the City District are given in Table 6.15. Criteria for calculating the number of RHCs for additional population during 2013-2028 is given in Table 6.16.

Table 6.15: Provision of Rural Health Centres in the Long-Term Plan (2013-2028)

Towns	Existing RHCs	Current Backlog (2008)	No. Required for 2013-2028	Total Required	Proposed Locations
Bosan Town	2 (Qadirpur Ran-UC 68 and Ailampur-UC 65)	1	1	2	Upgrade BHUs to RHCs in: Bosan (UC 64) Punj Koha (UC 62)
Shah Rukn-e-Alam Town	0	3	1	3 (Fourth RHC to be provided in Short –Term Plan.)	Upgrade BHUs to RHCs in: Domra (UC 72) Kotla Maharan (UC 73) Loother (UC 74)
Sher Shah Town	0	1	1	2	Upgrade BHUs to RHCs in: Lar (UC 95) Khokhar (UC 92)
Musa Pak Shaheed Town	1 (Makhdoom Rashid)	2	1	3	Upgrade BHUs to RHCs in: Basti Malook (UC 88) Khanpur Maral (UC 81) Jhok Lashkaran (UC 78)

Shujabad Town	2 (Kotli Nijabat-UC 104, and Matoli-UC 106)	3	2	5	New RHC at Rasoolpur (UC 105) Upgrade BHUs to RHCs in: Thath Ghalwan (UC 107) Gardezpur (UC 110) Ponta (UC 97) Raja Ram (UC 103)	
Jalalpur Pirwala	0	5	2	7	Instead of 7, only 5 need to be provided as follows:	
					Upgrade BHUs to RHCs in: Bahadarpur (UC 126) Jahanpur (UC 120) Lalwah (UC 123)	Provide new RHCs at: Bait Kaitch (116) Karam Ali Wala (UC 122)

Table 6.16: RHCs required for Additional Population (2013-2028)

Town	Incremental Rural Population (2013-2028)	No. of RHC required for (2013-2028)
Bosan Town	123,967	1
Shah Rukne Alm Town	127,457	1
Musa Pak Shaheed	128,386	1
Sher Shah Town	123,384	1
Shujabad	206,268	2
Jalapur Pirwala	178,317	2
Total City District	**887,780**	**8**

iii) Increasing Number of Beds

Applying the national standard of 2 beds per 1000 persons[13], the number of beds required for the period 2013-2028 is presented in Table 6.17 and 6.18. The calculations have been made for the entire City District, all its six Towns, the rural areas as well as the area falling in MDA limits. Following are the main inferences:

a) During the period 2013-2028, the entire City District will require about 3,000 additional beds, of which 1,800 will be required for rural areas/smaller urban

[13] Source: National Reference Manual for Planning & Infrastructure Standards, Section 6.2.2, Page 122.

settlements, while 1,200 beds will be required for population living in urban settlements.

b) Each of the four northern towns of the City District will require around 550 beds during the stated period.

c) Shujaabad Town will however need 400 beds and the requirement of Jalalpur Pirwala Town during the long-term plan period will be around 350 hospital beds.

Table 6.17: Number of Beds Required in the Long-Term Plan (2013 – 2028) (MDA Area)

Towns	Population		Additional Population (2013-2028)	Number of Beds Required
	(2013)	(2028)		
Bosan	394,846	516,498	121,653	243
Shah Rukne-Alam	565,547	739,793	174,246	348
Musa Pak Shaheed	510,435	667,701	157,266	315
Sher Shah	469,234	613,806	144,572	289
Total	**1,940,062**	**2,537,799**	**597,737**	**1,195**

Table 6.18: Number of Beds Required in the Long-Term Plan (2013 – 2028) (City District Excluding MDA Area)

Towns	Population		Additional Population (2013-2028)	Number of Beds Required
	(2013)	(2028)		
Bosan	410,874	566,188	155,313	311
Shah Rukne-Alam	288,438	407,750	119,312	239
Musa Pak Shaheed	299,198	420,243	121,045	242
Sher Shah	290,830	407,531	116,701	233
Shujaabad	600,050	806,318	206,268	413
Jalalpur Pirwala	518,739	697,056	178,317	357
Total	**2,408,129**	**3,305,085**	**896,956**	**1,795**

6.10 LAND REQUIRED FOR HEALTH CARE FACILITIES

The range of covered area required for various functions varies substantially and is reflective of the functional requirements and method of delivery of a particular health service, level of technology, socio-economic conditions and life style/ habits of users, climate, etc. The site area required for accommodating one such functional unit also varies widely. The dictates of flexibility, adaptability, expansion, addition of new services, local climate and customs, abundance or scarcity of urban land, etc. need to be considered in developing criteria for allocation of land for BHU, RHU, etc.

The standards given in the NRM are being adapted for the Multan Master Plan. The area requirements are summarized in Table-6.19. The location of proposed health facilities are shown in *Figure-6.1.*

Table 6.19: Land Required for Health Facilities during Short Term and Long Term Plans (In Hectares)

Plan Period	Description	Basic Health Unit (@ 0.25 ha. each)	Rural Health Center (@ 0.6 ha. Each)	Total Area Required (Ha)
2008-2013	Numbers	31	17	-
	land required	7.75	10.20	17.95
(2013-2028)	Numbers	124	8	-
	land required	31.00	4.80	35.80
Total (2008-2028)	**Numbers**	**155**	**25**	**-**
	Land Required	**38.75**	**15.00**	**53.75**

6.11 CONCLUSION AND RECOMMENDATIONS

1) The concerned authorities, the city administration and the entrepreneurs in the private sector who are engaged in delivering health care should coordinate their activities and develop a comprehensive programme that addresses resource shortages and the objectives of affordable, accessible and effective preventive and curative health care.

2) Adequate number of health care workers should be trained and deployed, especially at the lower level facilities.

3) Land reservations must be made well in advance and land so allocated must be conserved and prevented from being misused. Land set aside for social needs has a tendency of being mis-appropriated in our society. Sites reserved for these facilities need to be constantly monitored to prevent encroachment.

4) Deficiencies of health facilities in existing residential areas, specially high-density areas, cannot be easily met by construction of new facilities. Other innovative solutions (including expansion/ addition at sites that have suitable vacant space) need to be explored and developed for such areas that are short of land.

5) Where feasible, new facilities in new zones of the city (suitably modified/ enhanced) may partially fulfil the needs of adjoining localities that are short of land or where expansion and new construction cannot be undertaken for other reasons.

6) Existing hospital buildings, etc. (especially those in high density localities) that are dilapidated or have completed their useful life should be pulled down and replaced with buildings that have been designed to more economical space standards. This measure will enhance the efforts at reducing deficiencies/backlog in built-up areas that are short of open land.

7) Research into procedures, etc. needs to be undertaken so that the number of bed-days per patient is reduced. This, and other measures oriented towards improving efficiency/effectiveness, will increase the throughput per facility. It will thus be possible, to an extent, to reduce existing deficiencies and backlog with no (or minimum) new construction being required in built-up areas.

CHAPTER: 7
EDUCATION SECTOR

7.1 INTRODUCTION

Education is the most vital investment for socio-economic uplift of any society. Its reglect can cost generations and no uneducated society has ever achieved the heights of economic & political power. Education sector in Paksitan never gained the importance by the financial policy makers which is evident from the status of educational infrastructure in Pakistan. As far as Master Planning of a city is concerned, the current backlog & future locational & allocational requirements of educational facilities have to be worked out to assess the land requirements during the plan period.

7.2 HEIRARCHY OF EDUCATIONAL FACILITIES

Vertical & horizontal hierarchies are basic features in the delivery of formal education. In the vertical dimension a pyramid may be visualized, its base comprising of over thousand of primary schools attended by many thousands of children while at the top are only few universities/ degree awarding institutes providing specialized education to few hundred post graduates. Similarly primary schools are located in every mohallah/ large village, secondary schools in neighbourhoods/ cluster of villages/ small towns whereas universities are only in large cities.

The types, location and allocation criteria (size/ capacity) are mainly depends upon participation rates of the population for each level of education, population densities and accessibility etc.

7.3 SITUATIONAL ANALYSIS

The current situation in Education Sector has been assessed in the following three ways i.e.:-

i) Current Education Indicators in Multan and Millennium Development Goals
ii) Education Facilities in Multan and their adequacy
iii) Spatial spread of educational institutions

For (i) above, the relevant information thus collected and through secondary surveys was compared with the MDGs for comparative analysis and assessment of targets yet to be achieved.

ii) The adequacy of educational facilities in Multan has been assessed by comparing these with the national figures as given in the latest 'Pakistan Economic Survey', and by using the guidelines[1] for the provision of educational facilities, as formulated by the Department of Education, Government of Punjab.

iii) The appropriateness of their spatial spread has been worked out through analyzing their locations with respect to one another and with respect to population concentration in different areas.

7.4 SITUATIONAL ANALYSIS IN CITY DISTRICT AREA

7.4.1 Enrolment Ratios in Primary Education

Enrolment Ratio is defined as the total enrolment, regardless of age, divided by the population of the age-group, which corresponds to a specific level of education. Net enrolment ratio is calculated by only that part of the enrolment which corresponds to the age-group of the level considered. The age-group of the population eligible for primary stage education is 5-9 years[2].

The net enrolment ratio in District Multan is much lower than province as a whole. This is true for males as well as females. In case of males, the percentage attending the primary schools among the relevant population strata is less than 29% in the District as against more than 40% in Punjab. Among females, the percentage in the same order is around 27% and 37% respectively (Table 7.2).

7.4.2 Net Primary Enrolment Ratios

In 1998 the net primary enrolment ratio in District Multan was 43.3% as against 46.6% in the Province as a whole and ranked 20th amongst the 34 Districts. In 2005, though the enrolment rose to 49%, but in terms of rank, the District fell back to 29th, i.e. 5th lowest in the Province (Table 7.1).

Table 7.1: Net Primary Enrolment Ratio in Multan[3]

Year	Enrolment Ratio	Rank in the Province
1998	43.3%	20th
2005	49.0%	29th

[1] District Planning Manual, Planning and Development Board, Government of Punjab, 2002, page 58.
[2] Punjab Development Statistics, 2011, Page 143.
[3] Source: Pakistan MDGs Goals Report, 2006, UNDP Website.

Table 7.2: Net Enrolment Ratios (District Multan Vs. Punjab)

Gender	Total Population (Dec. 2009)		Total Population of 5-9 years		Primary School Enrolment (2009 - 2010)		Net Enrolment Ratio	
	District Multan[4]	Punjab[5]	District[6] Multan	Punjab[7]	District[8] Multan	Punjab[9]	District Multan	Punjab
Males	2,059,840	47,646,850	325,455	7,280,440	77,313	2,667,376	25.94%	39.55%
Females	1,865,160	44,442,150	301,970	6,759,650	83,268	2,127,199	27.57%	37.00%
Total	3,925,000[10]	92,089,000	627,425	14,040,090	160,581	5,006,955	26.73%	38.69%

[4] Using male-female split of 1998 Census, and applying it to 2009 population, as given in Punjab Development Statistics, 2011, Page 273.
[5] ibid
[6] Using the percentage of 5-9 years population strata, as calculated from 1998 Census, and applying it on total population.
[7] ibid
[8] Source: Punjab Development Statistics, 2011, Page 132
[9] ibid, Page 113
[10] ibid, Page 273

7.4.3 Literacy Rate

Literacy Ratio is the percentage of literates (10 years and above) in the total population (10 years and above). A person is literate who can with understanding; both read and write a short simple statement on his every day life. In case of MDG indicators, the age group considered for the purpose is 15-24 years.

The literacy rate in District Multan was 43.4% in 1998 as against 46.6% in Punjab for the same year. Of the 34 districts in the province, Multan's rank was 17th in that year. In 2005, the literacy rate of the District increased to 48.4%, but its rank went down to 23rd among the districts of Punjab (Table 7.3).

Table 7.3: Literacy Rate in Multan[11]

Year	Literacy Rate	Rank in the Province
1998	43.4%	17th
2005	48.4%	23rd

It is clear from Table 7.4 that in Punjab, during 2006, the overall literacy rate was 47.7%. There is however, significant dichotomy between male and female literacy rates. While the figure is 59% for males, it is only 35% for females. In other words, literacy rate among males is about 1.7 times higher than that among females. Clearly there is gender disparity in lateracy rates.

Table 7.4: Literacy Rate[12]: Punjab Vs. District Multan

	Year 1998		Year 2006	
	Punjab	Multan	Punjab	Multan
Male	57.2%	53.3%	59.0%	59.0%
Female	35.1%	32.3%	35.0%	37.0%
Total	46.6%	43.4%	47.7%	48.5%

A temporal comparison from 1998 to 2006 shows that the literacy ratio for overall Punjab and for female is at standstill; there has hardly been any change in the intervening period. A marginal increase (less than 2%) in male literacy rate for the Province during the period 1998-2006 was however witnessed.

In case of District Multan, the overall literacy rate during the period 1998-2006 has increased from 43.4% in 1998 to 48.5% in 2006.

[11] ibid.
[12] Percentage of literates (10 years and above) in the total population (10 years and above).

7.4.4 Girls to Boys Enrolment Ratios

Girls to Boys Ratio' is the quantitative relation between the two amounts showing the number of times one value contains or is contained within the other. Thus the enrolment girls to boys ratio of 1:1.17 means that for every single girl enrolled, the boys enrolled are 1.17. The enrolment ratios (girls to boys) in District Multan are fairly close to Punjab averages (Table 7.6). This is true in case of Primary, middle and high schools. However there are deviations in intermediate and degree classes. In Punjab, the ratio of males enrolled in intermediate classes is 0.83 against 1 female student, while in case of District Multan, this ratio is 0.95. In case of Degree classes, males enrolled are lesser in Punjab as well as District Multan, but the gender enrolment difference is lesser in the District than in the Province.

The above was a comparison of District Multan with Punjab as a whole. Focussing on District Multan, Table reveals that at primary level, more boys are enrolled than girls, but in case of middle schools, the ratio reverses. There is a steep rise of boys enrolment than girls in high schools, and situation is reverse in case of intermediate and degree colleges. Though there are internal variations, but overall, the girls to boys ratio, for District Multan is almost in the same order as for Punjab as a whole, i.e 1:1.15 for Punjab i.e. 1:1.11 for Multan District.

Table 7.5: Girls to Boys Ratios

Level		Enrolment (2009-2010)		Enrolment Ratios (Girls to Boys)	
		Punjab[13]	District[14] Multan	Punjab	District Multan
Primary	Boys	2,667,376	77,313	1:1.25	1:1.92
	Girls	2,127,199	83,267		
Middle	Boys	996,988	32,897	1: 0.88	1:0.86
	Girls	1,131,859	37,984		
High	Boys	1,733,833	68,333	1:1.36	1:1:75
	Girls	1,277,117	38,852		
Inter.	Boys	281,270	4,032[15]	1:0.89	1:0.41
	Girls	317,003	2,858		
Degree	Boys	63,133	17,615	1:0.49	1:0.99
	Girls	126,721	17,790		
Total	Boys	5,742,600	200,190	1:1.15	1:1.11
	Girls	4,979,899	180,751		

7.4.5 Student-Teacher Ratio[16]

It is clear from Table 7.6 that student-teacher ratio in District Multan and Punjab as a whole are fairly close to each other, and within acceptable limits. The number of

[13] ibid, Page-113.
[14] ibid, Page-132.
[15] Includes enrolment in higher secondary schools as well as intermediate colleges.
[16] Source: Punjab Development Statistics, 2011, Pages 131 to 134, 137, 139, and 140.

students per teacher in both cases is generally close to or less than 40. This is true for most levels, from Govt. Primary Schools to Degree Colleges. However in Govt. Mosque School, Student-Teacher ratio in Multan is 59 which is on higher side than desired level. In aggregate, there are 34 students per teacher both in District Multan and in Punjab.

Table 7.6: Student-Teacher Ratio (2009-2010)

Type of Institutions	Enrolment		Teaching Staff		No. of Students per Teacher	
	Multan	Punjab	Multan	Punjab	Multan	Punjab
Govt Mosque Schools	7,132	212,380	121	5,039	59	42
Govt Primary Schools	160,581	4,794,575	3,845	120,695	42	40
Govt Middle Schools	70,881	2,128,847	2,429	75,910	29	28
Govt High School	107,185	3,050,950	3,497	97,798	31	31
Inter. Colleges	2,512	52,177	180	4,007	14	13
Degree Colleges	35,405	671,459	1,256	19,089	28	35
Overall	383,696	10,910,388	11,388	322,538	34	34

7.5 NUMBER AND TYPE OF INSTITUTIONS IN CITY DISTRICT

According to the data obtained from the City District Government, there are 110 mosque schools, 1,219 primary schools, 196 middle schools, 138 high schools, 13 higher secondary schools, 26 community model schools, 2 comprehensive schools, and 20 government colleges operating in the District (Table 7.7). The locations of existing educational facilities are shown in *Figure-7.1.*

Table 7.7:Number of Public Sector Institutions 2010

Level	2010		
	Male	Female	Total
Mosque Schools	106	04	110
Primary (including MC Primary School)	477	742	1219
Middle (including MC Middle School)	88	108	196
High Schools	101	37	138
Higher Secondary Schools	08	05	13
Community Model Schools	-	26	26
Comprehensive Schools	1	1	2
Colleges (Inter/ Degree)	13	7	20

HEC Recognized Degree Awarding Institutes/ Univesities in Multan

Bahauddin Zakariya University is one of the major institutions of higher learning in the region. NFC Institute for Engineering and Technology (recently upgraded to University) offers Graduate Degrees in various disciplines of Engineering. Besides the above, the following Universities also have their campuses to impart post graduate learning in the respective fields:-

1. National University of Modern Languages, Islamabad, (Multan Campus)
2. Virtual University of Pakistan, (Multan Campus)
3. Air University Islamabad (Multan Campus)
4. University of Education, Lahore (Multan Campus)

7.5.1 Primary Schools

The total number of Primary Schools including Mosque Schools in the City District is 1,329. Town-wise comparison is presented in Table 7.8. Maximum numbers of schools (294) are in TMA Shujjabad, of which 125 are for males and 169 are for females. The least number of primary schools (173) are in TMA Shah Rukne Alam.

For more meaningful analysis, population has been used as a yardstick to gauge the adequacy of primary schools. It is observed that average population per primary school varies between 1,831 in case of TMA Shujabad to 4,430 in case of Shah Rukn-e-Alam Town. The average for the entire City District is 2,936. The allocational criterion recommended by NRM[17] is that a primary school should serve a population of 7,500. This yardstick implies that regarding number of primary schools, the City District and all its TMAs are well served.

Table 7.8: Town-wise Number of Primary Schools and Gender Split[18]

Sr. No.	TMAs	Male	Female	Total	Population (2008 estimates)	Population per School
1	Bosan Town	107	116	223	723,203	3,243
2	Shah Rukne Alam	72	101	173	766,525	4,430
3	Musa Pak (Shaheed)	74	114	188	726,715	3,865
4	Sher Shah	86	120	206	682,223	3,311
5	Shujabad	125	169	294	538,597	1,831
6	Jalalpur Pirwala	119	126	245	465,613	1,900
Total		583	746	1329	3,902,876	2,936

7.5.2 Middle Schools

There are 196 Government Middle schools operating in the City District, of which 88 are for males and 108 are for females (Table 7.9).

[17] National reference Manual on Planning and Infrastructure Standards, Government of Pakistan, Table 6.4, Page 109.
[18] MC Primary Schools are included.

Table 7.9: Number of Middle Schools[19]

Sr. No.	TMAs	Male	Female	Total	Population	Population per School
1	Bosan Town	18	22	40	723,203	18,080
2	Shah Rukne Alam	14	29	43	766,525	17,826
3	Musa Pak (Shaheed)	17	19	36	726,715	20,186
4	Sher Shah	10	10	20	682,223	34,111
5	Shujabad	11	17	26	538,597	19,235
6	Jalalpur Pirwala	18	11	29	465,613	16,055
Total		88	108	196	3,902,876	19,912

On average, population being served by a middle school varies between 16,055 in case of Jalalpur Pirwala Town to 34,111 in Sher Shah. The District average is 19,912 per middle school.

7.5.3 High School & Higher Secondary School

The total number of high schools in the City District is 138, of which 101 are for males and 37 for females (Table 7.10). The least number of high schools are in Jalalpur Pirwala (16) and most in Musa Pak Shaheed (29). Of the 37 Girls' high schools in the District, Jalalpur Pirwala has only two, while maximum number is in Shah Rukn-e-Alam Town. For boys' schools, the maximum number is in Musa Pak (Shaheed) Town and in Shujabad Town (22 each), while minimum is in Bosan Town (11).

In terms of population per high school, the variation is between 51,657 persons per high school in Bosan Town to 19,948 in Shujabad. The average population figure for the entire District is 27,293 per high school. National Reference Manual recommends a 3-4 sections High School (Classes V-X) for a population of 23,000 in case of boys, and 31,000 in case of girls.

Table 7.10: Number of High Schools

Sr. No.	TMAs	Male	Female	Total	Population	Population per School
1	Bosan Town	11	8	19	723,203	38,063
2	Shah Rukne Alam	19	8	27	766,525	28,390
3	Musa Pak (Shaheed)	22	7	29	726,715	25,059
4	Sher Shah	13	7	20	682,223	34,111
5	Shujabad	22	5	27	538,597	19,948
6	Jalalpur Pirwala	14	2	16	465,613	29,100
Total		101	37	138	3,902,876	28,281

[19] MC Elementary Schools are included.

There are thirteen (13) higher secondary schools including eight for males and five (5) for females in the District (Table 7.11). Musa Pak (Shaheed) has no higher secondary school whereas Shujabad, Jalal Pur Pirwala and Sher Shah Towns have two schools each. Shah Rukne Alam has four higher secondary school.

Table 7.11: Number of Higher Secondary Schools

S. No.	TMAs	Male	Female	Total
1	Bosan Town	2	1	3
2	Shah Rukne Alam	2	2	4
3	Musa Pak (Shaheed)	0	0	-
4	Sher Shah	1	1	2
5	Shujabad	1	1	2
6	Jalalpur Pirwala	2	0	2
Total		8	5	13

The number of Community Model Schools, which are all for females, is 26. Town-wise split is presented in Table 7.12

Table 7.12: Community Model Schools

Sr. No.	TMAs	Number
1	Bosan Town	4
2	Shah Rukne Alam	5
3	Musa Pak (Shaheed)	5
4	Sher Shah	4
5	Shujabad	6
6	Jalalpur Pirwala	2
Total		26

Bosan Town also has two Government Comprehensive schools (one for male and other one for female). None of the other TMA has comprehensive school.

7.5.4 Colleges

The total number of Government Intermediate and Degree colleges are 17, which include 9 for males and 8 for females which includes three Post Graduate and one Home Economics Colleges. (Table 7.13)

Table 7.13: Intermediate and Degree Colleges in City District, Multan

Males		Females	
1.	Govt. College Bosan road, Multan	1.	Govt. College for Women, Kutchery road, Multan
2.	Govt. College of Science, Multan	2.	Govt. College for Women, Shah Rukne Alam, Multan
3.	Govt. College Civil lines, Multan	3.	Govt. College for Women, Mumtazabad, Multan.
4.	Govt. A.H. Islamia Degree College, Multan	4.	Govt. Girls Inter College Chungi No. 9
5.	Govt. W.H. Islamia Degree College, Multan	5.	Govt. College for Women Makhdoom Rashid
6.	Govt. College Millat Inter College, Multan	6.	Govt. Degree College for Women, Shujabad.
7.	Govt. College Shujabad (Boys)	7.	Govt. College for Women, Jala Pur Pirwala.
8.	Govt. College Jala pur Pirwala	8.	Govt. College of Home Economics, Multan.
9.	Govt. College Makhdom Rashid.		

7.6 ROLE OF PRIVATE SECTOR

7.6.1 Schools

There is a significant private sector presence in District Multan, with a total of 1259 registered private schools in the District, over half of which (about 94%) are of middle/ elementary level (Table 7.14). The total enrolment in private schools is 34,600, of which about 3% are in primary schools, about 74% in middle/elementary schools and around 23% are secondary schools.

Table 7.14: Private Scools in City District, Multan

Level	No. of Schools	%
Primary	181	14.37
Middle	659	52.34
HS/HSS	419	33.28
Total	1259	100%

Source: *Education Department, City Government Govt. Multan*.

Several private schools follow foreign curricula like the British GCE **Ordinary Level**/**Advanced level** and the IB within the city. The oldest of these institutes is **La Salle High School**. Other welknown schools are Multan Public School, Jinnah High School, Bloomfield Hall, Nishat High School and Beacon House.

7.6.2 Private Colleges

A total of 31 private colleges are operating in Multan, which include 7 Law Colleges and 6 Commerce Colleges. There is also a postgraduate college (Mamona Post Graduate College for Women) in private sector. List of private colleges and law colleges is presented below:-

Details of Private Colleges in the City District

Male Private Colleges

1 Scholar College near Lawsal School, Bosan Road
2 Aims College, Bosan Road.
3 Nishat College Boys/Girls Lodhi Colony.
4 National College, Purani Tehsil, Bosan Road.
5 Central College, Bosan Road.
6 Allama Iqbal College of Commerce, Chungi No. 9.
7 F.A.C. Fax College Chungi No. 9.
8 Beacon House Informatics, Gul-Gasht Colony, Chungi No.9.
9 Educator College for Boys, Pir Khurshid Colony.
10 Nishtar College of Commerce and Information Technology Nishtar Chowk Road.
11 Multan Commerce College Vehari Road, Coka Cola Chowk.
12 Allama Iqbal College of Commerce, 8-A chowk, Mumtazabad.
13 Global College, 100-C Jinnah Park Shah Rukne Alm Colony.
14 Zikriya College of Commerce, Jinnah Park, Shah Rukne Alm Colony.
15 Infotick College 6-D Shah Rukne Alam, Jinnah Park.
16 International Degree College of Commerce Kutchery Road.
17 Muslim Degree College, Multan

Female Private Colleges

1 Fatima Jinnah College for Women Chungi No. 9.
2 Educator College for women Officers Colony.
3 Memona Post Graduate College for Women.
4 Educator College for women, Pir Khurshid colony.
5 Punjab College for Women Chowk Rashid Abad.
6 Best College for Women near B.C Chowk.
7 Muslim Degree College for Women, Kutchery Road.

Law Colleges in Multan

1. Central Law College Purani Tehsil Multan
2. Multan Law College Chungi No.9 Multan
3. Allama Iqbal Law College Chungi No. 9 Multan
4. Muhammedan Law College nearr D.C.O. Gate Kutchery road, Multan
5. Noor Law College Kutchary road, Multan
6. Nishtar Law College Gulistan Colony Multan
7. Noor Law College, Multan

7.7 SITUATIONAL ANALYSIS IN MDA AREA

7.7.1 Number and Type of Institutions

According to the data obtained from Education Department[20], there are 56 mosque schools or maktabs, 259 primary schools, 46 elementary schools, and 40 high schools operating in MDA Area (Table 7.15).

Table 7.15: Number of Schools in MDA Area (2007)

Level	2007			
	Male	Female	Total	Pop. Per School[21].
Masjid/Maktab	56			
Primary	93	166	259	6,896
Elementary	16	30	46	38,828
High Schools	18	22	40	44,652

The total number of Primary Schools in MDA limits is 259. The allocational criterion recommended by NRM[22] is that a primary school should serve a population of 7,500. This yardstick implies that the MDA area is well served as far as the number of primary schools is concerned.

There are 46 Government Elementary Schools operating in MDA Area, of which 16 are for boys and 30 are for girls. The number of high schools is 40 (18 for boys and 22 for girls).

There are on average about 37 students per teacher in girls' primary schools falling in MDA limits.

7.7.2 Literacy Rate

It is clear from Table 7.16 that the overall literacy rate in MDA Area is 74.8%. There is however, significant dichotomy between male and female literacy rates. While the figure is about 79% for males, it is only around 68% for females.

Table 7.16: Literacy Rates in MDA Area

Gender	Literacy Rate
Male	79.8%
Female	68.1%
Overall	74.8%

[20] The data obtained was UC-wise. The UCs falling in MDA Area were identified, and numbers in these were added to get data for MDA limits.
[21] MDA population (2008) = 1,786,069
[22] National reference Manual on Planning and Infrastructure Standards, Government of Pakistan, Table 6.4, Page 109.

7.8 THE NATIONAL CONTEXT

7.8.1 National Educational Policy

The National Educational Policy 1998-2010 was formulated keeping in view the prevailing problems in the society. The Government has initiated major administrative reforms, such as Devolution of Power and Education Sector Reforms. Moreover, Millennium Development Goals (MDGs) and Education for All (EFAs) are the international policy concerns announced in 2000, which need to be properly reflected in the policy. As such, the Ministry of Education has taken in hand an exercise to review the National Educational Policy (1998-2010) for its updating to bring it in line with the current needs of the Country.

New National Education Policy was launched in 2009 which again highlighted various policy concerns at national & regional level.

7.8.2 On-Going Initiatives at National Level

The most notable educational initiatives at national level include:

- Universal Primary Education (UPE)

UPE is a pre-requisite for Pakistan's integration in the global framework of human centered economic development. UPE has become a compelling national priority and a challenge that has been accepted by the highest level of the Government. UPE is targeted to be achieved through increase in access to education by 4 percent, reduction of gender disparity by 10 percent and enhancing primary completion rate by 5 percent per annum.

- Education Sector Reforms (ESR) Program
  Under ESR, elementary schools lacking basic facilities have been taken up for improvement.
- Establishment of National Education Assessment System (NEAS)
- National Commission for Human Development (NCHD)
  The core strategy of NCHD consists of:
  - Public-private partnership
  - Capacity building of Government's line departments, community organizations, and elected officials
  - Technical and Vocational Education
  - Madaris Reforms
  - Private Sector in Education

7.9 THE PROVINCIAL CONTEXT

Following initiatives has also been taken by the Govt. of Punjab to improve the education infrastructure of the province as well as to provide financial assistance to the needy students.

1. Punjab Education Sector Reform Program
2. Centre of Excellence Schooling & Daanish School System
3. Punjab Endowment Fund
4. Punjab Education Foundation

The highlights of Punjab Education Sector Reforms Program, including teacher training & literacy, are as follows:

- Provision of missing infrastructure to 63,674 schools in Punjab
- Distribution of free textbooks
- Stipends to girl students of middle schools in 15 low literacy districts
- Punjab Education Foundation
- Recruitment of new teachers
- Teacher training
- Re-vitalization of School Councils
- Awareness campaign
- Monitoring and evaluation

7.10 CURRENT EDUCATIONAL INDICATORS AND MDGS

The education-related MDG goals include achievement of universal primary education and promotion of gender equality and women empowerment by the year 2015. A comparison of education-related MDGs and indicators for Multan are given in Table 7.17.

Table 7.17: MDGs and Educational Indicators

Millennium Development Goals (MDGs)	**MDG Targets (Between 1990 and 2015)**	**MDG Indicators**	**Indicators for District Multan (2005-2006):**
Goal 2: Achieve Universal Primary Education	Target 3: Ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course	Indicator 6: Net Enrolment Ratio[23] in Primary Education	49.0%[24]

[23] This is defined as total enrolment, regardless of age, divided by the population of the age group, which corresponds to a specific level of education. The net enrolment ratio is calculated by using only that part of the enrolment which corresponds to the age-group of the level considered.
[24] Ref. Section 6.4.1

	of primary schooling.	Indicator 8: Literacy Rate[25] of 15-24 years old	48.4%[26]
Goal 3: Promote Gender Equality and Empower Women	Target 4: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015.	Indicator 9: Ratio[27] of girls to boys in primary, secondary and tertiary education (UNESCO).	Primary:[28] 1:0.92 Middle: 1:0.86[29] High: 1:1.75[30]
		Indicator 10: Ratio of literate women to men, 15-24 years old (UNESCO)	

7.11 EDUCATIONAL PLAN

The location of facilities and services such as education are a function of the distribution of population within the city. Presently there are no proper guidelines for provision of educational facilities in Multan. This has resulted in overcrowding in the educational institutions on one hand and deterioration of educational standards on the other. The emphasis should be on mass literacy and access to educational services for all groups of population. Following are the main objectives of the education program:

- Development of a responsible, well informed and productive society.
- To provide at least minimum educational services for all segments of the population through wide-spread literacy programs and primary education.
- To provide free education in Government schools upto matriculation level.
- To improve the quality of educational services.
- To provide specialized training to meet future manpower needs.
- To reduce illiteracy in all age groups of the population as much as possible by providing free literacy training.

7.11.1 Targets and Standards

It would be desirable to develop schools, colleges, etc. that are pragmatically distributed and reasonably accessible from various residential localities, and that impart good education as well as knowledge and skills that are suited for gainful employment and match the manpower requirements of the local and regional economy. A severe paucity

[25] A person is literate who can with understanding; both read and write a short simple statement on his every day life.
[26] Ref. Section 6.4.2
[27] Definition: Girls to Boys ratio, primary level enrolment; The quantitative relation between two amounts showing the number of times one value contains or is contained within the other.
[28] Source: Punjab Development Statistics, 2011, Page 132
[29] Ibid, Page 133
[30] Ibid, Page 134

of resources prevents the realization of such a lofty aim. Even if schooling opportunities were available for all children, it is quite possible that many children would yet not be enrolled due to the all-too-obvious socio-economic reasons.

One of the most important national goals is universal literacy. The provision of primary education to all children in this age group is considered to be the most effective means of achieving this goal.

The Integrated Master Plan for Multan would aim at providing a gradually increasing level of educational opportunity in subsequent plan periods. Apart from a shortage of resources, the lack of adequate space in existing built-up areas limits the construction of more schools. As population increases, some of the burden of additional requirements will have to be met by schools in adjacent (newly) planned communities and by resorting to double-shifts, and other non-conventional measures.

Though 100% enrolment at primary level is a desirable goal, many constraints and considerations rule out its realization.

7.11.2 Prime Minister's Development Package for Education Sector

The education projects in the Prime Minister's Development Package include the following:

- Women University, Multan: (Site selected at Matital Road and Construction is in progress).
- Establishment of Science & Technology University, Multan at Chak 14 Faiz, Multan Bahawalpur Road.
- Establishment of Cadet College, Multan: (Site selected between Qasba Maral Road & Old Shujabad Road south of Old Bypass).
- Establishment of Five Women and Two Boys Colleges:

- Provision of transport facilities / buses for Women Colleges:
- Technical Education: NAVTEC to prepare a comprehensive training plan for facilitating technical and vocational training to the youth of Multan.
- Upgradation of existing libraries situated at Bagh Langey Khan and Municipal Library at Qila Kohna Qasim Bagh.
- Upgradation of the NFC Institute of Engineering & Technology to University level.

The above mentioned investment in education sector of Multan will no doubt contribute to the better educational infrastructure in Multan in the years to come. But there is still a lot to do in primary & secondary school education particulary in the rural areas.

7.11.3 Short Term Plan (2008-2013)

- All educational projects under the PM package to be included in the short-term plan. The land requirements are estimated to be as follows:

Table 7.18: Land Requirements For Educational Institutions (PM Package plus short term requirements in MDA Area)

Institutions	Number	Land Required
Women University	1	200 Acres
Science & Technology University.	1	200 Acres
Cadet College	1	100 Acres
Women Colleges	5	Total 75 Acres (@15 Acres per College)[31]
Boys Colleges	2	Total 40 Acres (@ 20 Acres per College)[32]
Secondary Schools	15	Total 75 Acres (@5 Acres per School)[33]
Primary Schools	46	Total 46 Acres (@1 Acre per School)[34]

- **New Educational Institutions for Future Population (Short Term in City District including MDA Area)**

It is estimated that during the short-term plan, the City District will require 111 additional primary schools, 37 secondary schools and 3 colleges. Tables 7.18 to 7.20 below give requirements for each Town as well as for MDA area.

It is envisaged that primary and secondary schools will form part of the residentiary use. Their location has been broadly identified in terms of corridors, but exact location and space requirements would be governed by the detailed planning and designing of the relevant areas.

Colleges may be provided in the areas reserved for educational zones (*Figure-7.1)* but with balanced distribution over the city, corresponding with the distribution of population. The sites for these institutions should be meticulously reserved, no matter how long these may take in actually being built.

[31] Adapted from National Reference Manual, Page 110, Table 6.5.
[32] As above
[33] As above
[34] As above

Table 7.19: Additional Primary Schools Required in City District Excluding MDA Area Short-Term Plan (2008-2013)

Towns	Population		Additional Population (2008-2013)	No. of Primary Schools Required (@1 PS for 4000 pop.)	Aggregate Land required (@1 acre/PS)
	(2008)	(2013)			
Bosan	365,579	410,874	45,295	11	11
Shah Rukne-Alam	254,291	288,438	34,146	9	9
Musa Pak (Shaheed)	264,398	299,198	34,800	9	9
Sher Shah	257,223	290,830	33,607	8	8
Shujaabad	538,597	600,050	61,453	15	15
Jalalpur Pirwala	465,613	518,739	53,126	13	13
Total	**2,145,702**	**2,408,129**	**262,427**	**66**	**66**

Table 7.20: Additional Primary Schools Required in MDA Area Short-Term Plan (2008-2013)

Towns	Population		Additional Population (2008-2013)	No. of Primary Schools Required (@1 PS for 4000 pop.)	Aggregate Land required (@1 acre/PS)
	(2008)	(2013)			
Bosan	357,624	394,846	37,222	9	9
Shah Rukne-Alam	512,234	565,547	53,314	13	13
Musa Pak (Shaheed)	462,317	510,435	48,118	12	12
Sher Shah	425,000	469,234	44,234	11	11
Total	**1,757,174**	**1,940,062**	**182,888**	**45**	**45**

Table 7.21: Additional Primary Schools Required in City District Short-Term Plan (2008-2013)

Towns	Population		Additional Population (2008-2013)	No. of Primary Schools Required (@1 PS for 4000 pop.)	Aggregate Land required (@1 acre/PS)
	(2008)	(2013)			
Bosan	723,203	805,720	82,517	21	21
Shah Rukne-Alam	766,525	853,985	87,460	22	22
Musa Pak (Shaheed)	726,715	809,633	82,918	21	21
Sher Shah	682,223	760,064	77,841	19	19
Shujaabad	538,597	600,050	61,453	15	15
Jalalpur Pirwala	465,613	518,739	53,126	13	13
Total	**3,902,876**	**4,348,191**	**445,315**	**111**	**111**

Location Critria

Every school going children would have access to Primary School within 2 km of his residence. Further every new housing scheme with residential plots of 500 & above should provide at least one site for primary school and scheme having residential plots of 1500 & above should provide at least one site for seconday school and the same would be ensured by the CDG /MDA during approval of new housing schemes.

Table 7.22: Additional Secondary Schools Required in City District Excluding MDA Area Short-Term Plan

Towns	Population		Additional Population (2008-2013)	No. of Secondary Schools Required (@1 SS for 12,000 pop)	Aggregate Land required (@5 acre/SS)
	(2008)	(2013)			
Bosan	365,579	410,874	45,295	4	19
Shah Rukne-Alam	254,291	288,438	34,146	3	14
Musa Pak (Shaheed)	264,398	299,198	34,800	3	15
Sher Shah	257,223	290,830	33,607	3	14
Shujaabad	538,597	600,050	61,453	5	26
Jalalpur Pirwala	465,613	518,739	53,126	4	22
Total	**2,145,702**	**2,408,129**	**262,427**	**22**	**109**

Table 7.23: Additional Secondary Schools Required in MDA Area Short-Term Plan (2008 – 2013)

Towns	Population		Additional Population (2008-2013)	No. of Secondary Schools Required (@1 SS for 12,000 pop)	Aggregate Land required (@5 acre/SS)
	('2008)	('2013)			
Bosan	357,624	394, 846	37,222	3	16
Shah Rukne-Alam	512,234	565,547	53,314	4	22
Musa Pak (Shaheed)	462,317	510,435	48,118	4	20
Sher Shah	425,000	469,234	44,234	4	18
Total	**1,757,174**	**1,940,062**	**182,888**	**15**	**76**

Table 7.24: Additional Secondary Schools Required in City District Short-Term Plan (2008 – 2013)

Towns	Population		Additional Population (2008-2013)	No. of Secondary Schools Required (@1 SS for 12,000 pop)	Aggregate Land required (@5 acre/SS)
	('2008)	('2013)			
Bosan	**723,203**	**805,720**	**82,517**	7	34
Shah Rukne-Alam	**766,525**	**853,985**	**87,460**	7	36
Musa Pak (Shaheed)	**726,715**	**809,633**	**82,918**	7	35
Sher Shah	**682,223**	**760,064**	**77,841**	6	32
Shujaabad	**538,597**	**600,050**	**61,453**	5	26
Jalalpur Pirwala	**465,613**	**518,739**	**53,126**	4	22
Total	**3,902,876**	**4,348,191**	**445,315**	**37**	**186**

Table 7.25: Additional Colleges Required in City District Excluding MDA Area Short-Term Plan (2008 – 2013)

Towns	Population		Additional Population (2008-2013)	No. of Colleges Required (@1 college for 150,000 pop)
	Population (2008)	Population (2013)		
Bosan	365,579	410,874	45,295	
Shah Rukne-Alam	254,291	288,438	34,146	
Musa Pak (Shaheed)	264,398	299,198	34,800	
Sher Shah	257,223	290,830	33,607	
Shujaabad	538,597	600,050	61,453	
Jalalpur Pirwala	465,613	518,739	53,126	
Total	**2,145,702**	**2,408,129**	**262,427**	**2**

Table 7.26: Additional Colleges Required in MDA Area Short-Term Plan (2008 – 2013)

Towns	Population		Additional Population (2008-2013)	No. of Colleges Required (@1 college for 150,000 pop)
	Population (2008)	Population (2013)		
Bosan	357,624	394,846	37,222	
Shah Rukne-Alam	512,234	565,547	53,314	
Musa Pak (Shaheed)	462,317	510,435	48,118	
Sher Shah	425,000	469,234	44,234	
Total	**1,757,174**	**1,940,062**	**182,888**	**1**

Table 7.27: Additional Colleges Required in City District Short-Term Plan (2008 – 2013)

Towns	Population		Additional Population (2008-2013)	No. of Colleges Required (@1 college for 150,000 pop)
	Population (2008)	Population (2013)		
Bosan	**723,203**	**805,720**	**82,517**	
Shah Rukne-Alam	**766,525**	**853,985**	**87,460**	
Musa Pak (Shaheed)	**726,715**	**809,633**	**82,918**	
Sher Shah	**682,223**	**760,064**	**77,841**	
Shujaabad	**538,597**	**600,050**	**61,453**	
Jalalpur Pirwala	**465,613**	**518,739**	**53,126**	
Total	**3,902,876**	**4,348,191**	**445,315**	**3**

7.11.4 Long-Term Educational Plan (2013-2028)

Table 7.28: Additional Primary Schools Required in City District Excluding MDA Area Long-Term Plan (2013 – 2028)

Towns	Population		Additional Population (2013-2028)	No. of Primary Schools Required (@1 PS for 4000 pop.)	Aggregate Land Required (@1acre/PS)
	(2013)	(2028)			
Bosan	410,874	566,188	155,313	39	39
Shah Rukne-Alam	288,438	407,750	119,312	30	30
Musa Pak (Shaheed)	299,198	420,243	121,045	30	30
Sher Shah	290,830	407,531	116,701	29	29
Shujaabad	600,050	806,318	206,268	52	52
Jalalpur Pirwala	518,739	697,056	178,317	45	45
Total	**2,408,129**	**3,305,085**	**896,956**	**224**	**224**

Table 7.29: Additional Primary Schools Required in MDA Area Long-Term Plan (2013 – 2028)

Towns	Populati on	Population	Additional Population (2013-2028)	No. of Primary Schools Required (@1 PS for 4000 pop.)	Aggregate Land Required (@1acre/PS)
	(2013)	(2028)			
Bosan	394,846	516,498	121,653	30	30
Shah Rukne-Alam	565,547	739,793	174,246	44	44
Musa Pak (Shaheed)	510,435	667,701	157,266	39	39
Sher Shah	469,234	613,806	144,572	36	36
Total	**1,940,062**	**2,537,799**	**597,737**	**149**	**149**

Table 7.30: Additional Primary Schools Required in City District Long-Term Plan (2013 – 2028)

Towns	Population		Additional Population (2013-2028)	No. of Primary Schools Required (@1 PS for 4000 pop.)	Aggregate Land Required (@1acre/PS)
	(2013)	(2028)			
Bosan	**805,720**	1,082,686	276,966	69	69
Shah Rukne-Alam	**853,985**	1,147,543	293,558	73	73
Musa Pak (Shaheed)	**809,633**	1,087,944	278,311	70	70
Sher Shah	**760,064**	1,021,337	261,273	65	65
Shujaabad	**600,050**	806,318	206,268	52	52
Jalalpur Pirwala	**518,739**	697,056	178,317	45	45
Total	**4,348,191**	**5,842,884**	**1,494,693**	**374**	**374**

Table 7.31: Additional Secondary Schools Required in City District Excluding MDA Area Long-Term Plan (2013 – 2028)

Towns	Population)		Additional Population (2013-2028)	No. of Secondary Required (@1 SS for 12,000 pop)	Aggregate Land Required (@5acre/PS)
	(2013	(2028)			
Bosan	410,874	566,188	155,313	13	65
Shah Rukne-Alam	288,438	407,750	119,312	10	50
Musa Pak (Shaheed)	299,198	420,243	121,045	10	50
Sher Shah	290,830	407,531	116,701	10	49
Shujaabad	600,050	806,318	206,268	17	86
Jalalpur Pirwala	518,739	697,056	178,317	15	74
Total	**2,408,129**	**3,305,085**	**896,956**	**75**	**374**

Table 7.32: Additional Secondary Schools Required in MDA Area Long-Term Plan (2013 – 2028)

Towns	Population)		Additional Population (2013-2028)	No. of Secondary Required (@1 SS for 12,000 pop)	Aggregate Land Required (@5acre/PS)
	(2013	(2028)			
Bosan	394,846	516,498	121,653	10	51
Shah Rukne-Alam	565,547	739,793	174,246	15	73
Musa Pak (Shaheed)	510,435	667,701	157,266	13	66
Sher Shah	469,234	613,806	144,572	12	60
Total	**1,940,062**	**2,537,799**	**597,737**	**50**	**249**

Table 7.33: Additional Secondary Schools Required in City District Long-Term Plan (2013 – 2028)

Towns	Population)		Additional Population (2013-2028)	No. of Secondary Required (@1 SS for 12,000 pop)	Aggregate Land Required (@5acre/PS)
	(2013	(2028)			
Bosan	**805,720**	1,082,686	276,966	23	115
Shah Rukne-Alam	**853,985**	1,147,543	293,558	24	122
Musa Pak (Shaheed)	**809,633**	1,087,944	278,311	23	116
Sher Shah	**760,064**	1,021,337	261,273	22	109
Shujaabad	**600,050**	806,318	206,268	17	86
Jalalpur Pirwala	**518,739**	697,056	178,317	15	74
Total	**4,348,191**	**5,842,884**	**1,494,693**	**125**	**623**

Table 7.34: Additional Colleges Required in City District Excluding MDA Area Long-Term Plan (2013 – 2028)

Towns	Population		Additional Population (2013-2028)	No. of Colleges Required
	(2013)	(2028)		
Bosan	410,874	566,188	155,313	1
Shah Rukne-Alam	288,438	407,750	119,312	1
Musa Pak (Shaheed)	299,198	420,243	121,045	1
Sher Shah	290,830	407,531	116,701	1
Shujaabad	600,050	806,318	206,268	1
Jalalpur Pirwala	518,739	697,056	178,317	1
Total	**2,408,129**	**3,305,085**	**896,956**	**6**

Table 7.35: Additional Colleges Required in MDA Area Long-Term Plan (2013 – 2028)

Towns	Population		Additional Population (2013-2028)	No. of Colleges Required
	(2013)	(2028)		
Bosan	394,846	516,498	121,653	1
Shah Rukne-Alam	565,547	739,793	174,246	1
Musa Pak (Shaheed)	510,435	667,701	157,266	1
Sher Shah	469,234	613,806	144,572	1
Total	**1,940,062**	**2,537,799**	**597,737**	**4**

Table 7.36: Total Additional Colleges Required in City District Long-Term Plan (2013 – 2028)

Towns	Population		Additional Population (2013-2028)	No. of Colleges Required
	(2013)	(2028)		
Bosan	**805,720**	1,082,686	276,966	2
Shah Rukne-Alam	**853,985**	1,147,543	293,558	2
Musa Pak (Shaheed)	**809,633**	1,087,944	278,311	2
Sher Shah	**760,064**	1,021,337	261,273	2
Shujaabad	**600,050**	806,318	206,268	1
Jalalpur Pirwala	**518,739**	697,056	178,317	1
Total	**4,348,191**	**5,842,884**	**1,494,693**	**10**

7.12 CONCLUSIONS AND RECOMMENDATIONS

1) This section of the report has attempted to identify a preliminary figure of the number of educational facilities and approximate land area required based upon certain standards and criteria.

2) All attempts should be made to reserve and preserve the required land for educational purposes in all the zones of the city to be opened up and developed for future growth of Multan.

3) Reservation and development of land (and facilities) alone will not ensure an improvement in enrolled student population and the quality of education. Coordinated efforts by agencies, private and public, concerned with education will have to be made to reduce/eliminate all other problems and overcome qualitative, quantitative, managerial and operational deficiencies.

4) Innovative and non-conventional measures are required for meeting present deficiencies and future needs of educational facilities in localities where urban land is at a premium.

5) In order to enhance the intake capacity, the physical conditions of Government primary and secondary level institutions must be improved. The institutions having no building or having structurally dangerous buildings must be provided with new building as per requirements. The institutions with inadequate buildings must be extended. The institutions requiring repairs must be maintained as per requisite standards. The institutions deficient in ancillary facilities must be equipped with such facilities.

6) A flexible and adaptive approach needs to be adopted so that resource shortages (monetary, human, skills) can be surmounted. Maximum use has to be made of existing and proposed buildings, etc. through innovative timetables, double-shifts etc. so that the maximum number of students can be enrolled.

   A multiple shift system in secondary and higher institutes may have to be implemented for quite some time. Costs of buildings, furniture and fixtures may thus be saved to some extent. Nevertheless, land for the required number of facilities must be reserved in new settlements and safeguarded from encroachment/other uses.

7) Both the public and the private sectors need to be involved. The imbalance in quality and quantity of facilities between the “have” and “have-nots” needs to be reduced.

8) The socio-economic and technological levels prevailing in the society largely determine the type and number of professional and vocational institutes. Economic development can, however, be fueled by initiating programmes that train people in new skills, which are required by new technologies and industry. Relevant skills and size of manpower can be identified in coordination with regional/local businesses and manufacturing houses.

9) Seats of higher learning and professional education attract a lot of scholars from areas beyond the city boundaries. Due considerations have been made for allocating land and location of these facilities in the master plan of the metropolis.

CHAPTER: 8
INDUSTRY

8.1 INTRODUCTION

The uncontrolled industrial expansion in Multan has adversely affected city's physical fabric. Environmental degradation has taken place due to industrial pollution and related factors. Certain industries are obnoxious in character and therefore, unless proper mitigation measures are taken, become a source of environmental nuisance to the residents. The problem also arises because of inappropriate location of industries; without considering wind direction, and landuses in the vicinity. Brick kilns are also a permanent source of pollution in Multan. Excavation of soil for brick manufacturing purposes has rendered many areas abandoned / neglegted, requiring costly measures for their reclamation. Similarly, concentration of tanneries within the built-up area is jeopardizing the health of the surrounding populace, because of foul smell and toxic effluents. Many of the tanneries are located along Nawabpur Road and its vicinity.

To rectify the situation, it is important to have an insight about the existing situation, including nature and extent of industries in Multan, including their growth, spatial spread, location, categorization, employment and related factors, including the resultant issues and inferences. These aspects are described below:

8.2 TYPES OF INDUSTRIES AND YEAR OF ESTABLISHMENT

There are over 600 industrial establishments in Multan *(Figure 8.1),* the eminent of which are cotton ginning/pressing mills (20%), rice mills (13%), textile related (12%), cold storages (4%), and agricultural implements (2%). Other industrial units occurring in higher frequency are packages, sizing of yarn, soap detergents, solvent oil extraction, and vegetable ghee/cooking oil etc.

Table 8.1: Year of industrial Establishment

	1950-1960	**1961-1970**	**1971-1980**	**1981-1990**	**1991-2000**	**2000-2007**
No.	13	25	56	168	241	98
%	2.16%	4.16%	9.32%	27.95%	40.10%	16.31%

Of the total industrial units, more than 40% were established in the period 1991-2000, followed by about 28% during 1981-1990. The growth slowed down during 2001-2007 when only around 16% units were established. Prior to 1971, the pace of industrialization was not significant (Table 8.1).

8.3 INDUSTRIAL EXPANSION

Prior to 1947, Multan lagged in industrial development; hardly 31 industries existed at the time of independence and most of them were the cottage and light in nature. During the period 1947-70, about 33 percent of the total industries were established. However, a drop is witnessed in the period 1970-80, possibly due to nationalization policy of the Government. In the period 1986 to 2007, the trend was mixed, but in general the pace picked up and industrial units were established in southern parts of railway line, particularly along Multan By-Pass, Vehari Road, Bahawalpur Road, and the areas in between.

An Industrial Estate was established in 1960, spread over 1410 acres towards south-west of the city, and was meant for medium and heavy industries. Later, to accommodate future industrial growth, a vacant area between the Industrial Estate and Sher Shah road was proposed in the Multan Master plan of 1970. Besides, an area of 152 hectares (375 acres) was also proposed to augment the already existing industrial cluster along Vehari road, and to shift the fast expanding cottage industry in the residential areas of Rashidabad colony, Shah Jamal colony, Aurangzeb and Octroi Post No. 14. However, because of a number of reasons, the pace of industrial growth could not coincide with what was envisioned in the Master Plan of 1970.

In the Master Plan of 1987, an industrial estate was proposed along Bahawalpur Road, and also, industrial area was earmarked on both sides (eastern and western directions) of Pak-Arab Fertilizer Factory. However, no planned efforts were made to materialize these proposals, and industrial units sprung-up in these areas and elsewhere in lasses faire fashion. Table 8.2 shows the types & number of industries established in Multan.

As per landuse distribution given in Master Plan 1987, the area under industries in that year was around 2,184 acres, which in 2008 increased to about 2,578 acres[1], an increase of 394 acres (i.e. 18%). Though industrial area in terms of absolute numbers has increased, but in terms of percentages, the area declined from 11.83% of the built-up area in 1987 to 7.69% in 2007. In spatial terms thus, the area under industries has not been able to keep pace with the overall expansion of built-up area.

[1] Land use Surveys by NESPAK, 2008.

Table 8.2: Types of Industrial Units in Multan

S. No.	Type of Industry	No. of Units
1	Auto Parts	05
2	Beverages	04
3	Biscuits	08
4	Chemicals	05
5	Cold Storage	22
6	Cosmetics	01
7	Cotton Ginning &Pressing	123
8	Doubling of Yarn	03
9	Drug & Pharmaceutical	08
10	Embroidery	02
11	Fertilizer	01
12	Flour Mills	52
13	Glass & Glass Products	02
14	Glue	01
15	Hatchery	04
16	Hosiery	06
17	Industrial Burn Gases	08
18	Leather Foot-ware	01
19	LPG Gas	01
20	Lubricants	07
21	Paper Cone	08
22	Packages	16
23	Paints & Varnishing	02
24	Paper & Paper Board	07
25	Plastic Products	03
26	Ply Wood & Ply Wood Products	04
27	Poultry Feed	06
28	Ready Made Garments	07
29	Rice Mills	81
30	Sizing of Yarn	13
31	Soap and Detergent	14
32	Sodium Silicate	07
33	Solvent Oil Extraction	12
34	Surgical Cotton	01
35	Tannery	11
36	Textile Processing	13
37	Textile Spinning	22
38	Textile Weaving	29
39	Vegetable Ghee	12
40	Wool Scouring	04
41	Woolen Textile	08

8.4 SPATIAL SPREAD

In spatial terms, the industrial spread can be explained as follows:

a) Industries in Inner City Area

Small scale industries are scattered all over the thickly populated areas of the Inner City, causing congestion and unhygienic working and living conditions. A large number of power looms and also tanneries within inner city is a cause

of serious concern, and an example of disorderly and uncontrolled pattern of industrial development in the old city.

b) Linear Industrial Clusters along inter-city roads

Linear industrial clusters or industrial ribbons along inter-city roads are another common phenomenon in Multan. Pak-Arab Fertilizer factory, when initially established, was quite far-off from the city; but now has been entrapped by urbanization, particularly because of east-ward expansion of the city along both sides of Khanewal Road. Generally, the trend of the expansion of heavy industry at present is along inter-city radial roads particularly Multan By-Pass, Vehari Road, Bahawalpur Road and Shujabad Road.

There is another locational category i.e. along the immediate periphery of urbanized area. Most of the industries in this category are located south of the railway line particularly in the area between Vehari Road and Sui Gas Road.

c) Multan Industrial Estate

Another niche for industrial units is Multan Industrial Estate (MIE), located in south-western direction of urban area, between Shershah Road and Multan by-pass. It was planned in the year 1960 over about 1410 acres of land, to accommodate medium and heavy industries. MIE has been developed in two phases. Phase-I comprising 743 acres was developed in 1980's whereas 667 acres were planned to be developed subsequently as Phase-II.

Major industries in MIE include textile & garment, flour mills, leather, engineering, chemical and pesticides, paper & board, animal feed, food and beverages. Phase-I is completely colonized with operational infrastructure and in Phase-II infrastructure development works are in progress and over 50% plots have already been sold out.

Table 8.3 : Plot distribution at MIE Phase-I& II is as follows:

Sr. No.	Size of Plot (Acres)	Number of Plots	
		Phase-I	Phase-II
1	0.5	--	151
2	1.0	10	126
3	2.0	08	48
4	3.0	10	--
5	4.0	17	16
6	5.0	20	--
7	8.0	--	07
8	10.0	35	--
9	14.0	--	01
Total		**100**	**349**

The above plot distribution shows that Phase-I mostly comprises large size plots as over 70% plots are 4 acres and above while in Phase-II, over 90% plots are of 2 acres or less.

8.5 CATEGORIZATION OF INDUSTRIES

There are different ways to categorize industries as heavy, medium or light. The categorization may be done on basis of indicators such as capital investments, number of workers and level of mechanization used in a particular industry. In case of Multan, the categorization may be as follows:

Heavy Industry	Medium Industry	Light Industry
Industries employing more than 500 workers, with a capital investment of more than Rs. ten million, may be categorized as heavy industry.	Industries employing 101 to 500 workers with a capital investment of Rs. 5 to 10 million are grouped as medium industry.	Industries employing below 100 workers with a capital investment of less than Rs. 5 million are categorized as light industry.

Considering the categorization of industries with respect to numbers of workers, around 94% of the industries in Multan are light industries (less than 100 workers), less than 4% fall in medium category (100-500 workers) and 11 are heavy industries (more than 500 workers).

Table 8.4: Workers Vs. No. of Industries

Number of Workers	No. of Industries	%
Less than 100	489	94.04%
100-500	20	3.85%
Above 500	11	2.12%

Of the 11 heavy industries, 4 are along Khanewal Road (1 fertilizer, 3 textile spinning), 2 each along Vehari Road and Khanewal Road and one (1) at Ismailabad (all textile spinning), a large hosiery at Industrial Estate (Three Star) and a beverage factory near District Jail.

8.6 POWER LOOMS AND COTTAGE INDUSTRY

All those industries established within the residential premises and run by the family members are grouped together under cottage industrial category. There is a varied range of cottage industries in Multan, and the more important ones are hand/power looms, blue pottery, camel skin painting, carpet weaving, soap making, fruit preservation, and furniture making etc. There is a growing tendency towards textile, chemicals, and food processing concerns.

Large numbers of small-scale industrial units primarily cater for the requirements of the city itself and nearby small towns. The raw material for small-scale industries is locally available, and includes saw mills, tanneries, textile, cotton ginning, ice factories, brick kilns etc. Some of the bigger industries depend upon raw material imported from other areas.

According to All Pakistan Handloom traditional textile manufacturers / exporters association, there were around 3500 handlooms in Multan which had been now reduced to about 425 units only according to a study conducted in year 2006 mainly due to revolutions made by powerloom industry.

The data about powerlooms and cottage industries in Multan City as well as in the City District are presented in the Tables 8.5 and 8.6 respectively:

Table 8.5: Details of Looms and Cottage Industries in Multan City

S.No.	Sector	Units	Employees
1	Handlooms	100	500
2	Khussa Makers	60	360
3	Garments Computerised Embroidery	8	16
4	Kashida Kari	1,000	3,000
5	Block Printing	10	50
6	Camel Skin	20	140
7	Furniture Works	400	3,200
8	Pottery	30	120

Table 8.6: Details of Powerlooms and Cottage Industries in District Multan

S.No.	Sector		Units	Employees
1	Cotton Handlooms Wooven	Urban	57	435
		Rural	46	126
		Total	**103**	**561**
2	Jute Textile on Handlooms	Urban	1	6
		Rural	0	0
		Total	**1**	**6**
3	Cotton Powerlooms Wooven	Urban	2,319	12,185
		Rural	5	147
		Total	**2,324**	**12,332**
4	Textile Made-ups	Urban	9	46
		Rural	0	0
		Total	**0**	**46**

5	Readymade Garments	Urban	6	51
		Rural	0	0
		Total	**6**	**51**
6	Embroidery	Urban	680	1,182
		Rural	793	1,041
		Total	**1,473**	**2,223**
7	Carpets & Rugs	Urban	15	72
		Rural	0	0
		Total	**15**	**72**
8	Woolen Carpets, Rugs, Mats	Urban	25	115
		Rural	1	1
		Total	**26**	**116**
9	Leather, leather goods & Saddlery	Urban	68	132
		Rural	4	5
		Total	**72**	**137**
10	Leather & non-leather Footwears	Urban	409	696
		Rural	190	271
		Total	**599**	**967**

8.7 INDUSTRIAL PLAN

Three parameters have been considered of primary significance for industrial planning in Multan:

1) Industrial Zone

Creation of compact industrial estates/zones. This would provide an opportunity for consolidation of industries at one place instead of having scattered locations. This also facilitates provision of infrastructure specific to industry.

2. Segregation

Segregation of non-compatible or more polluting industries, which should be kept away from residential, educational and hospital areas.

3. Accessibility

The industrial zone/estates should be located close to main arterial routes to ensure smooth and economical industrial traffic without disturbing local traffic.

8.7.1 Short-Term Plan (2008 – 2013)

Keeping in view the current situation of industrial establishments in the Multan City, the Short Term Plan would focus on strategic intervention regarding following measures:-

a) Segregation of obnoxious industries located within the old city.
b) Completion of Development Works in MIE Phase-II and its colonization
c) Strict Compliance regarding banning of further nuisance creating industry within city.

8.7.1.1 Industrial Area requirements during Short-Term Plan (2008 – 2013)

It is important that in the Master Plan, provision must be made to accommodate the anticipated industrial growth. The area for industrial purpose has been calculated based on the anticipated employment.

In the short-term (2008 – 2013) by the year 2013, the total additional industrial area required in the City District is estimated to be 557 acres (see table 8.7 below), which includes around 100 acres in each of the four northern towns, 77 acres in Shujaabad Town and 66 acres in Jalalpur Pirwala Town.

To gain economies of scale and benefit from backward and forward linkages, it is always better to cluster the industries in a well-planned and developed industrial estate, instead of allowing industrial expansion to take place as ribbon developments along major roads. The industrial requirements of four northern Towns, for the next five years is around 400 acres, i.e 100 acres in each Town. Instead of splitting this requirement into four parts and providing a smaller estate in each Town, it is suggested that an Industrial estate of 400 acres be provided along the alignment of Motorway, in an area between Lar and Billywala *(Figure 8.1).*

However, one mini industrial estate may be provided in Shujaabad (around 75 acres) and in Jalalpur Pirwala (65 acres). These should preferably be located near the respective urban centres.

Table 8.7: Requirements for Industrial Area during Short-Term Plan (2008 – 2013) in City District Excluding MDA Area

Towns	Population (2008)	Population (2013)	Additional Population (2008-2013)	Industrial Labour Force (@5% participation rate)	Industrial Area Required (@40 workers/acre)
Bosan	365,579	410,874	45,295	2,265	57
Shah Rukne-Alam	254,291	288,438	34,146	1,707	43
Musa Pak Shaheed	264,398	299,198	34,800	1,740	44
Sher Shah	257,223	290,830	33,607	1,680	42
Shujaabad	538,597	600,050	61,453	3,073	77
Jalalpur Pirwala	465,613	518,739	53,126	2,656	66
Total	**2,145,702**	**2,408,129**	**262,427**	**13,121**	**328**

Table 8.8: Requirements for Industrial Area during Short-Term Plan (2008 – 2013) in MDA Area

Towns	Population (2008)	Population (2013)	Additional Population (2008-2013)	Industrial Labour Force (@5% participation rate)	Industrial Area Required (@40 workers/acre)
Bosan	357,624	394,846	37,222	1,861	47
Shah Rukne-Alam	512,234	565,547	53,314	2,666	67
Musa Pak Shaheed	462,317	510,435	48,118	2,406	60
Sher Shah	425,000	469,234	44,234	2,212	55
Total	**1,757,174**	**1,940,062**	**182,888**	**9,144**	**229**

Table 8.9: Requirements for Industrial Area during Short-Term Plan (2008 – 2013) in City District

Towns	Population (2008)	Population (2013)	Additional Population (2008-2013)	Industrial Labour Force (@5% participation rate)	Industrial Area Required (@40 workers/acre)
Bosan	723,203	805,720	82,517	4,126	103
Shah Rukne-Alam	766,525	853,985	87,460	4,373	109
Musa Pak Shaheed	726,715	809,633	82,918	4,146	104
Sher Shah	682,223	760,064	77,841	3,892	97
Shujaabad	538,597	600,050	61,453	3,073	77
Jalalpur Pirwala	465,613	518,739	53,126	2,656	66
Total	**3,902,876**	**4,348,191**	**445,315**	**22,266**	**557**

8.7.1.2 Segregation of Obnoxious Industries

A number of non-conforming and obnoxious industries have sprung up within the built-up areas of Multan. In the short term plan (2008 – 2013), it is proposed to prepare a workable strategy for their gradual shifting to Multan Industrial Estate. All the stakeholders would be consulted to devise a viable solution in this regard.

a) Tanneries

Tanneries should be shifted to the planned industrial zones, or should be compelled to devise methods to bring their effluents within the optimum standards stipulated by the Environmental quality control. However, shifting would be a slow and gradual process. On the pattern of Tanneries Pollution Control Project implemented in Kasur, similar kind of initiative be taken in Multan which is also a major leather tanning industrial centre in Punjab after Kasur & Sialkot.

Presently, over 55 tanneries exist in Multan and the District government in collaboration with Multan Chamber of Commerce & Industry (MCCI) and Pakistan Tanners Association should consider setting up of Leather Complex in Multan to promote the processing of leather in a very hygienic & environment friendly conditions.

In this regard, separate zones for tanneries be planned in proposed future industrial zone in the south along Motorway which would be fully equipped with treatment facility for controlling the effluent and solid waste of tanneries.

b) Cottage Industries

The non-polluting, 'housing-friendly' industries presently operating in residential areas may be allowed to remain there. This would provide jobs to the households at doorstep, reduce commuting distances to work places, and encourage female participation in industrial activities. Cottage industries should therefore be declared a permitted use in residentiary zones. Further, Light industry zones have also been proposed at different location to relocate the existing & development of new units.

c) Brick Kilns

Multan has the third highest number of Brick Kilns units in Punjab after Faisalabad & Kasur where 180 registered Brick Kiln Units are functioning. With reference to MDA Area most of these are located in the south-west on Old Bypass & Shujabad Road. Once located in the outskirts, these areas are now becoming part of the future development zones of Multan owing to better road infrastructure. Therefore Brick Kilns located within the proposed residential / civic facilities zones should be relocated in the outskirts of the city in accordance with the new zoning regulations.

8.7.2 Additional Industrial Area Requirement during Long-Term Plan (2013 – 2028)

The population of the City District would increase to 5,842,884 in 2028, implying an addition of 1,494,693 persons over the population of the year 2013. This would require additional 1,868 acres of industrial area during 2013-2028. For the industrial requirements of the four northern Towns, the proposed industrial estate at Lar/Billywala can be extended by 1400 acres during 2013-2028, as each Town will require around 350 acres during the stated period.

In the same period, the mini industrial estate in Shujjabad can be extended by 258 acres and that in Jalalpur Pirwala by 225 acres.

Table 8.10: Industrial Area Required during Long-Term Plan (2013 – 2028) in City District Excluding MDA Area

Towns	Population (2013)	Population (2028)	Additional Population (2013-2028)	Industrial Labour Force (@ 5% participation rate)	Industrial Area Required (@ 40 workers/ acre)
Bosan	410,874	566,188	155,314	7,766	194
Shah Rukne-Alam	288,438	407,750	119,312	5,966	149
Musa Pak Shaheed	299,198	420,243	121,045	6,052	151
Sher Shah	290,830	407,531	116,701	5,835	146
Shujaabad	600,050	806,318	206,268	10,313	258
Jalalpur Pirwala	518,739	697,056	178,317	8,916	223
Total	**2,408,129**	**3,305,085**	**896,956**	**44,848**	**1,121**

Table 8.11: Industrial Area Required during Long-Term Plan (2013 – 2028) in MDA Area

Towns	Population (2013)	Population (2028)	Additional Population (2013-2028)	Industrial Labour Force (@ 5% participation rate)	Industrial Area Required (@ 40 workers/ acre)
Bosan	394,846	516,498	121,652	6,083	152
Shah Rukne-Alam	565,547	739,793	174,246	8,712	218
Musa Pak Shaheed	510,435	667,701	157,266	7,863	197
Sher Shah	469,234	613,806	144,572	7,229	181
Total	**1,940,062**	**2,537,799**	**597,737**	**29,887**	**747**

Table 8.12: Industrial Area Required during Long-Term Plan (2013 – 2028) in City District

Towns	Population (2013)	Population (2028)	Additional Population (2013-2028)	Industrial Labour Force (@ 5% participation rate)	Industrial Area Required (@40 workers/ acre)
Bosan	805,720	1,082,686	276,966	13,848	346
Shah Rukne-Alam	853,985	1,147,543	293,558	14,678	367
Musa Pak Shaheed	809,633	1,087,944	278,311	13,916	348
Sher Shah	760,064	1,021,337	261,273	13,064	327
Shujaabad	600,050	806,318	206,268	10,313	258
Jalalpur Pirwala	518,739	697,056	178,317	8,916	223
Total	**4,348,191**	**5,842,884**	**1,494,693**	**74,735**	**1,868**

8.7.3 Proposed Industrial Zones

Separate zones have been proposed for light industry as well as medium & heavy industry in Multan keeping in view the requirements worked out for Short & Long Term Periods.

A) Light / Cottage Industry Zones

In the master plan, three (3) Industrial Zones for Light / Cottage industry have been proposed. These zones are evenly distributed in MDA area one each in Bosan Town(Along Khanewal Road), Shah Rukne Alam Town (Along Southern Bypass) & Sher Shah Town (Shujaabad Road /M4 Intersection).

In addition to these, the vacant areas on west & south of MIE Phase I & II have also been proposed to be utilized for light industry, EPZ and Dry Port Extension facilities. The above mentioned three industrial zones would accommodate light & cottage industries, handloom village / handloom clusters, and Fruit / Vegetable precessing Zones EPZ for Mangoes at appropriate locations.

B) Medium / Heavy Indsutry Zone

A new industrial zone for short & long term industrial growth requirements of four northern towns of Multan has been proposed in the south of under construction Multan-Khanewal Motorway (M4) which would be accessible both from Bahawalpur Road & Dunyapur Road. A low income housing zone has also been proposed adjacent to it. This state of the art industrial zone would be equipped with labour housing colonies, recreational parks, technical training centres, educational institutions for boys / girls and hospitals to facilitate the workers in the Industrial estate.

8.7.3.1 Establishment of Handloom Village/ Handloom Clusters

The Diagnostic Study conducted by UNIDO with partner agencies SMEDA and PSIC in June 2006 for revival of Handloom Industries in Multan suggested two concepts viz. Handloom Village and Handloom Clusters. These suggestions came in order to revive the handloom industry and to make it export oriented, Handloom Village would be established over an area of 50 acres in Multan because over 65% of handlooms in southern Punjab exist in Multan. This village would house around 200 well-managed handloom units of varying sizes & capacities in Multan. In light industrial zones it is suggested that handloom village and/ or handloom clusters can be developed.

8.7.3.2 Export Processing Zone/ Extension of Dry Port

Government is planning to establish an Export Processing Zone (EPZ) in Multan and desires to enhance the capacity of existing Dry Port. Both of these facilities have been proposed to be developed adjacent to Multan Industrial Estate Phase-II.

8.7.3.3 Fruit and Vegetable Processing Zones

A Pre-Feasibility Study for establishment of Fruit and Vegetables Zones in five cities of Pakistan including Multan was commissioned by Planning & Development Division, Government of Pakistan, during the year 2006. The study recommended that there is a dire need to set-up Fruits and Vegetables Processing Zone in Multan which is among the largest mango growing regions of Pakistan.

The above suggested Processing Zone can be developed either in the zone adjacent to MIE Phase-II or in the proposed light industrial zones.

8.8 NEGATIVE AREAS FOR ESTABLISHMENT OF INDUSTRIES

8.8.1: General

In pursuance of Section 4 of Notification No. AEA-III-3-9/91, dated 17.9.2002 issued by the Government of the Punjab, Industries Department, the following areas of Multan District were declared as negative for the establishment of industries:

A): Industrial Estates and Industrial areas declared by the Government and Service Industries under Schedule "B" subject to prior location clearance from the District Government:

- No industrial unit mentioned in schedule "A" of this notification or any other industrial unit not mentioned in Schedule "B" will be established in negative area. Location clearance will also be issued by the District Government for establishment of any industrial unit.
- No industrial unit will be set up in flood-affected areas.
- No Sugar Mill shall be set up in the District.
- No Industrial Unit mentioned in Schedule "C" of this Notification shall be set up without prior approval of the Government.
- The rules of Highways Department will also be observed strictly. Moreover, no unit shall be established within 50 feet of either side of High Pressure Gas Pipelines.
- The areas around the strategic areas/installations will also be prohibited for industrial establishment. Apart from above, rules of WAPDA (MEPCO) Authorities will also be adhered to.
- The industrial units already functioning within Approved Negative Areas shall be considered exempted. However, regularization of such units shall be made by the District Government.
- The prior permission/location clearance of the District Government/Provincial Government for the establishment of New Undertaking will be mandatory.

- All other clauses of Industrial Policy Notified by the Provincial Industries Department, from time to time will be applicable.
- No Tannery/Industrial Unit causing pollution/public nuisance will be established in the District without prior approval of the District Government.
- The setting-up of CNG Filling Stations and Petrol Pumps, will be prohibited in densely populated areas. Prior approval in this regard from the District Government will be prerequisite.
- The District Government may relax any of the provisions of this Notification in case of particular unit or industry or class of units or industries.
- The District Government reserves the right to refuse establishment/enhancement of any industrial undertaking which is in contravention of the public interest, ecology or any other Law/Rules for time being in force.
- The Laws of Local Government and Environmental Protection Department shall remain applicable and compliance of the respective laws will be ensured by the concerned departments.

8.8.2 Negative Areas in Tehsil Multan:

- Total Cantonment Area
- Boson Road till Baha-ud-Din Zakariya University and 2 Kms on each side of the road.
- Northern By-pass, Boson Road, and Khanewal Road complete.
- Khanewal Road up to Karpal Minor and 2 KM on each side of the road.
- Vehari Road 5 kms from Cricket Stadium towards Vehari and 2 kms on each side of the road.
- Bahawalpur Chowk, By-pass road right side towards Sher Shah till Sher Shah Chowk.
- Bahawalpur Road till Larr and 1.5 kms on each side of the road.
- Shujabad Road till Basti Labar More.
- Sher Shah Road till Sher Shah Chowk complete.
- Suraj Miani Road till River Chenab complete.
- Nawabpur Road till Nawabpur complete.
- Dunyapur Road up to Chak 1-MR.
- Budhla Sant Road upto Mouza Kotha wala.
- Other Tehsils/Town Committees: 2 kms across the former Committee Limits and 2 Kms deep on either side of road.

8.8.3 Schedule 'A': List of Strategic Industries:

1	Basic Metal Industry
2	Petro-Chemical Industries (excluding product industries)
3	Large size Machine Tool Factories (limits of investment to be determined)
4	Heavy Foundry Works
5	Heavy Electric Complexes
6	Heavy Mechanical Complexes
7	Electronic Industries
8	Major Vehicle Assembly plants
9	Ordinance Factories
10	Explosives, Nitric acid and Sulphuric acid plants.
11	Vehicular Tyres and Tubes Industries
12	Locomotive and Railway Carriage manufacturing plants
13	Government Mint
14	Security Printing Press involved in whole time printing of sensitive documents/currency notes.
15	Manufacturing of optical glass and optics.
16	Nickle candmium Battery.
17	Nuclear/Separation Plants
18	Large Power Generating Units
19	Large Oil Storage Units
20	Oil Refineries
21	Manufacturing of optical glass and optics.

8.8.4 Schedule 'B': Services Industries Permissible in Negative Areas with prior approval of District Government:

1	Furniture (excluding banned saw) and also excluding storage of Timber/Wood.
2	Tailoring/Ready made garments
3	Laundry/Dry cleaning
4	Bakery (excluding confectionery)
5	Cosmetics
6	Service Workshops
7	Cereal products like vermicilies
8	Candle making
9	Printing and packaging
10	Handloom carpet weaving
11	Hotels
12	Bidi manufacturing
13	Hand made shoes repairing workshops
14	Spooling and threadballs
15	Small hosiery units employing not more than 10 workers
16	Atta Chakies
17	Installation of Chaff-Cutters
18	Cotton Grading

Also included in Schedule 'B' are other small industrial undertakings which do not fall under the sixth schedule of the Punjab Local Government Ordinance, 2001. Other small industrial undertakings would mean an industrial undertaking in which the total fixed assets (including the cost of land) do not exceed Rs. one million.

8.8.5 Schedule 'C': Industries which cannot be set up without prior approval of the Government:

- Arms and Ammunitions
- Security printing, currency and Mints
- High Explosives
- Radio active substances
- Alcoholic Beverages or Liquors

CHAPTER: 9
TRADE AND COMMERCE

9.1 INTRODUCTION

The demand of urban space for commercial development due to unprecedented population growth has surpassed the planned supply delivered by planning agencies in major cities of Pakistan. As a corollary to that, conversion of residential land use into various types of commercial activities has sprung up particularly along major roads of residential areas and arterial roads of cities. This conversion has preceded, both with and without official consent, largerly in a haphazard manner without following a coherent strategy. This has resulted in acute parking problems, reduction in traffic capacity of roads and resultant increase in congestion, energy use, air and noise pollution, and burden on utility services. Permitting conversion of land use in a haphazard manner seems not only a departure from planning principles but also jeopardizing the spatial structure of cities causing serious envireonmental repercussions.

Multan being the major city of southern Punjab and centrally located in Pakistan is the hub of commercial activities, with a variety of commercial establishments, spread in every nook and corner, planned as well as indigenous. There are specialized markets of different kinds, whole-sale markets, retail commercial strips along roads, and planned commercial complexes at different locations.

Commercial landuse presently (2008) occupies about 1063 acres of land, which is around 3.2% of the total built-up area of Multan. As reported in Multan Master Plan, 1987, the area under Commerce then was only 1.14% of the built-up area, implying about 2.8 times increase over the past 20 years. The current (2008) population of Multan is estimated to be 1,786,069 while the commercial area, as already stated, is 1063 acres. This implies 0.60 acres of commercial area per 1000 population, as against 0.25 acres per 1000 persons in 1987. There is however, a need to regulate commercial areas, by providing appropriate parking, loading and unloading facilities.

9.2 CLASSIFICATION OF COMMERCIAL ESTABLISHMENTS

Because of the important role being played by informal sector in commercial and other activities, it is difficult to precisely establish hierarchy of commercial centres in Multan. However to put the commercial activities in proper perspective, it is important to categorize these to form a base for qualitative policy guidelines. Based on the categorization given in ‘National Reference Manual for Planning and Infrastructure

Standards' (Page 72), the commercial establishments in Multan may be classified as follows:

9.2.1 Multan Central Business District

The CBD of Multan is a heterogeneous market, catering to all kinds of clientele and attracting regional, city and local trade, providing a large variety of goods and services, including specialized commodities. It includes wholesale and retail centres for service to the entire District and beyond. It is situated in the Walled City, encompassed by the Circular Road, and contains commercial services of highest order, as well as numerous street traders and hawkers. High level of congestion, noise, fumes and exorbitant land prices are some of the CBD's typical characteristics. Intensive commercial activities are being carried out in localities such as Hussain Agahi, Chowk Ghanta Ghar, Chowk Bazar, Sarafa Bazar, Dolate Gate and along the inner lanes.

9.2.2 Wholesale Markets

Wholesale Markets are usually associated with bulk disposal of grains, fruits, vegetables, timber, cloth etc. Large warehousing and storage facilities are generally found in close vicinity. In case of Multan, most of the wholesale markets are located outside the Walled City, and have wide Catchment area. The following is a description of wholesale markets in Multan:

Table 9.1: Wholesale Markets

Vegetable and Fruit Market	The new market is located in Shah-Rukn-e-Alam Colony, E-Block, near By-Pass. The Old market was established in 1961 by Multan Improvement Trust near Tipu Sultan Colony over 3.6 acres. The old site Market is lying vacant, and no use has been proposed over it.
Grain Market	Located along Shahrahe-Rashid close to Chowk Shah Abbas, it is spread over 34 acres, and lacks adequate parking facilities. The market also accommodates residential quarters of management staff, mosque, bank, godowns, disposal works etc.
Timber Market	The market was developed in 1975 along Vehari road over 60 acres, and is considered to be one of the biggest markets in Pakistan supplying products throughout the country. It accommodates saw mills, furniture workshops and wooden material used for building construction. A new Timber Market has been developed adjacent to it. Small-scale timber related trade is still going on at the old site.

Cloth Market	It is situated at 'Andhi Khui' in Chowk Bazar, over about 10 acres. The market lacks parking, loading unloading and other public facilities. The narrow streets inhibit movement of traffic. Many new cloth markets have sprung up. A new cloth market has been established at Makhdoom Rashid Road to relieve pressure on the old market.
Iron & Steel Market	The market is located along Nishat Road in the proximity of City Railway station, over 5 acres of land. The market supplies items like Girders; iron bars, angle-iron, galvanized iron sheets etc. Another new market has been established along Vehari Road, near General Bus Stand.
Sugar-cane Market	It is located in the vicinity of Mohallah Faridabad leading to Chowk Shaheedan. The Sugar-cane market is proposed to be shifted to an appropriate location somewhere near the new Vegetable market.
Fuel Market	Fuel market is spread along both sides of the Old Sabzi Mandi Road in proximity of Shaheen Market. Oil for all types of machinery is traded here. It is one of the biggest markets of its kind in Pakistan, occupying around 2 acres of land.

9.2.3 Specialized Markets

These markets have origin in the crafts' guild tradition and persist because of continued demand of the craft. Typically originating along the lengths of a particular street of the Old City and adjacent areas, these usually have a low/mixed income regional clientele. Specialized Markets may have both wholesale and retail modes of transaction. In both modes, specialized markets have strong inter-linkages with processing and production activities at the rear of the shopping outlets. The residences of production and sales workers are also usually intimately interlinked. Thus specialized markets are residential, production and sales complexes, which make relocation policies difficult and of questionable merit. The specialized markets are associated with one genre of goods. In Multan city these have mostly grown in and around the walled city and include Choori Bazar, Cloth Market, electronic market along Hussain Agahi and similar other areas. These are described in Table 9.2 below:-

Table 9.2: Specialized Markets in Multan

Sarafa Market	The Market is situated in the walled city on both sides of the road connecting Pak Gate to Masjid Wali Muhammad and Chowk Bazar, and is spread over about 4 acres. The market accommodates approximately 700 shops. Due to narrow streets, the traffic Is restricted to pedestrians, cycles and motorcycles only.
Choori (Bangle) Market	It is located in the central part of walled City near the end of Chowk Bazar. It Is a single street bazaar, with few off-shoots, allowing pedestrian traffic only. Market covers nearly 3 kanals of land.

Furniture Market	The Market is located around Nawan Shehr Chowk, mostly on Abdali and L.M.Q roads. The area is about 1.5 acres; the shops in the Market deal in furniture and auto spare parts
Bakar Mandi	Bakar Mandi is located opposite to General Bus Stand, on By-Pass Road, near Chowk Kumharanwala. The old site was located along Hazoori Bagh Road, on about 2.5 acres. The area of the market was insufficient and inappropriately located.
Hide and Skin Market	The market been shifted to Multan Industrial Estate. Previously it was situated near Town Hall. Skins are normally auctioned here but stored and processed in warehouses located along Waterworks Road.

9.2.4 Highway Oriented Ribbons

Highway orientated ribbons are characterised by goods and services attracted through traffic. The goods and services provided may range from low market repairs and eatables to up-market supply of specific items. Such commercial ribbons are located along most of the inter-city radial roads, particularly Khanewal Road, Vehari Road, Bahawalpur Road and Old Multan Bypass.

9.2.5 Sunday Bazar & Other Occasional Markets

These bazaars by-pass the retailers mark-up, and therefore are relatively cheaper. They are located on large central open spaces which are used for other activities during the rest of the week/year. Basic concept behind such Bazaars is to make facilities available to the producer who could bring and sell his produce without having a middleman whose involvement generally contributes to Increases in the prices of commodities. Sunday Bazaars in Multan are held at different locations, the main ones being at MDA Road near Kalma Chowk, near Madni Chowk in New Multan, at Vehari Road in Mumtazabad etc.

9.2.6 The Up-Markets

Located along main roads of the planned high income communities of the City, such markets provide quality consumables and durables to rich, motorized, clientele at 15-50% mark-up from other markets. It is a spin-off of trade from CBD Market, flowering fully in metropolitan cities like Multan. Some of the up-markets of Multan are Gulgasht, Chowk Kachehry, and Abdali Road opposite Commissioner House.

9.2.7 The Shopping Plazas

A Shopping Plaza, distinguished by covered circulation, is the modern form of Specialized Market providing a selected range of quality goods, located in or near the

CBD Market or the Up-Market. It caters almost exclusively to upper income clientele. It provides collective security to the shop owners. Its multistory version provides exception to the rule that commercial outlets must be on the ground floor. It is a capital intensive but space saving, especially frontage saving, form of market. Some of such plazas are along LMQ Road, Abdali Road and also up-coming plazas on Bosan Road.

9.2.8 Local Retail Markets

These markets stock limited range of frequently demanded heterogeneous items. The quality and type of goods offered vary distinctly with income group of nearby customers. The smallest commercial unit identified is neighborhood centre/local commercial centre. These centres provide the commodities of day to day needs for the direct convenience of a limited population. Here the housewife may perform her regular shopping for daily needs. It may be an independent bakery store, services Industry, drug and stationary store etc. Number of shops in each centre varies. Major concentration of local shopping centres is in and around the area of Wallaytabad, Gulgasht Hassan Parwana and many other newly developed localities.

The above categories are not mutually exclusive. For example, shopping plazas may be elements of the CBD or the Up-Market. The categorization therefore needs to be considered with dexterity.

9.3 SPATIAL DISTRIBUTION OF SHOPPING CENTRES

The commercial areas are fairly well-spread *(Figure 9.1)*, and have grown by way of convenience. Major concentration of the shopping centres is found within and around the Walled City where the specialized markets have cropped up over a long period of time.

A number of markets/commercial centres have been constructed at places where demand is inadequate due to their location. All the new housing schemes have been provided shopping facilities for local needs. In new Multan a shopping centre has been developed with larger service area. The shopping centre at Shah Rukn-e-Alam Scheme is also a worthwhile addition in Multan's commercial landscape.

9.4 NOTIFICATION OF ROADS UNDER LANDUSE RULES 2009

In accordance with Punjab Development Authority land use Rules 2009, Multan Development Authority, MDA's has notified roads for future commercial use as per requirements & procedures laid down in the above rules.

Following roads under the control of MDA were notified with certain restrictions/ regulations:

1) LMQ Road
2) Vehari Road

3) Multan Bypass Road
4) Bahawalpur – Lodhran Road
5) Bosan Road
6) Multan Public School Road
7) Piran Ghaib Road
8) Old Bahawalpur Road
9) Abdali Road

In addition to above, numerous roads under City District Government were notified in each of the four northern towns. The notification mentioned that only those roads will be considered for landuse conversions which have more than 40% existing commercial activities.

9.5 PLAN FOR COMMERCIAL FACILITIES

9.5.1 General

The central area continues to be the Central Business District of Multan City as well as of the region. This has caused congestion, traffic problems and nuisance for the local residents. It has thus become necessary to decentralize central commercial areas, and to establish planned shopping centres at appropriate locations. This however does not mean that the central area of Multan should completely lose its commercial character, particularly for cottage industries and other compatable, housing-friendly industries.

As already stated, currently there are 0.60 acres of commercial area per 1000 population, as against 0.25 acres per 1000 persons in 1987. This clearly indicates that Multan caters for the needs of not only the local population, but also has a large commercial catchment area. There is however, a need to regulate commercial areas, by providing appropriate parking, loading/unloading facilities and better shopping environment. A recent trend is big commercial concerns having varieties of commercial items under single roof. Similar buildings for banks and hotels have also taken shape.

9.5.2 Delineation of New CBD Zone of Multan

Multan being the oldest city in the region, traditionally has performed a wide range of functions; shelters, security, social interaction, and the sale and purchase of goods and services are among a few. The relative importance of each of these functions has changed over time, and such changes have created new demands for land, floor-area space, infrastructure and a provision of range of accompanying facilities.

Towns and cities change over time, and this process of change is both inevitable and may be viewed as beneficial. It is inevitable because the operation of the political,

economic and social systems constantly generate new demands and present fresh opportunities for economic progress and civic improvement.

The very existence of these forces of change creates opportunities to adjust and improve the condition of urban areas.

Historically, the core of commercial activity or the Central Business District of Multan had been Hussain Agahi, Bohar Gate, Chowk Bazar, Ghanta Gar and its environs. This area not only had the infrastructure support but was also the terminus of roads from most of the surrounding localities.

With the passage of time as the focus of commercial activities shifting towards new urban areas such as LMQ road, Bosan Road, Abdali Road, Vehari Road and Nusrat Road which resulted in outward growth of commercial activities along major arterial roads having the capacity to handle the growing markets.

Unfortunately, instead of regenerating the commercial centers/areas to absorb the influx of commercial activity, a passive approach was adopted for the development of these areas and as a result ribbon development has been prevalent in the city for last few years.

The area encircled by Inner Ring Road has been delineated as proposed Central Business District of Multan. The Inner Ring Road of Multan is being developed as main transport corridor of the inner city providing improved connectivity of the walled city with all other parts through numerous flyovers constructed recently.

The area to be declared as New CBD of Multan would exclude planned/ approved housing schemes such as Mumtazabad, New Multan, Shah Rukne Alam Town, Wahdat Colony, Shamsabad Colony, MEPCO Staff Colony, Railway Colony and Railways officers Bungalow, Tughlaq Town etc.

This CBD area is a blend of emerging commercial & business hub like Abdali Road, Nusrat Road and Old Bahawalpur Road (Qaswar Gardezi Road), traditional whole sale establishments like grain market, timber market and iron market, the inner city specialized markets/ linear bazaars and the oldest Multan Fort and Qila Kuhna Qasim Bagh areas.

It is the area characterized by:-

- High land values,
- High density
- Concentration of non residential activities

- Mixed landuses (residential-commercial-service/ cottage industry) all in single premises.
- Highest ranked facilities such as:-
    - Administrative offices like Commissioner office, DCO office, MDA & Distrcit Government Offices
    - Financial institutions like head offices of National Bank, State Bank, Allied Bank
    - Public buildings including historic shrines of Multan
    - Wholesale & retail business
    - Hotels, restaurants & cafes like Ramadah,
- Geographical centre of the urban fabric
- Historic core of the ancient city including Walled City, Multan Fort and Qila Kuhna Qasim Bagh
- Main Public Transport Terminals (Rail & Road)

9.5.3 Strategy to Cope With Haphazard Commercialization

Like other cities Multan is also severly affected by uncontrolled & haphazard conversion of residential landuse to commercial use.

This haphazard commercialization is resulting in acute parking problems, traffic congestion and adverse environmental impacts in the historical urban core & residential areas of Multan. The government has been attempting to regulate commercial development by formulating commercialization policies. But these have proved counter productive and contributed to encouraging rather than discouraging unplanned commercialization. Instead of continue following these commercialization policies, there is a dire need for formulation of a coherent strategy capable of meeting the demand for commercial uses without affecting the environmental quality of residential areas.

One further commercialization must ensure that no further unplanned commercial areas are encouraged to emerge and flourish. This may involve announcing a cut off date for commercialization, like the one fixed in case of katchi abadis and strictly dealing with conversions that are done after the cut off date. For effective implementation this in turn will require strengthening of planning agencies in terms of trained staff and resources. Further commercialization along roads already declared for this purpose should only be allowed keeping in view the opportunities for meeting parking needs and potential to manage increased traffic load.

In order to meet the future needs for commercial areas, planned commercial zones for retail as well as whole sole markets have been proposed aimed at meeting these needs in a planned manner according to the principle of sustainability. These zones are based on detailed analysis of the trends of commercialization and a realistic assessment of the future needs particularly for higher order commercial activities.

In the past as far the commercial land use allocation standards for housing schemes, these have clearly proved inadequate. The revised standard of fixing the commercial landuse @ 5 percent may achieve the desired results. But whether these standards would adequately cater for the future needs adequately or not is yet to be seen. In fact commercial land use allocation standards should be devised on the basis of a range of factors such as location of housing scheme with respect to future growth of city, nature of surrounding development, socio-economic status of target group, and household size.

The standard for provision of parking spaces are also unrealistic and do not have any relation with the nature and location of commercial activities. To this end, detailed parking demand surveys are required to be carried out along all the major commercialized roads of the city particularly with respect to traffic attraction and generation potential of every type of commercial activity. The findings of these surveys could be used not to revise the existing parking standards and make them more realistic but also for suggesting measures to resolve parking problems already gaining serious proportions along commercialized roads.

The issues relating to commercialization are numerous and multi-dimensional. The way this phenomenon is already creating mess particularly in terms of traffic and environmental problems in Multan warrants serious attention to take immediate actions today for achieving sustainable commercial development. Such strategic interventions will save the spatial structure of our cities and maintaining environmental quality of residential areas.

9.5.4 Criteria for declaring more roads as Commercial

Commercial activity in a city, just like any other land-use, residential, industrial or institutional, needs to be regulated. The ribbon commercial development that is currently rampant in Multan is extremely detrimental to the urban structure. Roads instead of being channels of movement become congested and undue load is put on infrastructure which is not designed to handle such activity.

Holistic view of the city be taken instead of considering the concerned road in isolation and then the road itself in the context of its adjacent areas to decide about the land-use conversion.

The impact of land-use conversion should be evaluated not only on the roads but on the entire neighborhood and areas in its vicinity, in particular; and the city, in general.

Before notifying the road/s as commercial, it would be evaluated on the following parameters:-

i. Its position/location in the overall city's road network
ii. The linkages served by the said road, the beginning and terminus
iii. Traffic situation, Location and frequency of traffic congestion, and traffic carrying capacity of the road.
iv. Nature and quality of urban spatial, social and economic structure prevalent on the said road
v. Existing & adjacent land-uses
vi. Proximity, condition and potential of any commercial centers
vii. Existing converted commercial properties on the road, their frequency and percentage
viii. Vacant undeveloped land in proximity to the road

The guiding principles would be to encourage capital into commercial centers and allow for proper economic growth; however where it is imperative only then roads can be commercialized. Roads are channels of movement in the city and this primary function takes precedence over all others. Rampant unplanned uses that add unanticipated and unplanned traffic on the roads only serve to create congestion and this has to be avoided at all cost.

However, Landuse conversion in the approved housing schemes / land subdivisions should be strictly discouraged in future and civic agencies should focus on developing new planned commercial zones on location as specified in the Master Plan in future growth areas. This is also imperative to protect the architectural heritage of the city being destroyed by commercial invasion within the walled city and its environs. The existing narrow & zigzaz bazaars of the inner city should only be meant for pedestrians to enhance the quality of life & accessibility of these bazaars.

9.5.5 Future Commercial Areas in the Short-Term Plan (2008 – 2013)

For new commercial developments, a standard of 1.0 acre per 1000 population[1] is recommended, which implies around 445 acres of new commercial areas in the City District in the short-term period (Table 9.3), and another 1500 acres during the subsequent 15 years, till the year 2028 (Table 9.4).

[1] Source: National Reference Manual, Table 10.4, Page 307 and Multan Master Plan, 1987, Page 248.

Of the 445 acres in the Short-Term Plan, around 80 acres of commercial area needs to be provided in each of the four northern towns, 61 acres in Shujaabad Town and 53 acres in Jalalpur Pirwala Town. The additional commercial area within MDA limits will be 182 acres. This is included in the figures given above.

Table 9.3: Town-wise Requirements for Commercial Area during Short-Term Plan (2008 – 2013) in City District Excluding MDA Area

Towns	Population		Additional Population (2008-2013)	Commercial Area Required (@1.0 acre/ 1000 persons)
	(2008)	(2013)		
Bosan	365,579	410,874	45,295	45
Shah Rukne-Alam	254,291	288,438	34,146	34
Musa Pak Shaheed	264,398	299,198	34,800	35
Sher Shah	257,223	290,830	33,607	34
Shujaabad	538,597	600,050	61,453	61
Jalalpur Pirwala	465,613	518,739	53,126	53
Total	**2,145,702**	**2,408,129**	**262,427**	**262**

Table 9.4: Town-wise Requirements for Commercial Area during Short-Term Plan (2008 – 2013) in MDA Area

Towns	Population		Additional Population (2008-2013)	Commercial Area Required (@1.0 acre/ 1000 persons)
	(2008)	(2013)		
Bosan	357,624	394,846	37,222	37
Shah Rukne-Alam	512,234	565,547	53,314	53
Musa Pak Shaheed	462,317	510,435	48,118	48
Sher Shah	425,000	469,234	44,234	44
Total	**1,757,174**	**1,940,062**	**182,888**	**183**

9.5.6 Future Commercial Areas in the Long-Term Plan (2013 – 2028)

During the long-term plan period of 2013-2028, the City District will require additional about 1500 acres of commercial area (Table 9.5 & 9.6). On average, among the four northern towns, this means around 280 acres in each Town. Shujaabad will however need 206 acres while Jalalpur Pirwala will require about 180 acres during 2013-2028. The commercial area requirements within MDA limits will be about 600 acres; this figure is included in the above statistics.

Table 9.5: Town-wise Requirements for Commercial Area during Long-Term Plan (2013 – 2028) in City District Excluding MDA Area

Towns	Population		Additional Population (2013-2028)	Commercial Area Required (@1.0 acre/ 1000 persons)
	(2013)	(2028)		
Bosan	410,874	566,188	155,314	155
Shah Rukne-Alam	288,438	407,750	119,312	119
Musa Pak Shaheed	299,198	420,243	121,045	121
Sher Shah	290,830	407,531	116,701	117
Shujaabad	600,050	806,318	206,268	206
Jalalpur Pirwala	518,739	697,056	178,317	178
Total	**2,408,129**	**3,305,085**	**896,956**	**897**

Table 9.6: Town-wise Requirements for Commercial Area during Long-Term Plan (2013 – 2028) in MDA Area

Towns	Population		Additional Population (2013-2028)	Commercial Area Required (@1.0 acre/ 1000 persons)
	(2013)	(2028)		
Bosan	394,846	516,498	121,652	122
Shah Rukne-Alam	565,547	739,793	174,246	174
Musa Pak Shaheed	510,435	667,701	157,266	157
Sher Shah	469,234	613,806	144,572	144
Total	**1,940,062**	**2,537,799**	**597,737**	**598**

9.5.7 Future Commercial Zones

In the master plan, four (4) commercial zones have been proposed *(Figure 9.1)* for the towns falling in MDA area to fulfill the requirement of land for commercial use in Short Term and Long Term Plans period for projected population as stated in Table 9.3 and Table 9.4 above. One (1) commercial zone has been proposed for each town having area ranging from 200 acres to 250 acres each. This zones will accommodate community/ city level large commercial centres and it is in addition to commercial areas to be provided in housing schemes which will category for mohallah level & neighbourhood level commercial activities.

9.5.8 New Trade Zone

The Central Business District of Multan is highly overcrowded, and there is no space for further expansion. A number of wholesale markets have already been shifted from here. Even as a matter of principle, wholesale markets should be shifted from the central as well as other urbanized areas, as land in the inner and intermediate zone of the City is expensive, and wholesale markets which require large areas should be shifted in outer but easily accessible areas. Moreover, wholesale markets attract and generate high volumes of traffic which further aggravate the traffic congestion in the central areas.

The proposed Trade Zone shall not only serve the urban or MDA area but also City District Multan as a whole.

The new Trade zone is easily approachable from different directions and is bounded by Southern Bypass Road, Bahawalpur Road, Dunyapur Road and Faizpur Distributry. It will cater for different kinds of clientele, and attract regional and city trade. It will include wholesale markets which are usually associated with bulk disposal of grains, fruits, vegetables, meats, and will also have large warehousing, storage facilities and *Gawala* Colony. The proposed Trade Zone will not be isolated from the existing commercial establishments in other parts of the City and the District, as it will be linked through southern bypass and other urban and regional road network. The total area of the proposed Trade Zone is 1500 acres.

9.5.8.1 Shifting of Wholesale Markets and Truck Stand in New Trade Zone

The existing roads of the city are narrow and not able to hold the pressure of existing heavy traffic. The situation become further aggravated when loaded truck with heavy long iron guarders and iron bars enter in the city due to which traffic often remain jam. The timber market is situated in the heart of the city. Loaded trucks with wooden logs enter in the city and block the traffic for many hours. The illegal truck stand is also a serious problem which considered necessary to be shifted. Similarly the existing Grain Market is also situated in the center of the city. The existing roads of grain market are narrow, due to which traffic oftenly remains jam. Another problem of the city is the cattle market which also needs special attention for shifting it at a suitable site.

In view of above the following existing commercial establishments and truck stand may be shifted to the proposed Trade Zone:

i) Markets to be shifted immediately:

- Timber Market along Vehari Road.

- Iron & Steel Market, currently located along Nishat Road in the proximity of City Railway station.
- Grain Market, currently located along Sharah-e-Rashid close to Chowk Shah Abbas.

ii) Markets to be shifted in the Long Term Plan:

- Vegetable and Fruit Market, currently located in Shah-Rukn-e-Alam Colony, E-Block, near By-Pass.
- Cloth Market situated in Chowk Bazar.
- Sugar-cane Market near Mohallah Faridabad leading to Chowk Shaheedan.
- Fuel Market, spread along both sides of the Old Sabzi Mandi Road in proximity of Shaheen Market.
- Cattle Market and Slaughter House with its allied facilities.

Because of diversity of the above markets, the Trade Zone will have to be planned and designed with dexterity, providing proper segregation/buffering, ample of parking spaces, and loading/unloading spaces.

It is urgent that tanneries and related processes operating in inner city should be urgently shifted from here on top priority basis. However, Sarafa Market and Choori (Bangle) Market, both located in the walled city may stay at their present locations.

CHAPTER: 10
RECREATIONAL FACILITIES

10.1 INTRODUCTION

The outdoor recreational activities play an important role in development of a healthy society. It includes active and passive activities like sports, parks/ picnic areas, entertainment and cultural activities, historical site, libraries and museums etc. Our cities are growing at a pace much faster than growth of leisure time facilities.

The historical city of Multan suffers from a number of problems in the availability of recreational facilities. The deficiencies are quantitative, qualitative and institutional in nature. The problems are further compounded by the scarcity of fiscal and other resources and by the tendency of allocating a low level of priority to recreational infrastructure, which is a universal dilemma of developing countries.

Recreational facilities will be provided by a combination of public and private agencies in Multan. Though a greater role of the private sector would definitely reduce the government's burden, the public sector will yet have to continue its involvement to redress imbalances that the private sector cannot handle because of its very nature. The continued involvement of the public sector will also be necessary so that the needs of the poorer segments of society are met in an equitable manner.

10.2 TYPES AND HIERARCHY OF RECREATIONAL FACILITIES

Various types of recreational facilities available to the urban Multan can be broadly grouped into the following:

- Out-door spaces,
- Venues providing contact with nature,
- Organised sports,
- Entertainment and cultural activities,
- Historical sites,
- Libraries and museums.

These groups are not mutually exclusive. It is recommended that in future private sector should be encouraged in providing recreational facilities.

The need, availability and utilization of recreational facilities present a complex relationship of socio-economic conditions, and habits and attitudes towards recreation specific to a society. These needs are generally not expressed as directly as, for example, needs of food, health services, etc. Nevertheless, though these are subtle needs, gross neglect or in-adequacy of required facilities has numerous negative influences on the society.

With the exception of open spaces (and associated facilities), almost all other forms of recreation and entertainment have a market/commercial aspect that is linked to the degree of affluence of a society. These commercial aspects govern the availability and utilization pattern of such facilities as cinema halls, theatres, bowling alleys, etc. It can be said that affluence creates its own demands of recreation. No demand standards can thus be laid down for such forms of entertainment.

Under the heading of recreational facilities, the data of parks/open spaces, stadiums/ sports grounds, cinemas and other tourist plans has been collected and presented in this chapter. In making an area livable, healthy, peacefull and environment friendly, the existence of appropriate number of recreational facilities play a pivotal roll. Multan, owing to its historical nature, contains such communities which are not well served by parks/open spaces, yet the existence of a historical park and sports ground in the centre of the city somehow serves the purpose. Same is the case with other facilities like cinemas, joyland, sports facilities. The detail has been provided below:-

- Recreational facilities
    - Parks and open spaces
    - Stadiums and play grounds
    - Clubs
    - Cinemas
    - Historical Sites/ Tourist Places

10.3 TARGETS AND STANDARDS

The more capital intensive the facility, the larger the catchments required for its viable operations. Polo, golf and race courses catering to elite clientele should be located outside the urban fringe.

10.3.1 Passive Recreation Standards

According to National Reference Manual for Planning & Infrastructure Standards, surveys conducted for a number of master plans in the country reveal that in a reference week, the number of visitors to open spaces for passive recreation are typically 4 to 5 times more the number participating in outdoor sports.

Furthermore, as residential plots become smaller and a larger share of urban population moves into apartments/ flats, there will be much more need for tot-lots and mohalla open spaces than before.

However, there are no fixed sizes for elements of passive recreation. Allocation and space criteria need to be flexible, leaving room for judgment based on local factors, (specifically the extent of pleasant incidental open spaces within easy accessibility).

10.3.2 Active Recreation Standards

The NRM recommends the following standards for provision of sports facilities:

a) Metropolitan City Stadiums

1) For city above 2 million population, cricket (2.5 ha), multiple hockey (2.8 ha) and football (1.5 ha) stadiums or a stadium complex encompassing above games plus other less extensive games (indoor & outdoor) is required.

2) Outside the stadiums, parking space to meet the full ultimate capacity (assuming 4 persons per car & 50 persons/ bus) @ 24.89 sq.m/ car and 98 sq.m/ bus (Example, stadium capacity = 30,000 people, = 5000 cars + 200 buses = 14 hectares parking areas).

b) Community Level Playgrounds

1) For communities of around 100,000 persons a combined playfield of 2.14 ha, comprising standard hockey and football grounds, alternating as standard cricket ground should be provided total play grounds available including educational institutions etc.

c) Neighbourhood Level Play Ground

1) For neighbourhoods of around 25,000 persons, provide a combined play field of 4 acre (1.63 ha). Comprising sub-standard sized cricket, hockey cum football ground basically for teenagers.

2) The play field should have temporary/ multiple markings so that it can be used for different games, including Kabbadi.

10.4 SITUATIONAL ANALYSIS OF RECREATIONAL FACILITIES IN MULTAN

10.4.1 Parks and Open Spaces

One of the major reasons of increasing health and social problems in Pakistan is lack of proper recreational facilities, both active and passive. The main objective of establishment of open spaces and play areas is provision of appropriately located open areas of reasonable quality for all the sections of population.

The area under parks & open spaces was 277 acres in 1986, which has increased to more than 403 acres in year 2008. However, this growth has not been able to maintain pace with the overall spatial growth of the city. Thus, while the percentage of area under parks & open spaces was 1.5% of the total built-up area in 1986, it has dropped to 1.2% in 2008. The observed range of recreational open spaces in large cities varies between 2 to 5%[1]. This clearly indicates severe shortage of recreational spaces in Multan (See table 10.1).

Table 10.1: Comparison of Recreational Facilities (1986 to 2008)

	1986[2]	**2008**[3]
Area under Open Spaces	277 Acres	403 Acres
% of Built-up Area	1.5%	1.2%
Open Spaces for 1000 Population	0.24 Acres	0.23 Acres

Again, in terms of population, there was 0.24 acres of recreational space for every 1000 persons in 1986. In 2008, the situation has not improved; in fact it slightly declined to 0.23 acres per 1000 persons (see table 10.2).

Table 10.2: Current Backlog of Recreational Facilities (2008)

Area under Open Spaces	403 Acres
% of Built-up Area	1.2%
Open Spaces for 1000 Population	0.23 Acres
Planning Standards for Parks/ Playgrounds	2%-5% of built up area
Minimum Desirable Standard	1.20 acres/ 1000 persons
Current Backlog	1700 Acres

The following are major parks in Multan including those located in the Cantonment area:

- Jinnah Park
- Joy Land Park
- Qasim Bagh
- Bagh Langey Khan Garden
- Shah Shamas Park
- Aam Khas Bagh
- Chaman Zar e Askari Lake Cantt,
- Cantonment Garden
- Yadgar i Shaheedan Park and monument
- CSD Garden

The last four of the above mentioned parks are located in Multan Cantt. Area.

[1] National Reference Manual for Planning & Infrastructure Standards, Table 10.2, Page 305.
[2] Multan Master Plan 1987.
[3] Landuse Surveys by NESPAK 2007 – 2008.

10.4.2 Stadiums and Play Grounds

A large Cricket Stadium spread over about 25 acres has been developed in Multan. It is located about ½ Km off Vehari road. Cricket tournaments of national and international level are held here. Another main stadium of Multan is in Qila Qasim Bagh, a Divisional Sports Complex, along LMQ road behind Government College Civil lines and Multan Cricket Club at Nawan Shehar. A number of play grounds are part of different educational institutions, particularly within the educational complex include Sports Ground for BISE, Nishtar Medical College, Govt. College, BZU, etc. These are only used by students of these institutions and not open for general public.

10.4.3 Clubs

Clubs are domain of the elite few, with restricted membership. To vast majority of population, these are neither accessible nor affordable. The two main such clubs are Services Club in Cantonment, and Railway Club opposite High Court Building. Besides, there is a club in the housing colony of Pak-Arab Fertilizer Factory. All these are organizational clubs, not open to general public. The major facilities provided in these are various recreational activities and indoor/ outdoor games.

10.4.4 Multan Zoo & Amusement Park

A city level zoo was planned to be constructed at old Shujaabad Road Mauza Balil over an area of 58 acres with a total cost of Rs. 450 million. According to the City District Government of Multan, it is hoped to be better than Lahore zoo in its state of the art facilities on a larger area. The zoo will be established on an area of 31 acres with a cost of Rs 200 million while on the remaining 17 acres, an amusement park will be developed with a total cost of Rs 200 million. There will be animals of all kind and species in the zoo including those which are near extinction. The zoo will include a bird aviary and fish house also. For aged people, dedicated walkways and jogging tracks will be established. The huts will be made at various locations in the zoo. Zoo is the project of Government of Punjab while the amusement park is being financed by the City District Government of Multan. There will be ancillary facilities that will be constructed with the zoo i.e restaurants, mosque, water purification plants for pure drinking water, toilets and parking. Later this proposal was cancelled and the government decided to establish Multan Gymkhana on that side.

10.4.5 Cinemas

In Multan District the number of Cinemas is declining. The table below shows that the number has decreased to 10 in year 2010-2011 from 23 in year 1998-1999.

The reason behind decline in the number of cinemas may be the slump in the film and theater industry of Pakistan and the spread of cable network in the city. There are 10 Cinemas in Multan City while in District there are 11. Cinema used to be a great source of entertainment and recreation 10-15 years back. Presently, the cinema to population

ratio is 1:296,384 which are very high as compared to 1:167,521 in 1998-1999. Consequent to decrease in number, the seating capacity of cinemas has also decreased. The statistics has been given in the table 10.3:

Table 10.3: No. of Cinemas & their Seating Capacity in Multan District

Year	No. of Cinemas	Total Seating Capacity	No. of Seats/ Cinema	No. of Seats/ 1000 Pop.
1998	23	16,459	716	5.3
2002	17	12,068	710	-
2005	12	6,152	513	-
2008	13	8,340	642	-
2011	10	5,000	500	1.25

Source: *Pakistan Bureau of Statistics 2007 & 2011*

The above table reveals that no. of seats per 1000 persons has decreased from 5.3 in year 1998 to a mere 1.25 in year 2011.

10.4.6 Multan Arts Council, Multan

Multan Arts Council is located on MDA Road near National Book Foundation. Established in 1975, Multan Arts Council is famous for musical shows, arts exhibitions and as a regional centre of Multan city. It is also playing an important role for encouraging students towards arts and culture of Multan

10.4.7 Multan Museum

City Government and Punjab Government has decided to convert "Ghanta-Ghar" building into Multan Museum, therefore Multan Museum is under-construction and it will get ready for public and tourism in near futures.

The Multan Museum will contain a fine collection of coins, medals, historical postage stamps of the former State of Bahawalpur, manuscripts, documented inscriptions, wood carvings, camel-skin paintings, historical models and stone carvings of the Islamic and Pre-Islamic periods.

10.4.8 Multan Gymkhana

The site on old Shujabad Road originally identified and selected for Zoo/ Wildlife Park, now it is being converted into a state of the art Multan Gymkhana.

The gymkhana would be built on a 57-acre area in Moza Balail, some 16 kilometres from Multan.

The gymkhana would accommodate a marriage hall, cinemas, a library, swimming pools, squash courts, a card room, 56 rooms, a restaurant and 24 suits. It will be affiliated with the Islamabad Club.

10.4.9 Tourist Attractions in Multan

Abode to a number of shrines and other historical sites, tourist attractions in Multan are an inseparable part of Multan tours. Known as the city of shrines and saints, there are plenty of places in the city that make up the locales of sightseeing in Multan. No matter whether you are in the city for vacation or religious tour, visiting these tourist attractions in Multan is one of the main things to do in Multan.

Tourist attractions in Multan have been instrumental in making the city one of the most frequently visited tourist destinations in Pakistan. If you are fond of exploring historical sites, the ancient city of Multan has a number of places to satiate your inclination. Believed to be one of the oldest surviving cities in the sub-continent, Multan enchants travelers with its sheer charismatic tourist destinations including numerous temples and shrines in the city.

The markets in Multan are counted among the popular tourist attractions in Multan. The famous markets in the city are Bazaar Hussain Agahi, Chowk Bazaar, Bohar Gate, Haram Gate, Delhi Gate, Lohari Gate and Pak Gate. You can also shop at the markets of the old city of Multan and the Cantonment. If you want to buy something exclusive and handmade artifacts, shops in the city are the best place to get them.

The other tourist attractions in Multan are shrines like Shams-e-Tabriz, the shrine of Shah Rukh-e-Alam and Sheikh Yusuf Gardez shrine. You can also visit the religious edifices like Pahladpuri Temple, Wali Mohammad Mosque, Baqarabadi Mosque, Mosque Phulhatt and Eidgah Mosque.

10.5 SPATIAL DISTRIBUTION OF RECREATIONAL FACILITIES

Looking at the *Figure 10.1* showing recreational facilities, it becomes obvious that the geographical distribution of these facilities is not uniform. The major concentration is in the areas north of the railway lines whereas the southern half of the city is absolutely bereaved of such services.

The central part of the urban area is better served as compared to the outer urbanized area. Many parks and recreational facilities date back to the Mughal era, now taken over by Auqaf Department and some by MDA itself.

For active recreation, the playgrounds worth mentioning are Qasim Bagh Cricket Stadium, Sports Ground adjoining State Bank near Kalma Chowk, and the Multan

Cricket Stadium towards south-east of the city, which is mainly accessed through Vehari Road.

Other major recreational facilities include Shams Abad Park near Mizar Shah Tabrez, Jinnah Park in Shah Rukn-e-Alam Colony, Park near Daulat Gate developed by MDA, Park near Fatima Jinnah Hospital, and Matital Lake Recreational Park along Matital Road.

To meet the planning requirements, many housing schemes in public and private sector have smaller parks for local needs. MDA has developed 22 parks, the largest among then is Shah Shams Park spread over 48.5 acres, followed by Qasim Bagh Park/Stadium (18.5 acres).

10.6 PLAN FOR RECREATIONAL FACILITIES

10.6.1 Open Spaces

Planned and incidental open spaces provide opportunities for active and passive outdoor recreation. Incidental open spaces, depending upon size and location, provide relief in what may become pavement and buildings *ad infinitum*. These spaces are the “lungs” of the city. Incidental open spaces are quite often the only open space that satisfy the needs of informal play, etc. in congested, old parts of the city.

10.6.2 Targets and Standards

The present ratio of 0.23 acres of planned open spaces per 1000 population don’t corresponds to the minimum level of 1.2 acres per 1000 population as proposed in the NRM. Keeping in view the financial and physical resource constraints, a ratio of 1.2 acres per 1000 population including both for active and passive recreation is being recommended to be attained by the end of the plan period. Based on the above mentioned target, the total additional land area required to be developed as open spaces for both active and passive recreation is presented in Table 10.4.

Table 10.4 Land Requirements for Open Spaces during Plan Period 2008–2028 in MDA Area

Period (FYP)	Proposed Ratio (Acres per 1000 persons)	Population	Total Land Required (Acres)	Additional Land Required (Acres)
2008 – 2013	0.75	1,972,128	1,480	1,077*****
2014 – 2018	0.95	2,166,309	2,058	578
2019 – 2023	1.10	2,368,613	2,605	547
2024 – 2028	1.20	2,579,041	3,095	490

* Additional land required in the Short Term Plan also includes the current backlog as on year 2008.

It is proposed that the ultimate target of 1.2 acres per 1000 population will be achieved at the end of long term plan in the year 2028. Due to acute shortage in open spaces at present, during short term plan target of 0.75 acres per 1000 population is set to reduce the current backlog also.

10.6.3 Distribution of Open Spaces

(a) Active Recreation

One of the most frequent and important uses of open spaces comprises formal and informal outdoor and indoor games.

i) Stadium Complex

In addition to the existing facilities, a new Stadium Complex having an area of 240 Acres comprising grounds for cricket, hockey, track and field events, and gymnasium, etc. is proposed near Head Muhammad Wala Link on the Northern side of under construction Bypass *(Figure 10.1)*. This would be a modern facility with all provisions of seating, public facilities, parking etc. If planned as a single facility, the seating capacity would be in the range of 30,000 to 40,000 persons.

The new stadium complex will cater for local, regional, national and even international sports events. The following facilities are proposed in the Sports Complex:

- Cricket Stadium
- Hockey Stadium } 20 Acres
- Footable Stadium
- Golf Course } 120 Acres
- Polo Ground
- Parking/Circulation/Off-Stadium Facilities (50 acres)
- Land Reserved for Future Expansion (50 acres)
- Total: 240 Acres

The existing orchards located within the proposed Sports Complex Zone site must be preserved and integrated with Sports facilities.

ii) City Play Ground/Club

Three city level play ground complex cum club comprising an area of about 50 acres each are proposed for the future residential zones at following three locations of Multan *(Figure 10.1)*:

- Matital Road
- Crossing of Budhla Sant & Southern Bypass
- Adjacent to proposed Cadet College site north of M4.

If a sufficiently large space can be reserved, a gymnasium-cum-indoor sports centre can be added later. This complex may be upgraded to a stadium at a later stage.

iii) Community Playgrounds

A combined play field of approximately 5 acres for cricket, hockey, etc. suffices for about 100,000 population. If safety, security and management can be ensured, simple toilet and changing facilities would be provided. By the end of the plan period upto the year 2008, 25 community play grounds, covering total area of about 125 acres are required, which should be evenly distributed in all parts of the city.

iv) Neighbourhood Playgrounds

A combined play field of about 3.8 acres for hockey, cricket, etc. basically for teenagers of the locality should be allocated for every 25,000 persons. A total number of 100 such play grounds covering total area of 380 acres are required by the end of plan period upto the year 2028.

Table 10.5 Active Recreational Facilities Required According to NRM Standards

Sr. No.	Name of Facilities	Standard Sizes	Availability in Multan	Future Requirement including Present Backlog		
				Short Term Plan	Long Term Plan	Total
1	Metropolitan City Stadium	Standard sized play fields for all magor games + ancillary facilities, seating capacities	1. Divisional Sports Complex 2. Multan Cricket Club 3. Multan Cricket Stadium 4. Qasim Bagh Stadium	-	1	1
2	City Stadium*	-	-	-	-	-
3	Community level play ground	5 – 6 Acre each	10 – 15 including those developed and maintained by various educational institutions	2	8	25
4	Neighbourhood** level play ground	4 Acre each		25	75	100

***** After development of a new Metropolitan level Sports Complex in Multan, the existing 4 Nos. Sports facilities as mentioned at Sr.No.1 would be upgraded to fullfil the requirements of 4 Nos. city level Sports Complex.

****** MDA should enforce provision of neighbourhood level play grounds in new housing scheme/ land subdivision to reduce the current backlog. Available vacant/ under utilized sites should be converted into play field or parks depending upon sizes of available land pockets.

(b) Passive Recreation

As already explained, Multan has an acute shortage of recreational areas. Though a number of parks and stadiums exist, but their numbers are far short of the present and future requirements. In the inner or urbanized areas of Multan, there is hardly any space for the provision of new higher order recreational spaces. In fact, new higher order recreational spaces should be segregated and should be planned in such a way that they can cater to the high volumes of traffic that is generated because of them.

The importance of well-distributed and accessible open spaces closer to residential areas is increasing. The following two categories of parks are proposed within MDA controlled area.

i) Regional Park/ Riverside Amusement Park

To cater for the recreational needs of the city and its catchment area, the existing forest reserve and orchards, located north-west of the city starting from Suraj Miani Head upto Head Nawabpur is recommended to be developed/ preserved as a Regional Park. Covering an area of over 4000 acres, the park would comprise of zoological and botanical gardens, an outdoor theatre, picnic areas and restaurants as well as arts & crafts village etc. Play fields for active recreation can also be developed here, without disturbing the existing flora and fauna of the ara.

This riverside park is proposed to exploit river's recreational potential and introduce boating, fishing and water game facilities in the area facing River Chenab. This park is planned to facilitate the residents of all the towns in the City District Multan as well as other parts of Southern Punjab.

ii) Town Parks

Three zones for town level parks have been proposed in future growth areas with site area in the range of 100-120 acres each.

These parks are proposed to cater future needs of Multan for passive recreation and these would include wide range of amusement facilities, joylands, artificial lake, landscaping, children & family areas etc.

Further, the Govt. land available on Matital Road adjacent to Women University measuring about 80 acres is also proposed to be utilized for a city level park as Multan is severly deficient in parks & open spaces.

Table 10.6 Passive Recreational Facilities Required According to NRM Standards

Sr. No.	Name of Facilities	Standard Sizes	Availability in Multan	Future Requirement including Present Backlog		
				Short Term Plan	Long Term Plan	Total
1	Metropolitan Parks	(Avg. 120-150 Acre)	-	-	1	1
2	City Parks	(Avg. 30-35 Acre)	4 Nos.	-	1	5
3	Community Parks	(Avg. 8-10 Acre)	(5 + 5) 10 Nos.	5	10	20
4	Neighbourhood Parks	(Avg. 7-8 Acre)		15	60	80
5	Mohallah Parks*	One each to be provided for every 6000 - 7000 persons @ 0.175 acres/ 1000 persons	-	-	-	-

* MDA/ GDGM to ensure that every new housing scheme/ land sub-division should have usable space in the range of 5 – 15 kanals for mohallah parks as per mentioned standards.

10.6.4 Prime Minister's Development Package for Multan

The PM's package for recreational activities in Multan includes the following:

- Master Plan for the development and beautification of Qila Kohna Qasim Bagh.
- Upgrading of existing parks
- Development of new parks
- Amusement/recreational areas
- Up-grading of Football Stadium to international level Stadium which would include an Athletic Stadium as well.
- Rehabilitation/up-gradation/uplift of historical monuments and shrines of Hazarat Bahauddin Zakariya and Hazrat Shah Rukn-e-Alam.

- Declaration of Multan as National Heritage City. Development of a Conservation Plan for the restoration and uplift of old monuments, on the pattern of the City of Fez of Morocco.

However no project in this regard has been completed yet.

10.6.5 Future Recreational Areas: Short-Term Plan (2008-2013)

As per landuse surveys conducted by NESPAK in 2008, the area under parks and playgrounds was around 403 acres for an estimated population of 1,786,069, implying about 0.23 acres per 1000 population. This is highly inadequate as compared to the minimum desireable standard of 1020 acres per 1000 population exclusive of spaces for playfields in the educational institutions. The total space required for parks & recreation by 2008 as per standards is 2100 acres. The recreational area at present, as already stated is 403 acres, implying a backlog of 1200 acres approximately.

In the context of City District as a whole, the total requirement for recreational area for the additional population, during the short-term plan is 536 acres. Each of the four northern Towns requires around 100 acres, i.e. a total of 400 acres. MDA's requirement of 219 acres is also included in this. The backlog of 1700 acres in MDA area is of course in addition to this figure. The requirement of Shujaabad and Jalalpur Pirwala Towns is 74 acres and 64 acres respectively.

Table 10.7: Town-wise Requirements for Recreational Area in City District Excluding MDA Area during Short-Term Plan (2008 – 2013)

Towns	Population		Additional Population (2008-2013)	Recreational Area Required (@1.2 acres/ 1000 persons)
	(2008)	(2013)		
Bosan	365,579	410,874	45,295	55
Shah Rukne-Alam	254,291	288,438	34,146	42
Musa Pak Shaheed	264,398	299,198	34,800	42
Sher Shah	257,223	290,830	33,607	40
Shujaabad	538,597	600,050	61,453	74
Jalalpur Pirwala	465,613	518,739	53,126	64
Total	**2,145,702**	**2,408,129**	**262,427**	**317**

Table 10.8: Recreational Area Required during Short-Term Plan (2008 – 2013) in MDA Area

Towns	Population		Additional Population (2008-2013)	Recreational Area Required (@1.2 acres/ 1000 persons)
	(2008)	(2013)		
Bosan	357,624	394,846	37,222	44
Shah Rukne-Alam	512,234	565,547	53,314	64
Musa Pak Shaheed	462,317	510,435	48,118	58
Sher Shah	425,000	469,234	44,234	53
Total	**1,757,174**	**1,940,062**	**182,888**	**219**

10.6.6 Future Recreational Areas: Long-Term Plan (2013-2028)

The requirements of recreational areas for the entire City District, each of its six Towns as well as MDA area are presented in Table 10.9 and 10.10 below.

Table 10.9: Recreational Area Required during Long-Term Plan (2013 – 2028) in City District Excluding MDA Area

Towns	Population		Additional Population (2008-2013)	Recreational Area Required (@1.2 acres/ 1000 persons)
	(2013)	(2028)		
Bosan	410,874	566,188	155,314	186
Shah Rukne-Alam	288,438	407,750	119,312	142
Musa Pak Shaheed	299,198	420,243	121,045	146
Sher Shah	290,830	407,531	116,701	141
Shujaabad	600,050	806,318	206,268	248
Jalalpur Pirwala	518,739	697,056	178,317	214
Total	**2,408,129**	**3,305,085**	**896,956**	**1078**

Table 10.10: Recreational Area Required during Long-Term Plan (2013 – 2028) in MDA Area

Towns	Population		Additional Population (2008-2013)	Recreational Area Required (@1.2 acres/ 1000 persons)
	(2013)	(2028)		
Bosan	394,846	516,498	121,652	146
Shah Rukne-Alam	565,547	739,793	174,246	210
Musa Pak Shaheed	510,435	667,701	157,266	189
Sher Shah	469,234	613,806	144,572	173
Total	**1,940,062**	**2,537,799**	**597,737**	**716**

10.6.7 Cinemas, Auditoriums

Cinemas, theatres, museums, etc. are generally associated with the “down-town” or city centres. Expansion of population and development of new settlements will inevitably give rise to more of such needs. The rapidly developing fields of satellite and cable TV, together with other forms of audio-visual entertainment, have had an adverse effect on cinemas which is evident from the sharp declive in the available cinema facilities in Multan. Main commercial centres in proposed schemes with good linkages to all major parts of the city and parking, etc. should be reserved where, as per demand, theatres and cinemas can be developed. Very often such functions integrate well with the major shopping areas and form a multi-activity zone. If grouped around a pedestrian mall (or, a vehicle-free zone), these zones may become very attractive for users. Safe and convenient parking areas and provision of proper public transport facilities are extremely essential.

The NRM suggests 5 seats per 1000 population for cinema halls and a site area of about 6,000 sq.m for a 1000 seat cinema (including parking space). The NRM suggests a first class auditorium for a population of 0.5 million. These auditoriums may serve as theatres as well and should have about 500 seats each. A site of about 4,000 sq.m is adequate for one such auditorium.

Based on the NRM standards, 10 additional cinema houses, with a total seating capacity of about 7500 are required to be developed in Multan by 2028. Similarly additional 4 auditoriums covering a total area of 4 acres are proposed in the plan period.

10.6.8 Theme Parks and Nature-associated Venues of Recreation

Multan and its outskirts have substantial potential of recreational opportunities based upon association with nature specially water. If developed, through land reservation and incentives, these resources have potentials of providing a variety of out-door recreation. Some of these, such as parks, could be developed, maintained and operated by the city administration. The concept of a nominal user charge should be introduced. Existing orchards the river and canals particularly Shujabad and Naubahar/ Multan Branch Canal, provide many such possibilities. Such zones and resources can also attract the private sector that may venture into the business of multi-activity amusement parks and theme parks.

Apart from enhancements of existing museums and the planetarium, a new science museum of natural history should be considered as a viable facility for the recreational-cum-educational needs of Multan. The science museum is proposed to be located in close vicinity or within BZU Campus or can be made part of the under construction Women University on Matital Road.

10.7 CONCLUSIONS & RECOMMENDATION

i) MDA should have planned large Sports area/ parks in their own schemes like Model Town/ Fatima Jinnah Town.

ii) Preservation of Orchards in the future urbanizing zones of Multan is a must.

iii) Land for future recreational zones be reserved/ acquired to and protect against land speculation.

iv) Expoit the presence of River & Canals and develop linear green belts/ parks along canals, proposed Ring Roads & Railway track etc. to increase the green space in the city.

v) Green belts have been proposed along Naubahar Canal, Wali Muhammad Distributory & Faiz Distributory in the sections as marked on the relevant Master Plan Maps.

vi) Present available Parks & Play grounds should be strictly maintained and not be used for political ceremonies to destroy them and deprive the residents from their intended purpose.

vii) Newly established PHA should identify vacant/ under utilized sites particularly in the old city areas as well as newly urbanized areas to develop them as parks and play grounds, developing road side green belts/ fountains are good for improving environmental quality and outlook of the city but cannot be utilized by the residents. Therefore, PHA must focus on developing useable spaces such as parks & play grounds in the city on priority basis.

viii) In the dense & under supplied areas of the city, the shared used of play fields developed & maintained by educational institutions during holidays & in the evenings should also be considered in consultation with city administration & school authorities.

CHAPTER: 11
COMMUNITY FACILITIES

11.1 INTRODUCTION

Community facilities including emergency services, social services, parks and recreation, and government owned properties such as city hall, are one of the areas of communities that must be addressed in the comprehensive plan of a city.

There is some overlap between the issues related to public facilities and the land use and transportation sections of the plan. New development is generally encouraged to locate in areas that can be efficiently served by public facilities including trunk infrastructure.

Important goals for provision of community facilities would be:

i) To develop and rehabilitate community facilities as focal points that reflects the identity and quality of life in the will.

ii) Build and maintain practical, functional and well-located public facilities and spaces within the community in the existing as well as designated growth areas cocsistant with the future landuse plan.

iii) Design community facilities to reflect the values of the Multan, including tradition, practicality, safety, and a forward thinking approach to the growth of the overall community.

Community facilities are the places of public assembly which provide people the opportunity to intermix and interact socially as well as to fulfill their community needs, like security, rescue in events of emergency, function halls & cemetries. Every citizen should have access to these services in an equitable manner.

Most of the community facilities will continue to be provided by public agencies in Multan. Though a greater role of the private sector would definitely reduce the government's burden, the public sector will yet have to continue its involvement to redress imbalances that the private sector cannot handle because of its very nature. The continued involvement of the public sector will also be necessary so that the needs of the poorer segments of society are met in an equitable manner.

11.1.1 Types of Community Facilities

Various types of community facilities except those discussed in earlier sections of the report available to the metropolitan population may be broadly grouped into:

- Post offices
- Police Stations,
- Rescue / Fire fighting services,
- Libraries,
- Hotels & Restaurants
- Community Centres / Multi-Purpose Event complexes,
- Graveyards

Most of the above mentioned facilities are the domain of the public sector except the profit-oriented community centres, hotels and restaurants.

The need, availability and utilization of community facilities present a complex relationship of socio-economic conditions, and habits and attitudes specific to a society. These needs are generally not expressed as directly as, for example, needs of food, health services, etc. Nevertheless, though these are subtle needs, gross neglect or in-adequacy of required facilities has numerous negative influences on the society.

The hotels and restaurants etc. have a market/commercial aspect that is linked to the degree of affluence of a society. These commercial aspects govern the availability and utilization pattern of such facilities. It can be said that affluence creates its own demands of outdoor eating and club facilities. No demand standards can thus be laid down for such forms of community interaction.

Under the heading of community facilities the data of Post Offices, police stations, hotel & restaurants etc. and graveyards has been collected and presented in this chapter. In making an area livable, healthy, peace full and environment friendly, the existence of appropriate number of community facilities play a major role. Multan, owing to its historical nature, contains such communities which are not well served with such spaces. The detail has been provided below:-

11.2 SITUATIONAL ANALYSIS

11.2.1 Post Offices

There is a decreasing trend in the use of postel service operations throughout Punjab where total post offices have been decreased from 7304 in year 2005-6 to only 3689 in year 2009-10 almost a 50% decrease. Same is the case in Multan where 149 post offices are operational in whole district, out of these 51 are located in southern towns of Shujabad and Jalalpur Pirwala.

11.2.2 Police Stations

Multan Region comprises 6 districts that are City District Multan, Sahiwal, Khanewal, Vehari, Lodhran and Pakpatan. Multan Region is headed by an officer not less than the rank of a Deputy Inspector-General (DIG) of Police. Police in each district are headed by a District Police Officer who is assisted by a varying number of Superintendents and Deputy Superintendents of Police. The Multan District is further divided into 11 Sub-Divisions/ circles. The area of Multan District is 3,721 sqkm with the population of 3.85 million. The police strength is 5322 which means that the police-population ratio is 1:723. There are 27 police stations in Multan with 13 Highway Patrolling Posts in addition.

The districts' composition is presented in table 11.1

Table 11.1: Number of Police Stations in Multan

District	Sub-Divisions/ Circles	Police Stations	Registered Crimes (in year 2010)
Multan	11	27	16,000

Source: *www.punjabpolice.gov.pk.*

11.2.3 Rescue/ Firefighting Serives

The Punjab Emergency Service (Rescue 1122) has been established under the Punjab Emergency Service Act, 2006, for professional management of emergencies by maintaining a state of preparedness to deal with emergencies, providing timely response, rescue and emergency medical treatment to the persons affected by emergencies. The Punjab Emergency Council and District Emergency Boards have also been constituted to ensure effective management & prevention of emergencies and to recommend measures for mitigation of hazards endangering public safety.

Rescue 1122 includes Emergency Ambulance, Rescue & Fire services and Community Safety program. The Service has provided a sense of safety to the citizens by rescuing over 1,360,379 victims of emergencies while maintaining its standard and average response time of 7 minutes in all Districts of Punjab.

The Emergency Services Academy has also been established to ensure sustainable human resource development of emergency services which have been long neglected in Pakistan. This Academy is now a centre of excellence in Pakistan for imparting emergency medical training, fire fighting, collapse structure search & rescue, high angle & confined space rescue, water rescue and other emergency management skills.

At District level, District Emergency Officer has been appointed which is responsible for the day to day operational management and administration of the Service in Multan in close coordination with the District Administration.

Uptil May 2012, Rescue 1122, have responded to about 114,000 calls in Multan and served over 120,000 patients/ affectives including Road Accidents, Medical, Fire, Building Collapse, Crime, Drowing, Blast/ Explosion etc.

11.2.4 **Libraries**

Public libraries are a particular type of information provision, where information is thought of as a public good. Ideas of information as a public good lead to discussions of the role of information and information provision in democratic societies. The libraries partly played a role in people's lives as a source of information, but their more important role seemed to be as a place for knowledge creation. People studied to create knowledge about their education subjects. For libraries to have an impact on society, everyone needs to have access to them. The desire for a knowledge economy is strong and libraries could be part of the achievement of this goal.

At the same time, when libraries are available they play a substantial role in the lives of the people who use them. Many people use the library every day or multiple times in the week. These people primarily use the library to support their formal education. A small but persistent number of young adults also use the library to read the newspaper and help with job searching.

Presently two public libraries exist in Multan which are located at Qila Kohna Qasim Bagh and at Bagh Langey Khan. Both libraries are being upgraded under the Prime Minister's, Southern Punjab Development Package. Both libraries, in total have over 40,000 collections of books.

11.2.5 **Hotels & Restaurant's**

Multan is a city of bussling Bazars, rich architecture heritage, shrines, places of historical importance, arts and crafts as well as mango orchards. All these features attracts lots of tourism & allied activities in this city, which demands considerable number of hotelling & outdoor eating facilities. Presently Multan is not well served with good quality such places to meet the resident's and visitor's demands. According to Ministery of Tourism Report 2006-7, Multan only has 32 hotels having 691 rooms while only one hotel falls in the category of 3 Star & above. PTDC only has an information desk in a private hotel but on the instruction of Primer Minister has planned to establish a Tourist Village near Chenab River Bank in Multan.

Hashoo Group is also establishing a Five Star Hotel of his PC Hotel chain in Multan, in their Pearl City Project located at Askari Bypass Road.

Multan also lacks in quality food outlet/ restaurants where according to Ministry of Tourism Report (2006-7) only 7 restaurants having total seating capacity of 780 exist in addition to the restaurant facilities of above mentioned hotels.

11.2.6 Graveyards

As per landuse surveys conducted in 2008, the area under graveyards in Multan is 491 acres, which is 1.46% of the total built-up area. In 1986, the area under graveyards was 413 acres. There is a visible reduction in area under graveyards with respect to population; in 1986 land under graveyards was about 0.36 acres per 1000 persons, which in 2008 has declined to 0.27 acres per 1000 persons. It is to be noted that the population has increased by 1.5 times over the last twenty years; the area under graveyards has increased hardly 1.2 times (78 acres).

There are more than 150 graveyards of varying sizes scattered all over Multan *(Figure 11.1)*. Out of which more than 50 graveyards are located in inner parts of Multan City, close to the dense residential developments. It is for this reason that some of the bigger graveyards have decreased in size due to encroachment of residential and commercial buildings on their peripheries.

The largest graveyard spread over 50 acres, is located near the shrine of Pak Mai, the wife of Hazrat Shah Sadrud-Din, the son of Hazrat Baha-ud-Din Zakariya Multani. The second biggest graveyard is situated on both sides of Hassan Parwana Road, having an area of about 40 acres. Another large graveyard is near Mumtazabad, spread over 35 acres. Some of the other major graveyards are located along or near Nishtar Road, Suraj Miani Road, Shams Abad Road, Kalma Chowk, Chungi No.8 and Shah Abbas Chowk.

Most of the large graveyards do not have any buffer zones and are located in densely populated areas. If properly planned, developed, landscaped and maintained, graveyards can enhance the City's environment in the physical and aesthetic sense.

11.3 FUTURE PLANS FOR COMMUNITY FACILITIES

11.3.1 Post Offices

Even in this digital age, the postal service remains, for millions of people, the accessible means of communication.

To keep pace with the changing communications market, Posts need to use new communication and information technologies to move beyond what is traditionally regarded as their core postal business. They are to meet higher customer expectations with an expanded range of products and value added services. In addition to its traditional role, the Pakistan post also performs agency functions on

behalf of Federal Provincial Government, which inter alias include Saving Bank, Postal Life Insurance, Collection of Taxes, Collection of Electricity, Water, Sui gas and telephone bills.

Presently urban aras are well served but rural areas need to have more numbers of lower level Time Scale Post Offices to be located one each in a cluster of rural population in the range of 20,000 to 25,000.

11.3.2 Police Stations

One Police Station with staff quarter/ barracks and judicial lock up is required for every 50,000 population. In addition police posts may be provided where population is scattered or due to specific needs. About 4 police stations are required to be added every year to fill the present gap and future requirements during plan period.

11.3.3 Rescue / Firefighting Serives

One fire station for every 100,000 urban population is recommended.

Urban areas of Multan are well served by Rescue 1122 service, however such facilities severly lacks in southern far-flung areas of Multan. Particularly the Ambulance service should be provided in rural areas to shift the patients to either THQ or DHQ Hospitals.

11.3.4 Graveyards

As per National Reference Manual, the standard sizes of graves are as given in Table 11.2.

Table 11.2: Grave Sizes

S.No.	Graves for:	Sizes
i.	Adults	7 ft x 4 ft
ii.	Children	6 ft x 3 ft
iii.	Infants	4 ft x 3 ft

The Manual recommends 2.1% of the total built-up area of an urban settlement to be set aside for graveyards. Currently separate graveyard for each area development scheme has become mandatory. However, large urban level graveyards for the city as a whole are also required. These should be located on the periphery of urban developments, attaining threshold of 100,000 populations.

Graveyards should be properly landscaped, enclosed by a low boundary wall, and their future extensions should be in conformity with already laid out plans. Among the existing graveyards in Multan, only those should continue to be operational which

cover an area above 12 acres. For developing new graveyards, as already stated, 2.1% of the urbanized land is recommended, as detailed below:

11.3.4.1 Area Required for Future Graveyards in Short-Term Plan (2008 – 2013)

The City District requires about 200 acres of land for graveyards for the additional population over the next 5 years. The total requirement of four northern Towns (Bosan, Shah Rukne-Alam, Musa Pak Shaheed and Shershah) is 148 acres, ranging from 35 acres to 39 acres. The 148 acres stated above includes 81 acres required for MDA Area. The requirements of Shujaabad and Jalalpur Pirwala Towns are 27 acres and 24 acres respectively (table 11.3 and 11.4)

Table 11.3: Town-wise Requirements for Graveyards during Short-Term Plan (2008 – 2013) in City District Excluding MDA Area

Towns	Population		Additional Population (2008-2013)	Total Land Required for Additional Population (@45 PPA) (Acres)	Land Required for Future Graveyards - 2008-2013 (@2% of urban land) (Acres)
	2008	2013			
Bosan	365,579	410,874	45,295	1,007	20
Shah Rukne-Alam	254,291	288,438	34,146	759	15
Musa Pak (Shaheed)	264,398	299,198	34,800	773	15
Sher Shah	257,223	290,830	33,607	747	15
Shujaabad	538,597	600,050	61,453	1,366	27
Jalalpur Pirwala	465,613	518,739	53,126	1,181	24
Total	**2,145,702**	**2,408,129**	**262,427**	**5,832**	**117**

Table 11.4: Town-wise Requirements for Graveyards during Short-Term Plan (2008 – 2013) in MDA Area

Towns	Population		Additional Population (2008-2013)	Land Required for Additional Population (@45 PPA) (Acres)	Land Required for Future Graveyards - 2008-2013 (@2% of urban land) (Acres)
	2008	2013			
Bosan	357,624	394,846	37,222	827	17
Shah Rukne-Alam	512,234	565,547	53,314	1,185	24
Musa Pak (Shaheed)	462,317	510,435	48,118	1,069	21
Sher Shah	425,000	469,234	44,234	983	20
Total	**1,757,174**	**1,940,062**	**182,888**	**4,064**	**81**

11.3.4.2 Area Required for Future Graveyards in Long-Term Plan (2013 – 2028)

The requirements of graveyards for the entire City District, each of its six Towns as well as MDA area are presented in Table 11.5 and Table 11.6 below.

Table 11.5: Town-wise Requirements for Graveyard during Long-Term Plan (2013 – 2028) in City District Excluding MDA Area

Towns	Population		Additional Population (2013-2028)	Land Required for Additional Population (@45 PPA) (Acres)	Land Required for Future Graveyards - 2008-2013 (@2% of urban land) (Acres)
	2013	2028			
Bosan	410,874	566,188	155,314	3,451	69
Shah Rukne-Alam	288,438	407,750	119,312	2,651	53
Musa Pak (Shaheed)	299,198	420,243	121,045	2,690	54
Sher Shah	290,830	407,531	116,701	2,593	52
Shujaabad	600,050	806,318	206,268	4,584	92
Jalalpur Pirwala	518,739	697,056	178,317	3,963	79
Total	**2,408,129**	**3,305,085**	**896,956**	**19,932**	**399**

Table 11.6: Town-wise Requirements for Graveyard during Long-Term Plan (2013 – 2028) in MDA Area

Towns	Population		Additional Population (2013-2028)	Land Required for Additional Population (@45 PPA) (Acres)	Land Required for Future Graveyards - 2008-2013 (@2% of urban land) (Acres)
	2013	2028			
Bosan	394,846	516,498	121,652	2,703	54
Shah Rukne-Alam	565,547	739,793	174,246	3,872	77
Musa Pak Shaheed	510,435	667,701	157,266	3,495	70
Sher Shah	469,234	613,806	144,572	3,213	64
Total	**1,940,062**	**2,537,799**	**597,737**	**13,283**	**266**

During the long term plan (2013 – 2028), 665 acres of additional land would be required which implies that about 45 acres should be added annually in the graveyard area to meet the annual population & housing growth requirements in whole Multan District.