HELP BUILD HEALTHY CITIES PMDFC

WORLD BANK

MAILSI

PUNJAB MUNICIPAL SERVICES IMPROVEMENT PROJECT

PUNJAB MUNICIPAL DEVELOPMENT FUND COMPANY

2011

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ABBREVIATIONS

ADP	:	Annual Development Plan
ATO	:	Assistant Tehsil Officer
BI	:	Building Inspector
CCB	:	Citizen Community Board
CTS	:	Complaint Tracking System
CO	:	Chief Officer
DCR	:	District Census Report
FMS	:	Financial Management System
GIS	:	Geographic Information Systems
ID	:	Institutional Development
NGO	:	Non-Governmental Organization
O&M	:	Operation & Maintenance
OHR	:	Overhead Reservoir
PHED	:	Public Health Engineering Department
PLGO	:	Punjab Local Government Ordinance
PMDFC	:	Punjab Municipal Development Fund Company
PMS	:	Planning Management System
PMSIP	:	Punjab Municipal Services Improvement Project
ROW	:	Right of Way
TMA	:	Tehsil Municipal Administration
TMO	:	Tehsil Municipal Officer
TOs	:	Tehsil Officers
TO (F)	:	Tehsil Officer Finance
TO (P&C)	:	Tehsil Officer Planning & Co-ordination
TO (I&S)	:	Tehsil Officer Infrastructure and Services
TO (R)	:	Tehsil Officer Regulation
UC	:	Union Council
WB	:	World Bank

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CHAPTER 1 INTRODUCTION

1.1 Background

Planning is a part of Punjab's local government system with the planning responsibilities of TMAs, set out in PLGO. Under the devolved system, the newly created office of TO (P) has the following functions; (i) develop plans; (ii) develop and apply building controls; (iii) manage CCBs; (iv) implement commercialization rules; (v) operate Punjab Housing Development Schemes; (vi) develop site development schemes. In addition, the PLGO identifies the preparation of spatial plans (Article 54 (a)), development plans (Article 54 (c)) and budget plans, long term and Annual Development Programs (Article 54(j)) as key functions of the TMAs. Unfortunately, in majority of TMAs TO (P)) office has not been able to perform as envisioned in the PLGO. Some of the reasons are inadequate staff and lack of up-to-date maps, equipment, management/ regulation/ and enforcement mechanisms. As a result, development works are taking place in a piecemeal manner and lack integrated and coordinated approach.

1.2 Punjab Municipal Service Improvement Project (PMSIP)

Under these circumstances the Government of Punjab launched Punjab Municipal Service Improvement Project (PMSIP) through Punjab Municipal Development Fund Company (PMDFC) .The project aims at the institutional development of TMAs through improving systems directly related to their functions and through investments in service delivery.

1.2.1 Key Features of PMSIP

The project has two distinct components; Infrastructure Development and Institutional Development (ID):

Infrastructure development: The project funds the infrastructure schemes after the identification of most pressing development issues of the respective town.

Institutional Development: To improve the municipal service delivery, a number of interventions, have been introduced such as establishment of systems like (PMS, CTS, CFMS) provision of trainings to TMA staff and development of GIS based municipal and Urban Planning Maps

1.3 PMSIP Planning

Under PMSIP planning, rapid appraisal of municipal services is undertaken to identify service delivery gaps on the basis of technical analysis. The main function of PMSIP Planning is the involvement of stakeholders to make the planning exercise meaningful and demand driven.
Outcome of this exercise is a municipal service data base, improved GIS based maps and a list of development projects, ensured by stakeholders that may be funded by PMSIP and other funding sources.

1.3.1 Limitations of PMSIP Planning

As every project addresses specific issues, PMSIP has been launched with some limitations as follows:

- The PMSIP development grants fund for municipal services only.
- PMSIP planning exercise is undertaken for CO Units starting from CO Unit HQ, i.e. urban area.
- The prioritized list that is developed is restricted to the UCs falling in CO Units.

It is assumed that experience gained in the urban areas would be replicated in the entire Tehsil by the TMA staffs who have gained experience and training during the planning process, whose details are as follows.

1.4 The Planning Process

The adopted Planning process incorporates an overall strategy for highlighting the development options and the community's agreed outputs. These outputs form the basis of spatial plan. It is a more inclusive approach aiming to ensure best use of land by weighing up competing demands.

The plan devised is an ongoing process for the sustainable development. To achieve such development a spatial plan has been developed. It addresses municipal development issues and infrastructure needs in a systematic way. The plan therefore emphasizes on engagement with the stakeholders and other organizations, the management and ongoing funding programs. This leads to identify community's preferences for development process.

Following steps were adopted for the planning process:

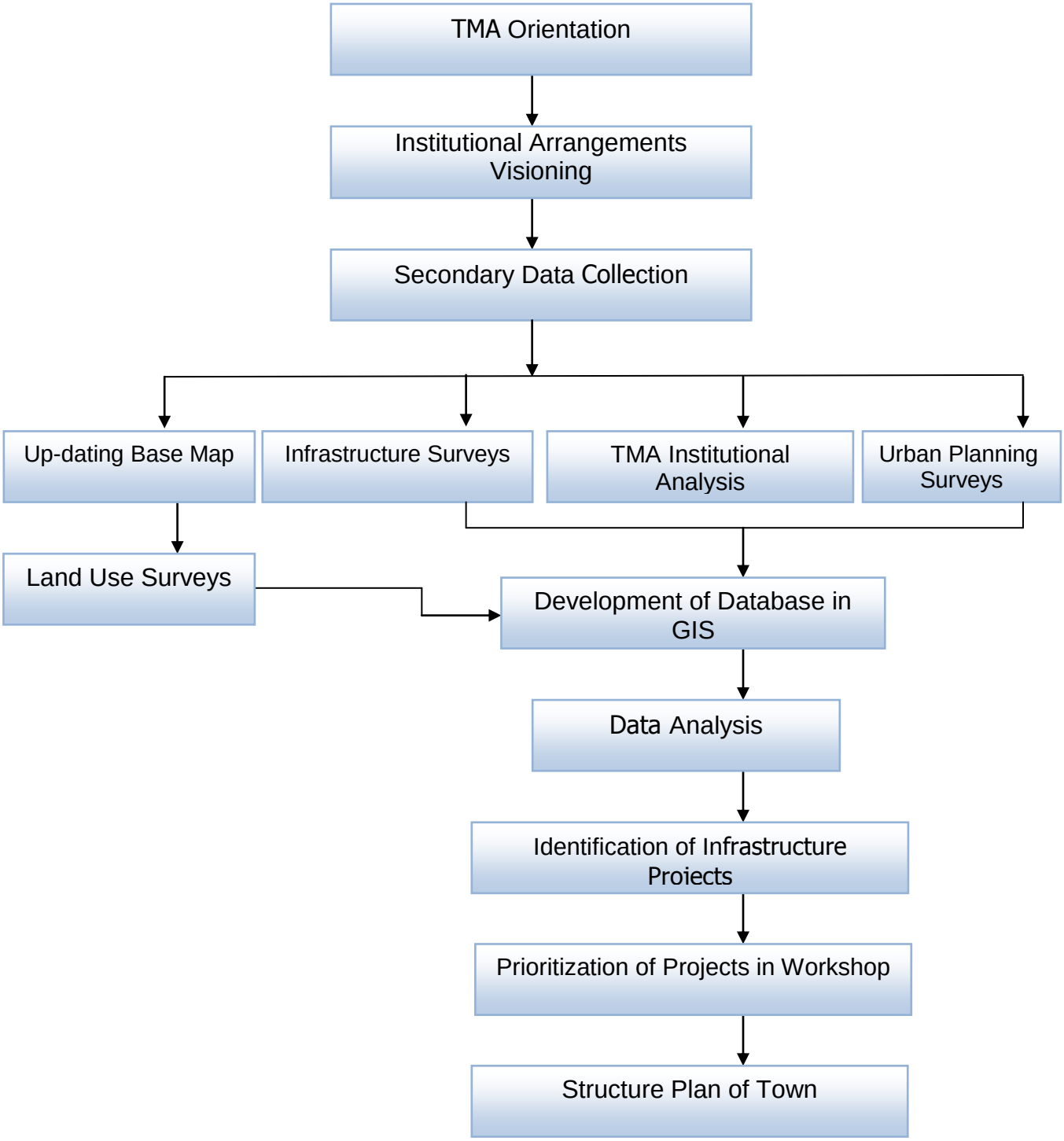


Figure 1.1: Flow Chart for Planning Process

1.4.1 Secondary Data Collection

First, the sources were identified for the previous attempts that were made in Mailsi for planning. It includes, DCR, online data and PHED services maps.

The study of such documents helped to gather background information about the town, infrastructure coverage and growth. It helped to have an understanding about the development patterns evolved over the years.

The maps from Public Health reflected the water supply and sewerage schemes. Information was also gathered whether the projects had completed their designed life. These plans were again used at the analysis stage and compared with the data collected during the current planning exercise.

1.4.2 Mapping

The first requirement before going to the field was to prepare a base map for the town. For this purpose, the mapping exercise was started in parallel to the secondary data collection. The image was procured for the TMA. It was then processed and a vectorized layer was made. The land marks were put on the base map using the secondary sources i.e. maps obtained from PHED. The land marks included the important roads, water features, big buildings, factories, graveyards etc.

1.4.3 Field Data Collection

Preliminary Meetings

Once the data collection forms were finalized the planning team initiated the data collection process in the field. First, a meeting was held with the TMA leader ship (Nazim) to discuss the field data collection work plan. At this stage a planning steering committee comprising of TOs, and a working group constituting ATOs and other lower order officials was notified. The duties were assigned and a briefing was given to these officials about their role in data collection.

The planning team discussed the general development issues of the town with the Nazim and notes were recorded.

Infrastructure Data Collection

For infrastructure data collection, the planning team worked very closely with the working group. First the existing service maps available with the TMA were used as a starting point. To update the map the secondary source like information from Public health maps was added. This information was verified by the working group to prepare an updated map for the services.

This missing or additional information was provided by second line officials. For instance, for water supply, plumbers and sub engineers provided first hand information about the system. Where necessary, field visits were made to validate the information.

Urban Planning

A land use survey was conducted to update the TMA map. The residential areas, commercial, institutional and open spaces and industrial areas were marked on the base map. The team comprised for the survey was TO (P), urban planner from PMDFC and draftsman from TMA.

The Planning office guided about the growth directions of the town and a rudimentary survey was made in this regard. It was observed where the new residences were built and institutions were being developed. These factors determine the future expansion of the town.

In addition to it, the land ownership and land values information was recorded.

1.4.4 Data Analysis

Once the planning team collected the data, all of the forms were arranged in the office. The data was cleaned and integrated. The PMDFC officials contacted the TMA office again if any gaps were found in the collected data. Such additional information was gathered for each sector.

Based on the information collected in the field, descriptive maps for all the municipal sectors like water supply, sewerage, solid waste and land use were developed. The analysis report was produced by the planning team by using these maps. This report was again sent to the engineers for further updation and review and hence a final draft was made.

1.4.5 The Visioning Workshop

The planning process stems from the Nazim and other stakeholders vision of the town which is further translated into the tangible and concrete targets. The salient feature of this step is the visioning and prioritization workshop. Participants of the workshop were the Nazim and Naib Nazim, senior TMA officials, including the TMO, all the TOs and staff members , councilors, local representatives of provincial departments, representatives of NGOs operating in the town, representatives of civic groups such as the trade bodies. A comprehensive presentation was given to all of the stakeholders about the fabric of the municipal infrastructure in the town. They all shared their views about the future development options and investment decisions of their town. Once the vision was agreed upon and the objectives were established, a rigorous session was organized for the selection of the priority sectors.

At the end of the workshop the statement of agreed vision, objectives and priorities was summarized in written draft and circulated among all the stakeholders.

The planning exercise was to be reviewed in order to assess the implications of the whole process in year-1 TMAs. Therefore, it was important to get back to these TMAs. For this purpose an interim appraisal was made by WB in November 2009. The details are as follows:

1.4.6 Interim Appraisal by the World Bank

Two day Consultative Workshop was held as a schedule arrangement during *World Bank Implementation Support Mission* in November 2009. The World Bank mission was to make interim appraisal of the PMSIP activities undertaken inYear-1 TMAs.

In addition, it provided a forum for Tehsil Officers Planning TO (P) s, the World Bank and PMDFC to share common approach to improve capacity building efforts for the planning office of the partner TMAs.

1.4.7 One day Planning Refresher Workshop for Year - I TMAs

A refresher workshop was conducted on April 9, 2009 to develop a close liaison between PMDFC and TMAs. TO(P)s from partner TMAs attended the workshop. Presentations were designed to give a snapshot of the planning exercise. The main objectives of the workshop were;

- To review the existing planning process
- To initiate the process of up-dating of the planning reports and maps
- To share the maps and reports prepared by PMDFC with partner TMAs

In addition to it, information was also collected regarding the interventions, their viability and suggested improvements.

CHAPTER 2 TMA PROFILE

2.1 District Profile - Vehari

2.1.1 History

Vehari is a relatively new district. It was created in June 1976. Previously it used to be a Tehsil of Multan district. Since Multan was a large district in terms of area, it was difficult to administer it. Therefore, Vehari was separated from Multan district and raised to the status of a separate district.

Literally Vehari means low lying riverine settlement. It is situated on the right bank of river Sutlej, in the heart of Nili Bar, the bluish tinge of the water of the Sutluj. The construction of Pakpattan Canal from Sulemanki Head Works on the Sutluj and the launching of Nili Bar colony project in 1925; considerably added to the population of the district. The ancient history of the area is not well recorded except for the fact that this riverine tract formed the state of Fatehpur during the time of the Mughal King Akbara the Great. It was ruled by Fateh Khan of Joya family who founded and gave his name to the town of Fatehpur. Fatehpur still exists at a distance of 15 Kilometres to the south of Mailsi. Some remains of archaeological value are found in this town.

2.1.2 Location

The district, at present borders with Bahawalnagar and Bahawalpur on the Southern side, with Pakpattan on the eastern, with Khanewal and Lodhran on western and with Sahiwal and Khanewal on northern side.

2.1.3 Area/Demography

The district covers a total area of 4,364 square kilometers. Its population is 2,090,416 as per DCR 1998. It has three Tehsils/TMAs.

1. Vehari
2. Burewala
3. Mailsi

Table 2.1: Detail of Tehsils

Tehsil	Area (sq.km.)	Population 1998							Population 1981	1981-98 Avg. annual growth rate (%)
		Both sexes	Male	Female	Sex ratio	Population density/sq. km.	Urban proportion	Avg. HH size		
Vehari	1,430	654,955	339,996	314,959	107.9	458.0	14.4	6.8	413,446	2.74
Burewala	1,295	730,583	378,128	352,456	107.3	564.2	20.8	7.0	473,006	2.59
Mailsi	1,639	704,878	365,689	339,189	107.8	430.1	12.6	7.0	442,356	2.78

Source: District Census Report 1998, Population Census Organization, Statistics Division Government of Pakistan, Islamabad

2.2 TMA/Town Profile

2.2.1 General

Mailsi is one of the three Tehsils of District Vehari. The district Vehari covers a total area of 4,364 square kilometres. Its population is 2,090,416 as per DCR 1998. The other tehsils are Vehari and Burewala.

Mailsi was raised to the status of Municipal Committee in the year 1952. After the implementation of Punjab Local Government Ordinance 2001, it attained the present status of TMA.

2.2.2 Location

Mailsi is located at 35 km from Vehari. It can also be accessed from Lahore-Multan highway. It is located on the right bank of river Sutlej. It is at a distance of 90 KM from Multan, on its south-east, and connected to it by a metallic road. Lodhran-Vehari Section of Pakistan Railways passes through Mailsi.

2.2.3 Area/Demography

TMA Mailsi spreads over an area of 1,639 square kilometers with a population of 704,878(as per DCR 1998). It comprises 31 Union Councils and 4 CO units.

Table 2.2: Detail of CO Units in Mailsi

CO Units	Population 1998			Population 1981	1981-98 Avg. annual growth rate (%)	Avg. HH size
	Both Sexes	Male	Female			
Mailsi	55,434	28,747	26,678	33,652	2.98	7.6
Jalla Teem	12,310	6,318	5,992	-	-	7.2
Tibba Sultan Pur	11,298	5,821	5,477	7,564	2.39	7.4
Karampur	9,950	5,121	4,829	-	-	7.2

Source: District Census Report 1998, Population Census Organization, Statistics Division Government of Pakistan, Islamabad

Table 2.3: Population Forecasts

2010	2015	2020	2025	2030
78,852	91,322	105,764	122,491	141,863

* The growth rate of 3.69 has been taken for the projection.

Table 2.4: Incremental Population (2010-2030)

Population 1998	Incremental Population			
	2010-2015	2015-2020	2020-2025	2025-2030
55,434	12,470	14442	16,727	19,372

CHAPTER 3 URBAN PLANNING

Urban planning under TMA has a crucial role in guiding the present and future growth of the town. The Planning officers responsible to produce spatial plans and exercise development control for change of land uses in the town. Further it maintains a comprehensive data base and information system on TMA and is responsible to execute and manage development plans for infrastructure projects. For the entire development of the Tehsil it is mandatory to produce different maps like base map, land use map, zoning map, etc. The planning office is responsible to prepare Annual development plans and long term plans. These plans are made under the direction of Tehsil Nazim.

3.1 Situation before Planning Exercise

At the start of planning exercise, the available information with the TMAs was very limited, out dated and rudimentary. The maps were either quite old, or were not present at all. Most of the mapping was done by hand drawings. The TO(P) office main function of development control was severely hampered due to lack of information such as updated maps.

The one of the basic objective of PMSIP exercise was to build the capacity of TO(P) Office. For this purpose availability of updated maps was kept on top priority. Satellite images were obtained and developed with the help of GIS technologies. All important information regarding urban planning and infrastructure situation was put on the maps.

3.2 Mapping by PMDFC

At present, with the completion of planning exercise in Mailsi, a number of maps have been prepared and handed over to the TO (P) office. It included land use, density, growth direction, water supply, sewerage, solid waste management, roads and street light maps. Moreover, for analysis purposes various maps are prepared further. e.g. density maps, service coverage maps etc. These maps are helpful in making recommendations for improved services in the town.

In further as capacity of TMA would be enhanced the soft copies will be handed over so that they could develop/improve their own maps. These maps would also be prepared in Auto Cad.

3.3 TO (P) Office

The following Table compares the available posts and the filled posts in the office of TO (P).

Table 3.1: Detail of Posts in the planning office (June, 2011)

s/no	Post	Available Posts	Status
1	TO(P)	1	Additional charge to TO(I&S)
2	Sub-Engineer	1	Vacant
3	Building Inspector	1	Filled
4	Draftsman	1	Vacant
5	Tracer/surveyor	1	Vacant
6	Junior clerk/billing clerk	1	Filled
7	Driver	1	Vacant
8	Naib Qasid	1	Filled

Source: Agency record

As is evident from the above table, most of the important posts are lying vacant. Without TO(P), and regular sub-engineer and building inspector, building control and other development plans get delayed, causing inconvenience to the general public. All records are manually maintained and no analysis of data is performed.

3.4 Building Control

For building control activities residents submit requests with a plan and other requisite documents. Building inspector visits the site and checks if the plan is according to the site. There is a requirement that residents after completion of their buildings get a completion certificate from planning office, but it rarely occurs. There is need of such mechanism that residents have to get the completion certificate. The building control records are manually maintained.

3.5 Existing Land Use Characteristics

Land use pattern in Mailsi is undefined and haphazard. The city has grown in an irregular fashion, with many vacant pockets of land in it.

Four Provincial Highways pass through the town. These highways lead to adjacent towns like Multan, Vehari, and Kehror Pacca, etc. The entire town is divided by a railway track. This railway track bisects the town from North east to south west direction. This acts as a barrier to the growth of the town in the western direction. Most densely populated area is situated to the east of the railway track. Although some part of the town has grown in the north west of the town. There is some industrial uses are mixed up in the residential uses. There is Mahfooz cotton factory and one oil mill present.

The central part of the town is an amalgamation of commercial, residential and institutional activities. Adjacent to the Minor Chowk and rail way crossing is the high

activity area. Here Mailsi Trade centre, Civil Hospital, TMA office, etc is situated. The street pattern is irregular and narrow. Old structures with 1-2 stories are present.

There are two graveyards in the town. The one is in the southern part of the town which is a big one. The other is situated to the north of the town. The southern part is sparsely populated. Karam Wah canal is in the southern part of the town.

In the northern part of the town there is one grain market. Adjacent to the railway track there are Godowns.

There is no proper park in the town .There is one ladies park in the eastern part of the town. The High School is adjacent to the park. Government College for boys is in the western part of the town.

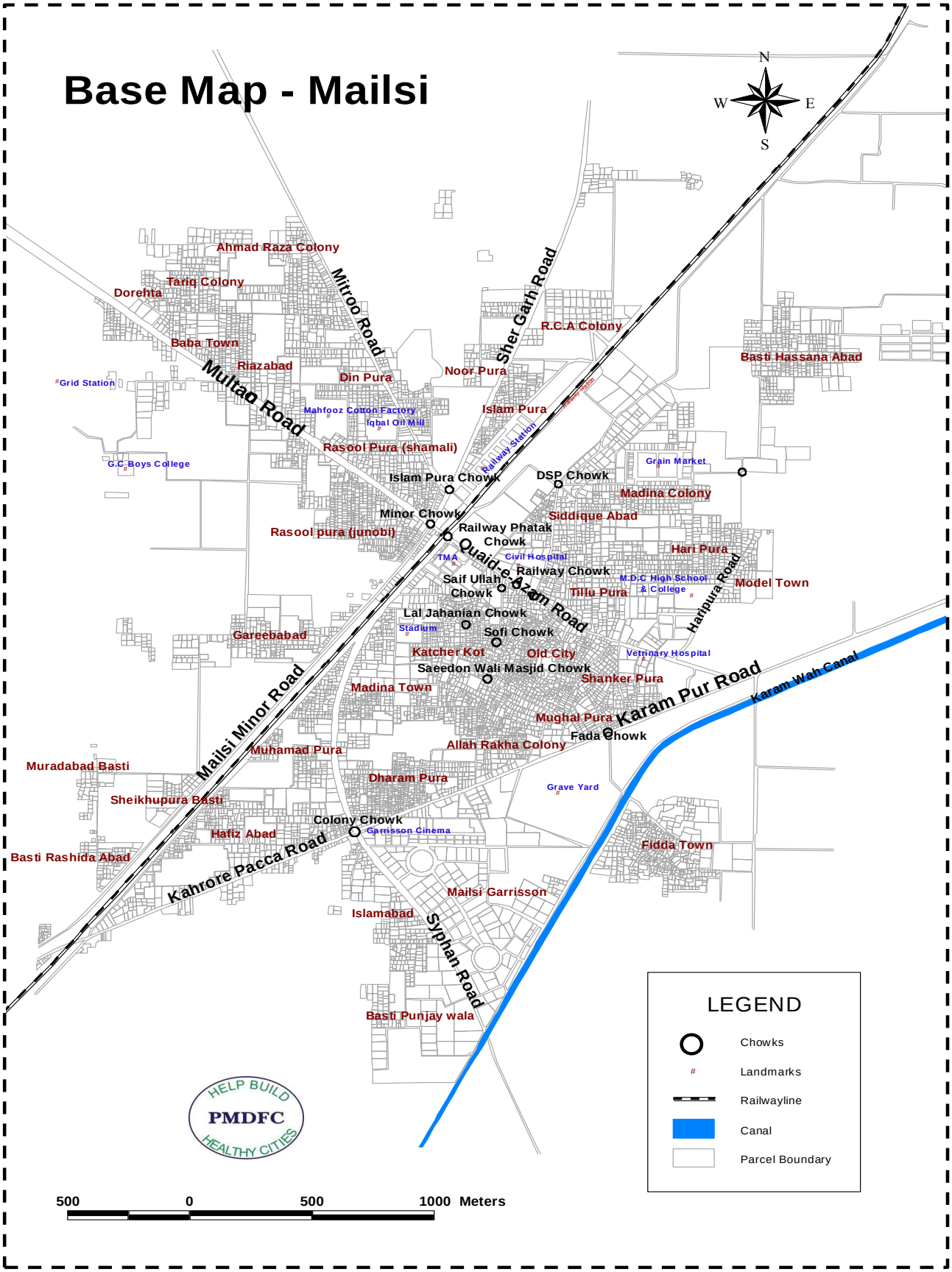


Figure 3.1: Base Map

3.6 Katchi Abadi

There is no Katchi abadi.

3.7 Growth Directions

Most of the city is expanding towards the eastern direction. This expansion is residential in nature and is taking place along the Karampur road. This area is adjacent to Haripur road and Karam pur road. Here new residential establishments are being developed. This area is sporadically developed.

Some other development is taking place in north-west direction. New residential settlements are being developed along Mitroo road. The housing schemes in this part are are Tariq colony, Ahmad Raza colony, Baba Town and Riazabad.

CHAPTER 4 STATUS OF MUNICIPAL INFRASTRUCTURE & RECOMMENDATIONS

4.1 Road Network & Street Lights

Mailsi town is connected with major towns by provincial highways such as Mailsi–Multan Road, Mailsi, Karampur–Vehari Road and Mailsi Kahror Packa Road. Other provincial highway road is Siphon Road emerging from Garrison Chowk. These roads are shown in road network map.

Due to urbanization the town is expanding resulting in congestion and increased traffic on roads. The urbanization has resulted in increased commercial activity which in turn gives rise to heavy traffic on roads.

4.1.1 Road Condition

Most of the TMA roads are in satisfactory condition, detail is given as:

Table 4.1: Details of TMA Roads

Sr. No.	Name of Road	UC	Length (KM)	Av. Row	Av. Width	Type of Surface	Existing Condition
1	Quaid-e-Azam Road	27/28	1.45	40	20	TST	Good
2	Haripura Road	27	1.00	24	10	TST	Bad
3	Qamber Road	29	1.90	24	10	TST	-
4	Mailsi Minor Road	27	-	30	20	TST	Good
5	Hafizabad Road	28	1.00	20	10	TST	Good
6	Govt. Degree College Road	27	1.40	20	10	TST	Good
7	Eid Gah Road	27	0.50	20	10	TST	Good
8	Railway Road	27	0.50	25	15	TST	Good
9	Circular Road	28	0.50	20	10	TST	-
10	Mitroo Road	27	1.70	30	20	TST	Fair
11	Lal Jahanian Road	28	0.50	20	10	TST	Fair
12	RCA Colony Road	27	0.90	20	10	TST	Good
13	Sher Garh Road	27	2.00	30	20	TST	Good
14	Islam Pura Road	27	1.00	20	10	TST	Good
15	Grain Market Road	27	0.45	30	20	TST	Good
16	Kacha Kot Road	28	1.00	20	10	TST	Bad
17	Nathay Shah Road	28	0.070	20	16	TST	Bad
18	Fadda Bazar Road	28	0.50	15	10	TST	Bad
19	Railway Station Road	27	1.30	30	20	TST	Good
20	Nasir Khan Wali Road	27	1.50	15	10	TST	Fair
21	Shankar Pura Road	28	0.30	15	10	TST	Bad

4.1.2 Main Chowks and Bazars

There are nine main road junctions (chowks) in the town shown in road hierarchy map. Fiddah chowk is an entering point from where traffic enters or exit in the town from Karam Pur Road. DSP Chowk, Railway Phatak Chowk, Minor Chowk and Saifullah Chowk are the busiest chowks of the town.

Important chowks with the roads merging there of the town are as under:

Table 4.2: Chowks of the Town

NAME	ROADS
Fiddah Chowk	Karam Pur and Fiddah Inter Roads
Colony Chowk	Siphon, Qazi Town , Karam Pur Roads
Saeedon wali Masjid Chowk	Grain Market, Station, Katchehry and Railway Roads
Railway Chowk	Quaid –e-Azam and Railway Roads
Railway Phatak Chowk	Quaid –e-Azam and Railway Station Roads
Minor Chowk	Multan, Mailsi Minor and Mitroo and Sher Garh Roads
College Chowk	College and Multan Roads
DSP Chowk	Kachery, Station and Railway Roads
Saifullah Chowk	Quai-e-azam Road, Grain market, Station Road

4.1.3 Traffic Congestion and Parking

Exhibit: Circular Road

As Mailsi is not a planned town therefore, roads are haphazardly laid without taking care of planning requirements. In addition, temporary and permanent encroachments have further narrowed down the roads. There is no bus stand in the town. Few years back municipal committee had developed a bus stand at a distance of 3 km on Mailsi-Multan road. But the scheme wasn't successful and now it is abandoned. As a result, buses stand all over the town cause massive traffic problems. Another major blockage is the railway crossing near TMA office. Traffic is jammed at rush hours at this junction. Quid-e-Azam road is the busiest road as most bazaars emerge from it.

4.1.4 Street Network

Old part of town in UC-28 i.e. south of Quaid-e-Azam road, north of Karam Pur Road and east of Colony road has narrow streets. As Mailsi is not a planned town these streets are haphazardly developed. UC-28 Nazim and stakeholders have requested to upgrade these streets with concrete pavers.

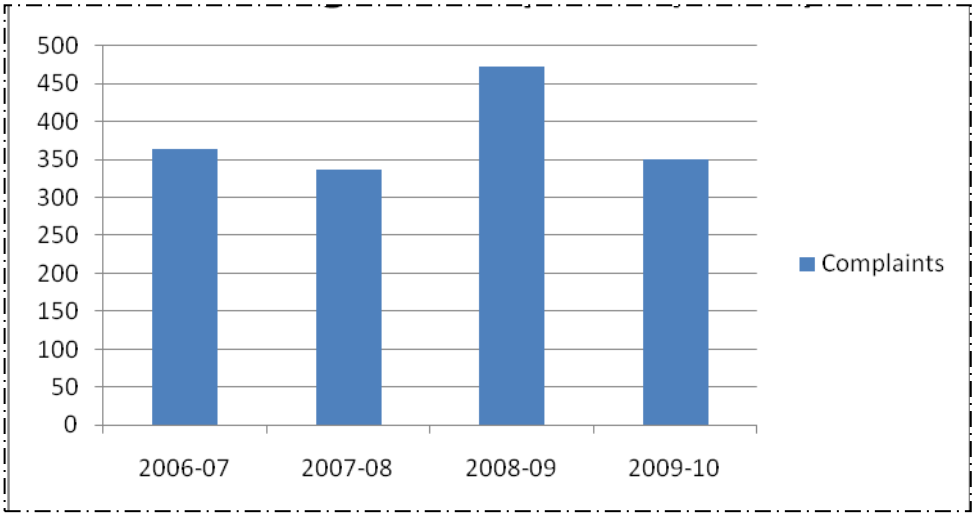
4.1.5 Needs

Table 4.3: Needs

S. No	Sub-Project	Rationale	Beneficiaries
1	Development of Under Pass at Colony Road	Traffic is jammed at railway crossing near TMA office. Therefore, an alternate route of underpass would be great municipal service.	Whole town of Mailsi as most people have to suffer with this bottle-neck in the town.
2	Development of a new bus stand at Kahror Packa road.	Presently, there is no functional bus stand in Mailsi. This results in buses being lined up in town roads causing major traffic blockages. Site identified by TMA is suitably located for such a sub-project.	Whole town of Mailsi as most people have to suffer with this bottle-neck in the town.
3	Provision of concrete pavers in streets of UC-27/28	This area is the oldest part of Mailsi and has narrow streets. Providing concrete pavers would improve life of citizens.	Major population living in UC-28 would benefit by this project.

4.1.6 Street Lights

According to data gathered under PMS, PMDFC, TMA is providing the facility of street lights in min roads and 278 streets (83.73%) in which there are total 1,766 street lights are installed. Street light provision in the town is high about 84 percent but about 56 % (June, 2010) of them are not in working order. Detailed data of street lights is provided in Annex-A. Therefore, TMA needs to concentrate on operations and maintenance of street light system.



Source: CTS Data, PMDFC

Figure 4.1: Street Light-Complaints (Mailsi)

According to above statistics of street lights gathered from CTS, PMDFC installed at the TMA, there are on average 350 street light complaints each year. The figure is quite high and indicates some serious issues in street light in Mailsi, which must be addressed.

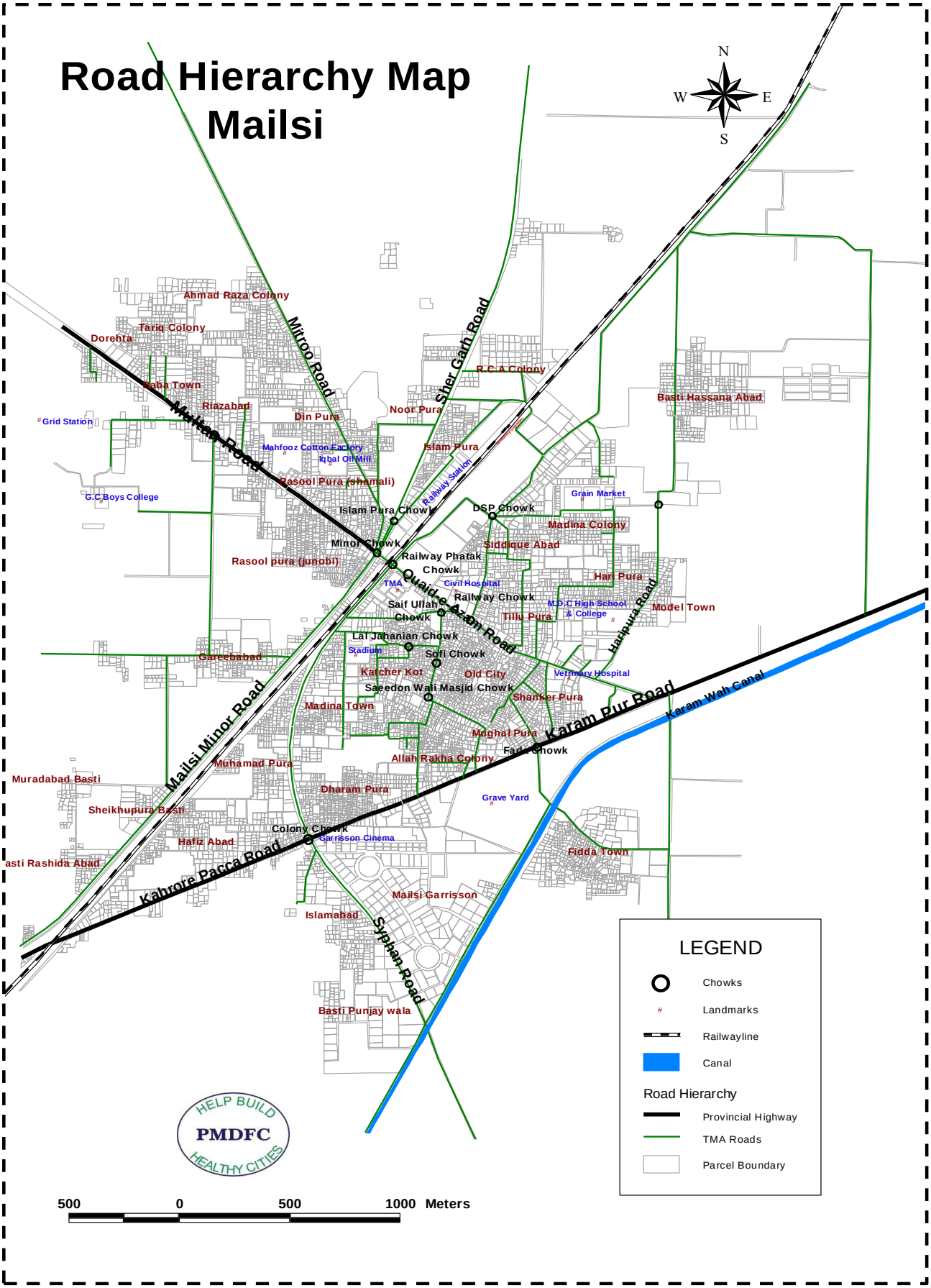


Figure 4.2: Road Hierarchy

4.2 Water Supply

4.2.1 Service Area

Presently 9-Nrs. tube wells of capacity 1.0 cusec each have been installed to provide water to the consumers through piped network completed under different phases. Some of the components of tube wells with the exception of motors have been replaced recently. The tube wells are operating at previously installed motors of 25 HP resulting in frequently break down of the motors and burning of power wiring. With the said improvements, the delivery of water increased, but resulted in more head losses. As such the tube wells are unable to deliver water to the consumers at the required head.

On the basis of usual per capita water demand, the present estimated production capacity of tube wells of about 1.28 MGD (6-hours operation) is insufficient to meet the average water demands.

Intermittent water is supplied to consumers and usual supply hours are as under:

Nr.	Period of the Day	From	To	Hours
1.	Morning	4:30 am	6:30 am	2.0
2.	Mid Day	12:00 am	2:00 pm	2.0
3	Evening	5:30 pm	7:30 pm	2.0
	Total			6.0

The water distribution network had been executed along with the water source development. The pipe size varies from 3 inches to 12 inches diameter. The pipe material used comprises; galvanized iron, mild steel, asbestos cement, and UPVC.

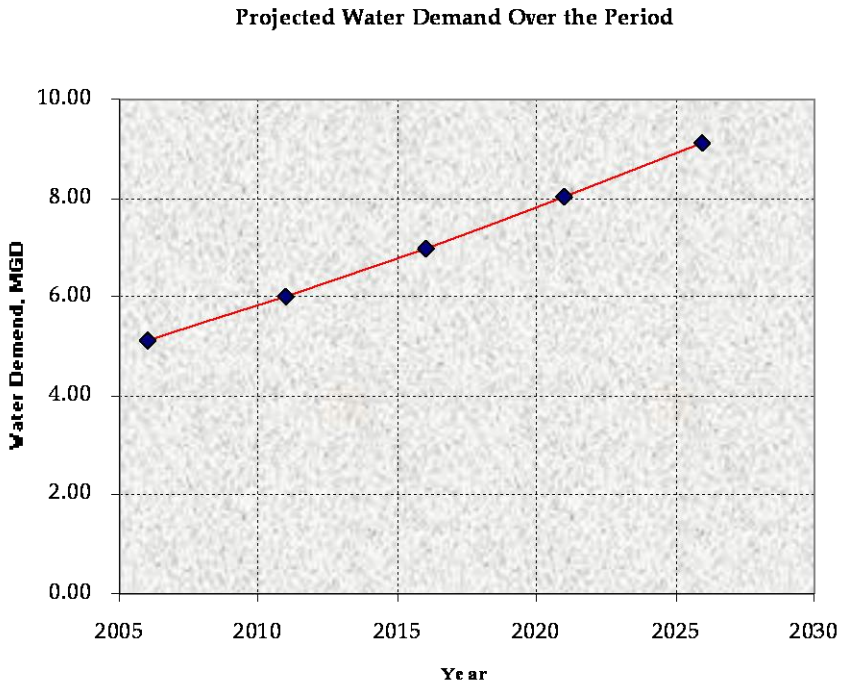
During field surveys and discussions with the concerned officials of the TMA, it is noticed that significant number of consumers have installed booster pumps directly on the water line, thereby depriving the others from their legitimate right of water supply. The situation is quite critical and has disturbed the normal functioning of the system.

The procedure for installation of the service connection is very crude and is resulting in not only unsanitary service connections but is also wastage of precious water resource through excessive leakage. The service connection is also devoid of normal method of connection through ferrule (which supplies controlled flow) and some of the consumers have installed water connections of higher capacity / size with the result that certain areas receive sufficient quantity of water while the others are deprived of this basic commodity. At locations, ugly scenes of poorly installed water connections are visible. Use of plastic pipe of poor quality (usually used for watering of lawns, etc) is common in the service connection. In addition, some of the consumers particularly in the low income / expansions areas, have installed service connections without

tap / control for the income service pipe, resulting in continuous loss of water without useful / required purpose.

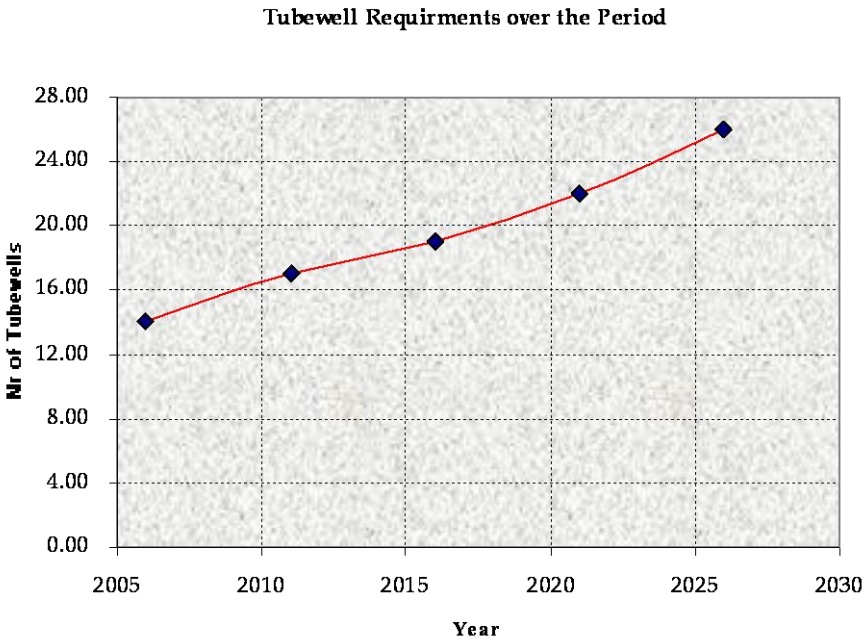
The use of existing overhead reservoir of 50,000 gallons capacity has been stopped. This is due to low head generated by pumps of the tube wells. The existing pumps require modifications so as to fill the overhead reservoir. With little additional pumping, overhead reservoir could be filled at night for supply in the morning when demand builds-up.

On the basis of average 40 gallons per capita per day water demand which is assumed to be increasing over the period and is anticipated to be 45 gallons by the Year-2026, total water demand is estimated as under:



Evidently above 5 million gallons per day production is required to meet the existing water demands.

For a tube well capacity of 1.0 cusec capacity, 16-hours per day operation, total number of tube wells required to meet the maximum day water demand would be as under:



It is noticed that additional 10-numbers tube wells to meet water demands up to the year-2016, are required and existing nine tube wells require modifications. The presently served population of about 50% will increase to around 100% on completion of the proposed project.

1. The pumps of existing tube wells need to be replaced as they are responsible for frequent break down of the pumping set. Replacement of few components does not serve the purpose. Therefore, pumps are proposed to be replaced completely along with motor, motor control unit, power wiring etc.

2. In order to serve 100% population augmentation of distribution network is required along with tube wells. Distribution pipes, about 290,655 rft are proposed; diameter ranges from 3" to 8". The recommended pipe material is uPVC, Class B, 200' working pressure.

3. Ground water extracted through wells needs to be disinfected. The disinfection of the water is accomplished through installation of 19-nrs hypo-chlorinators within the tube well chamber; 9-nrs for the existing tube wells and 10-nrs for the proposed tube wells.

4. The crude method of installation of water service connections needs to be stopped. This is proposed to be replaced with proper connection in the form of PP saddle clamp, ferrule, PE pipe, etc. The project includes replacement of about half of the water connections. Out of 2,408 water connections, it is proposed to replace around 1,000 connections, under this project.

5. The project requirements to meet the demands up to the year-2016 are summarized as under:

Sr. Nr	Description	Unit	Quantity
1	New tube wells	Nrs	10
2	Replacement of old tube wells	Nrs	9
3	Overhead reservoirs, 50000 g	Nrs	3
4	Distribution Network		
	3" dia pipe	Rft	182,123
	4" dia pipe	Rft	31,212
	6" dia pipe	Rft	55,067
	8" dia pipe	Rft	22,253
5	Hypo-chlorinators	Nrs	19
6	Replacement of service connections	Nrs	1,000
7	External electrification alongwith		
	50 KVA sub-station	Job	10

4.2.2 Drinking Water Sources

The ground water is the source of water supply through tube wells in the Mailsi town. Mailsi is situated in sweet water zone; as it is located along right bank of river Sutlej, therefore areas closer to river system have sweet water due to recharge from the water bodies.

4.2.3 Water Distribution Network

The water supply scheme is part of the master plan taking into account implementation under different stages. The present component will meet requirements up to 2026. However, tube wells will supply water up to the year 2016 and would be augmented accordingly. The detail of said scheme is given under:

Table 4.5: Water Distribution Network

Sr. No.	Item of Work	Unit	B.O.Q Quantity	Quantity executed	%age progress
1	Tube Wells Drilling & Boring	No.	10	10	100%
2	Tube Wells Chambers	No.	10	10	100%
3	Pumping Machinery	No.	10	10	100%
4	Replacement of Pumping Machinery of existing t w	No.	9	9	100%
5	Hypo-chlorinators	No.	19	19	100%
6	Distribution System (Rft)				
i)	*3" i/d*	Rft	1,82,123	128,211	70.32%
ii)	*4" i/d*	Rft	31,212	24,438	77.34%
iii)	*6" i/d*	Rft	55,067	49,366	89.0%
iv)	*8" i/d*	Rft	22,253	18,230	82.0%
	Total	**Rft**	**2,90,655**	**2,20,245**	**76%**
9	OVER HEAD RESERVOIRS				
i)	*Ohr-2(50,000 Glns) Close to Model Town*	No.	1	completed	70%
ii)	*Ohr-4(50,000 Glns) Close to NthayShah*	No.	1	Shaft completed	
ii)	*Ohr-3(50,000 Glns) Close to Degree college*	No.	1	Shaft completed	
10	Crossing Connections	No.	60	20	33%

As per PHED Criteria-98, per capita water requirements are 10-50 gallons, 10-20 gallons for rural area and 30-50 gallons for urban exceeding 100,000 persons. Industrial water consumption shall be on the basis of actual water use. For institutional water demand, certain gallons per establishment have been included in the criteria, which is against usual practice. It is usually related with the domestic water demands. As such for the size of the city, average water demand of 40 gallons per capita per day is available.

- **Distribution System**

A net work of pipe lines AC/PVC/CI with different sizes ranging from 12" to 3" in diameter.

- **Tube wells**

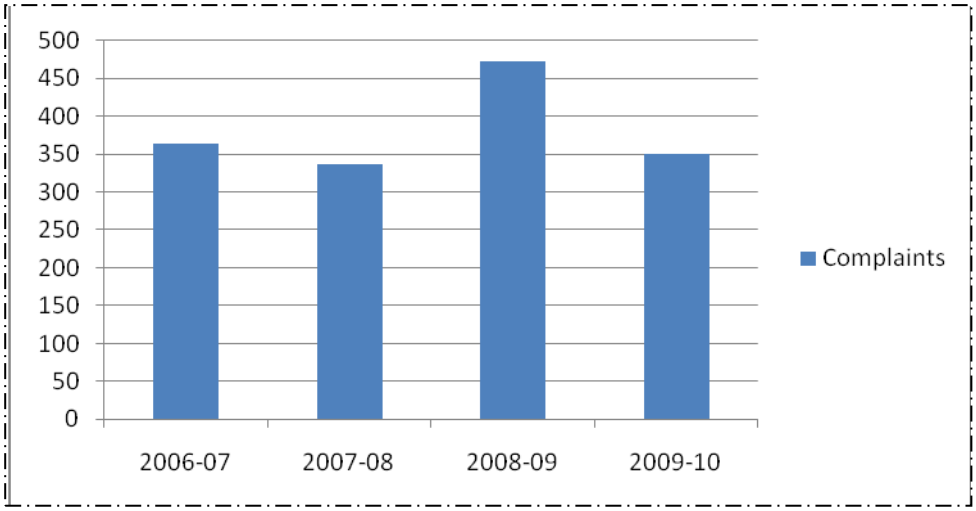
To extract the ground water, which is the main source of water supply, there were 9 tube wells with a depth of 400-450 ft of 1.0 cusec working in the town yielding good quality water with sufficient discharge as per design. The number of tube wells was increased so as to cater for increasing demands, due to expansion in the population.

1.2.1 Water Storage

By increasing the pumping hours from about 6 hours to 16 hours storage has been enhanced from 50,000 gallons so as to store water when supply increases the demand and vice versa. Through hydraulic simulation and 16-hours operation, a compromise has been made between the number of tube wells and overhead storage requirements up to 2016 as under:

Existing storage	50,000 gallons
Additional storage, (3-nrs., 50,000 gallons each)	150,000 gallons
Total up to Year-2016	200,000 gallons

4.2.5 Water Demand



Source: CTS Data, PMDFC

Figure 4.3: Water Supply-Complaints (Mailsi)

The total number of house hold in Mailsi town is 9225 and the total number of household connection is 2408, out of 1,000 has been replaced. Installation of house service connections is usually performed by plumbers of TMA.

4.3 Sewerage System

Topography of Mailsi town is flat and the town is divided into two parts by railway line, known as eastern and western sides. Eastern side is more developed and has better infrastructure than western side.

Presently, two-third of the town is connected with trunk sewers. Open surface drains (tertiary drains), mostly Type-I, Punjab standard type drains collect sludge /surface water from streets.

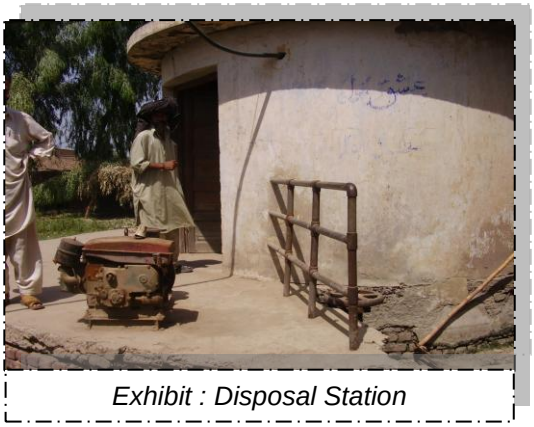


Exhibit : Disposal Station

Sewerage system can be divided into three time zones. First sewerage was laid down in 1964 which comprised of a small disposal work and underground R.C.C pipes sewers of sizes 9" to 24" dia. Town committee at that time added sewers occasionally to connect with this system. As this system has passed its life it was proposed to be replaced in second sewerage network laid down in 1980's but it is still functional and would be abandoned soon after operational of the third network.

Exhibit : View of an open drain in the Town

Second disposal station was built in 1980 on western side of the town across the railway line. Outfall sewer was of size 24" dia. The disposal work comprises of one screening chamber (20' x 10'), two collecting tanks of 25' dia., Pumping chamber 25' dia. 2 sets of pumping machinery, 20 BHP with centrifugal sullage pumps of 46,800 gallons/hour discharge.

In the ongoing PHED Sewerage Scheme, a new disposal station is being completed on Dhoda road across railway line. Pump house has a diameter of 25 feet. Three pumping sets are installed. Two 25 feet diameter collecting tanks have been completed. Trunk sewer of following details have been laid 42" (4610 feet), 36" (2950 feet), 30" (1460 feet), 27" (6250 feet), 21" (1600 feet) , 18" (1750 feet) and 12" (3350 feet) as shown in Sewerage Map. The final disposal from this point will also be agriculture fields through a sullage carrier. With this scheme most of the eastern part of town has been completed with trunk sewer. Some parts of the eastern side have lateral sewers but most of the areas need lateral sewers to complete the sewerage network.

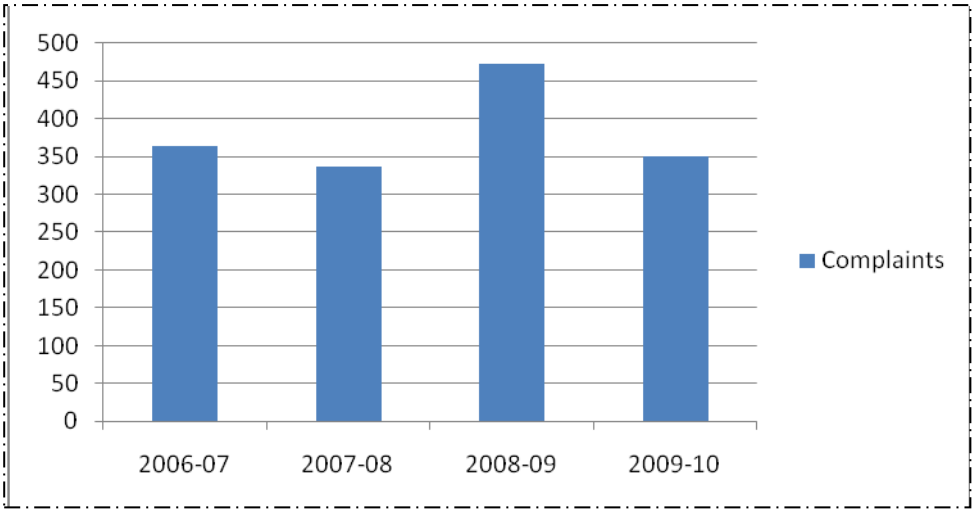
Table 4.6: Detail of Trunk Sewer

DIA (in)	AREA
42	Hassana Abad chowk to Disposal
36	Girls College to Hassana Abad Chowk
27	DSP chowk to Hassana Abad Chowk
21	Railway Chowk to DSP Chowk
15	Railway Chowk to railway Crossing
12	Vetrinary Hospital to railway Chowk
30	Karam pur Road to Girls college chowk
27	Karam pur road
21	Karam pur road
12	Circular Road
18	Lal jhanian chowk to disposal no 1
21	Minor chowk to Disposal no 2
18	Railway phatak to multan road
18	Islam pur Chowk to minor chowk
18	Islam pura

4.3.1 Coverage Area

Table 4.7: Coverage Area

ID	NAME	SEWERAGE
1	Fidda Town	No
2	Mailsi Garrisson	No
3	Islamabad	No
4	Basti Punjay wala	No
5	Hafiz Abad	No
6	Muhamad Pura	No
7	Shanker Pura	No
8	Mughal Pura	No
9	Old City	No
10	Allah Rakha Colony	No
11	Dharam Pura	No
12	Madina Town	Partial
13	Katcher Kot	Partial
14	Lal Jahania	No
15	Hari Pura	No
16	Basti Hassana Abad	Partial
17	Madina Colony	No
18	Siddique Abad	Partial
19	Tillu Pura	Partial
20	Rasool pura (junobi)	Partial
21	Rasool Pura (shamali)	Partial
22	Din Pura	No
23	Riazabad	No
24	Baba Town	No
25	Dorehta	No
26	Tariq Colony	No
27	Ahmad Raza Colony	No
28	Noor Pura	No
29	R.C.A Colony	No
30	Islam Pura	Partial
31	Sheikhupura Basti	No
32	Basti Rashida Abad	No
33	Muradabad Basti	No
34	Gareebabad	No



Source: CTS Data, PMDFC

Figure 4.4: Sewerage-Complaints (Mailsi)

4.3.2 Problem Areas

Western part of town has trunk sewers in few places as shown in Sewerage Map. Therefore, comprehensive trunk sewer and lateral sewers are needed in this part of town. With PMDFC - TMA water supply sub-project a large number of areas would have better water supply network, therefore, there would be more load on sewerage system.

4.3.3 Needs

Table 4.8: Needs

Proposed Sub-Project	Rationale	Beneficiaries
1. Extension of trunk sewer in west part of town and laying of lateral sewers	Partial trunk sewer is laid that is not sufficient. Therefore, new trunk sewers are needed to cover population of east part of town. Lateral sewers to take sewerage service to all parts of west part of town are needed. Water supply scheme under PMSIP would put extra burden on open drains and may cause environmental problems for the residents.	Population living in west part of town.
2. Laying of lateral sewers in east part of town.	PHED has already laid trunk sewers in most areas of this part of town. Due to funding constraints lateral sewers have not been added. With PMSIP water supply scheme more sewerage is expected to be generated. Therefore, lateral sewers are needed to be connected to trunk sewers for environmentally safe environment.	Citizens living in eastern part of town.

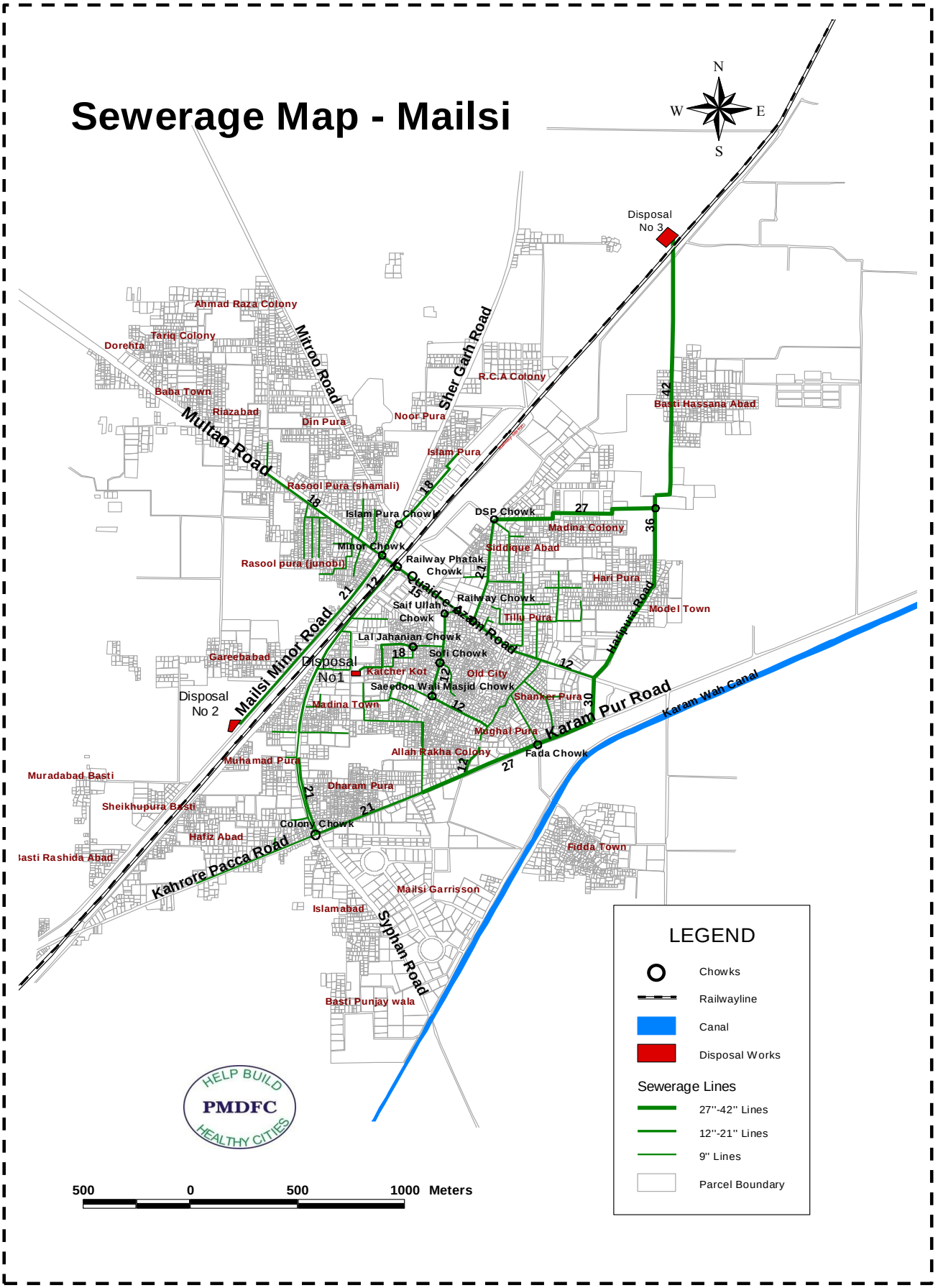


Figure 4.5: Sewerage Map

4.4 Solid Waste Management

The existing system comprises of the following:

- Collection; through wheel barrows
- Transfer through tractor trolleys
- Disposal in landfill site

PMDFC has done a SWM sub-project in Mailsi that would fulfill SWM needs of the whole town with following objectives:

- Improvement of solid waste collection mechanism at primary and secondary level
- Transportation of solid waste to landfills (dump) sites though properly management system.
- Safe disposal of solid waste.
- Present a cleaner city to the inhabitants for improvement of sanitation and health standard.
- The requirements of solid wastes have been estimated for the current year as well as for the future.

Scope of Project

Improvement of Solid Waste Management to achieve a good service delivery level by:

- Provision of equipment & machinery for collection and disposal of solid waste.
- Development of land fill site.

Table 4.9: Detail of SWM Sub-Project by PMDFC

Sponsoring Agency:	Govt. of Punjab through The World Bank Funding
Executing Agency:	TMA Mailsi
Concerned Provincial Department:	LG & CDD
Implementation Period:	9 Months
Estimated Cost:	Rs. 40.5 Million
Funding Arrangement:	PMDFC Grant 85% (34.42 Million)
	TMA Share 15 % (6.08 Million)
Approved from DDSC	30-9-2008
Technical Sanction	31-10-2008
Contract cost (Civil works)	Rs.10.08 Million
Date of award(Civil Works)	07-05-09
Commencement Date	07-06-2009
1st Extension Date	06-05-2010
Completion Date	24-06-2010
Design Consultant	M/S Asian Consulting Engineers (Pvt.) Ltd
Supervision Consultant	M/S Asian Consulting Engineers (Pvt.) Ltd
Contractor	IBM Construction Company
Physical progress (Civil Works)	100%
%Financial progress	95%
Status	Completed

Table 4.10: Machinery with TMA before Sub Project

Sr. No.	Description	Nrs	Present Status
1	Wheel Barrows	50	30 nrs. In working order
2	Donkey Carts	6	Working order
3	Tractor operated Trolleys	2	Working order

Table 4.11: Machinery Procured under the PMSIP Project

1	Arm Roll Truck	2
2	Tractor with front end blade (105-HP) for Landfill site	1
3	Tractor with front end loader (85-HP) for waste loading	1
4	Container (5 m^3)	33
5	3-Wheelled Hand Carts	7
6	2-Wheelled Hand Carts	23
7	Tricycle	25
8	Litter Bin	50
0	Water Tanker	1

Solid Waste Management Equipments

4.4.1 Collection System

The solid waste is being collected at under mentioned points in the town for further disposal to land fill sites.

Solid Waste Disposal System

Table 4.12: Existing Collection Points

Sr. No.	Road /Mohallah served	Location
1.	Quaid-e-Azam Road	Near Railway Crossing
2.	Quaid-e-Azam Road	Near Veterinary Hospital
3.	Railway Road	Near Railway Ground
4.	Colony Road	At Hafiz Abad Road
5.	Stadium Road	Near Stadium
6.	Karam Pur Road	Allah Rakha Colony
7.	Karam Pur Road	Fadda Octroi Post

4.4.2 Service Level

Equipment

The present equipment available with TMA in now fulfils the needs of the town.

Manpower

With the passage of time, the manpower problems for sweeping and collection are increasing. Being a dirty work, general trend of human beings is, to avoid it. People are constrained to do this job only when they do not find any other job. Resultantly whenever some alternate job is available, they leave this job.

Due to increasing shortage of man power in this sector, more and more mechanization is needed and for this mechanization, TMA Mailsi needs a lot of funds.

Table 4.13: Percent of Solid Waste Collected Per Day
For month of October 2010
TMA Mailsi

Vehicle No.	Capacity (tons)	Avg. No. of Trips per Day During the Month	Avg. Amount of Solid Waste Collected per Day (tons)
Trolley No.1	3.69	1.6	5.904
Trolley No.2	4.1	2	8.2
Donkey Cart No.1	0.18	3	0.54
Donkey Cart No.2	0.18	4	0.72
Donkey Cart No.3	0.18	3	0.54
Donkey Cart No.4	0.18	3	0.54
Donkey Cart No.5	0.18	4	0.72
Donkey Cart No.6	0.18	3	0.54
Donkey Cart No.7	0.18	4	0.72
Total			**18.424**
Estimeted total amount of solid waste generated per capita per day (tons) {76569.88*.4kg)		=	30.63
Avg. amount of solid waste collected per day (tons)		=	18.424
Percent of solid waste collected per day		=	60%

4.4.3 Landfill/Dumping Sites

Previously, quite a portion of the wastes collected with the help of donkey carts and hand carts are open dumped in the vacant plots or low lying areas within the town or on the periphery. The tractor trolleys shift the waste to open dumps near Karam Wah Canal Bridge near siphon road and other parts of the city.

Exhibit: Dumping before Land Fill Site

*E*xhibit: Recently built Landfill site in Mailsi

Among the technological options available for ultimate disposal of solid wastes, sanitary land fill is considered as the best suited option to the local situation. TMA has recently completed a landfill site on Multan Road. It has an approach road, parking area, office etc. Proper drainage and air vents are provided.

4.4.4 Operation & Maintenance

Existing Establishment

The sanctioned and existing strength of staff of solid waste management in TMA Town is given below.

Table 4.14: Staff of Solid Waste Management

Sr.	Job Description	Sanctioned	Filled	Daily Wages	Total
1.	Chief Officer	1	1	-	1
2.	Sanitary Inspector	2	1	-	1
3.	Sanitary Supervisor	5	5	-	5
4.	Street Sweeper	61	61	12	73
5.	Drain Sweeper	39	39	7	46
6.	Water Carrier	13	13	-	13
7.	Water Sprinklers	2	2	-	2
8.	Tractor Driver	2	2	-	2
Total		**125**	**124**	**19**	**143**

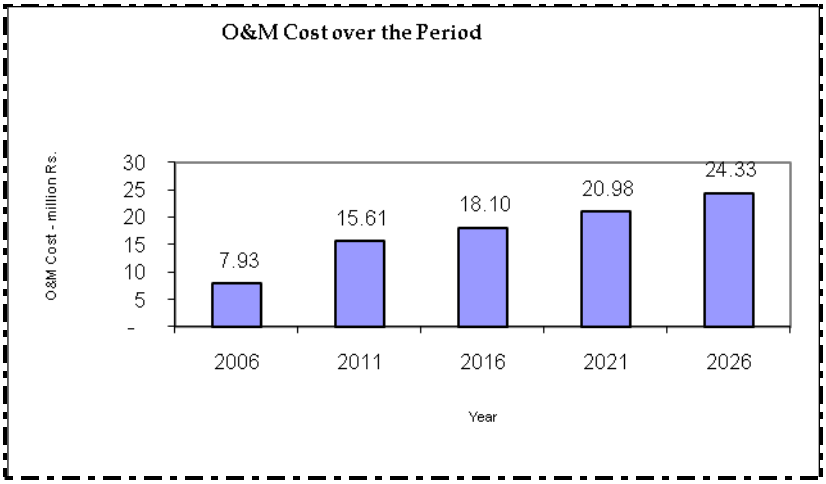
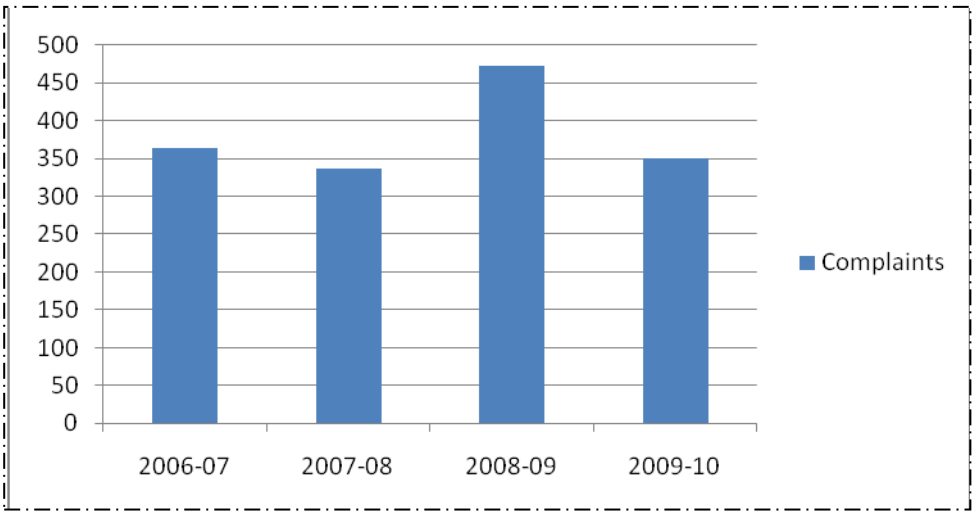


Figure 4.6: Exiting and Anticipated O&M Cost

Evidently, The present expenses of Rs. 15.61 millions will increase to Rs.18.10 millions by 2016 which are estimated to increase to about Rs. 24.33 millions by 2026; 3% per annum increase in cost in addition to increase due to added facilities have been assumed.



Source: CTS Data, PMDFC

Figure 4.7: SWM-Complaints (Mailsi)

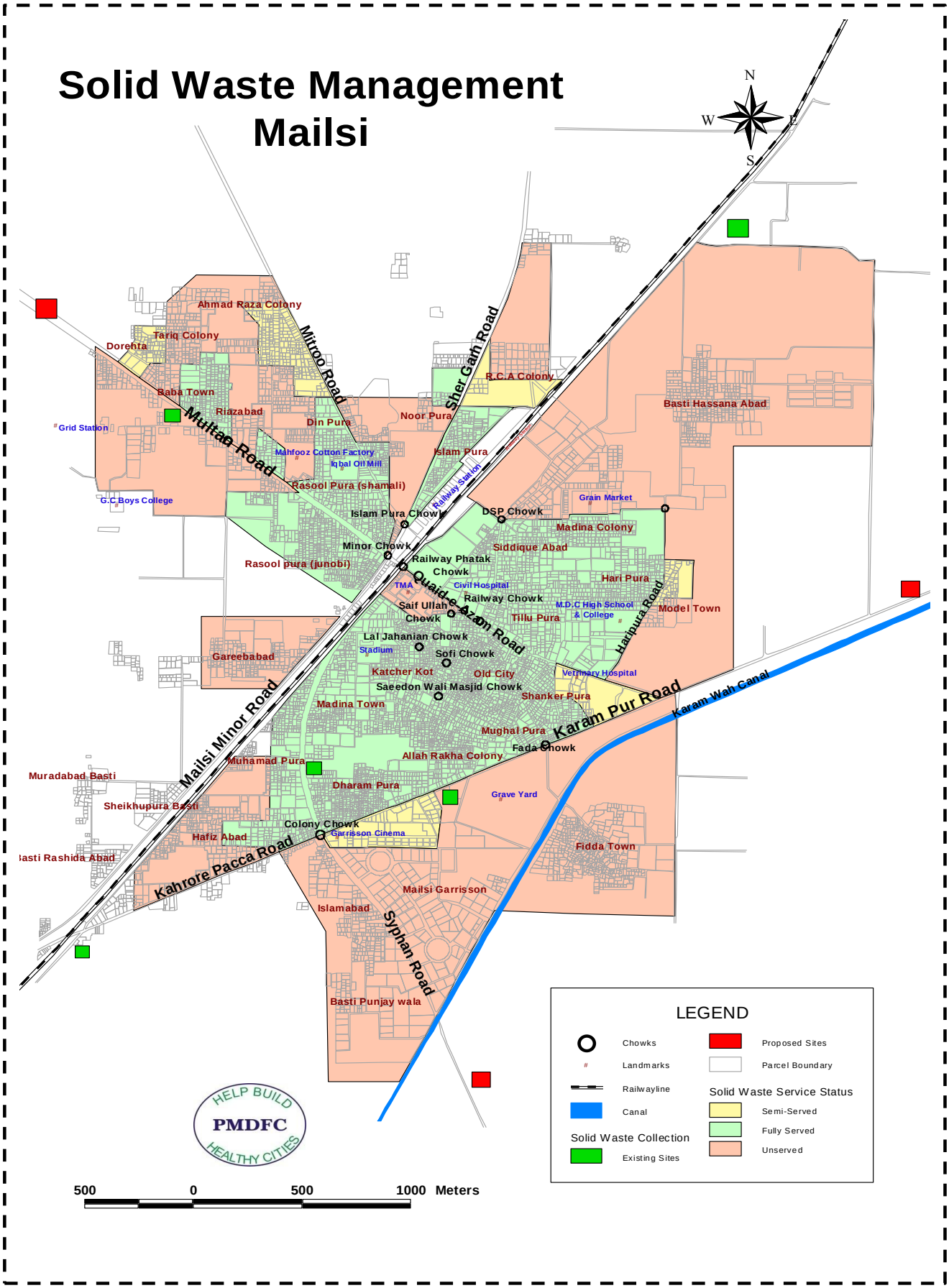


Figure 4.8: Solid Waste Management

4.5 Fire Fighting

4.5.1 Existing Fire Fighting Arrangements

The existing fire fighting system in Mailsi is located near TMA office. There is one shed of dimension 12' X 40' for fire engine. There is an office (12' x 14) without proper equipment. Courtyard is of size 60' x 40'. Record of fire incidences has been kept up to date by the staff. Discussions with fire supervisor indicated that present location of fire station is serving the town well, but it needs few more rooms. Office also needs more furniture.

Exhibit : Mailsi Fire Station

The equipment and vehicles available with TMA are described as under:-

- **Fire Engines**

TMA has only one fire engine – 1982 Model.

- **Fire Equipment**

The under mentioned fire equipment is available with TMA at present.

Table 4.15: Detail of Available Fire Equipment

Sr.	Description	Qty
1	Breathing apparatus	1 (not working)
2	Foam Component 3 %	90 litres
3	Delivery hose pipe 2.5" dia with coupling	500 ft
4	Suction hose pipe 4" dia	1- ft
5	Gas mask respirator	2
6	Fire extinguisher	13
7	Jet nozzles, Brass 2.5" dia	3
8	Life rings	2
9	Search light	1

Source: TMA record

Fire Hydrants

There is only one fire hydrant at Fire Station, TMA office.

Table 4.16: Detail of Fire Incidences in Mailsi

Sr. No.	Year	No. of Fire Incidences
1.	2004-5	8
2.	2005-6	3
3.	2006-7	5

Source: TMA record

Table 4.17: Detail of Existing Manpower for fire fighting

S. No.	Designation	Sanctioned Posts	Vacant Posts
1	Fire Station In charge/Suptd.	1	-
2	Fireman	5	-
3	Driver, Fire brigade	1	-

Source: TMA record

4.5.2 Needs

Situation is not satisfactory as far as staff placing and equipment is concerned. The location of fire station is central. Although not many fire incidences have occurred but fire engine has to go as far as 80 km and in many cases 30-40 km to cover fire incidences. Monetary loss has also been huge Rs 36.2 million as it's a cotton growing area.

Table 4.18: Needs

Proposal	Rationale	Beneficiaries
Improvement of existing Fire Station, procurement of new Fire Engine, establishment of new fire hydrants	Existing fire station needs improvement for efficient operations. A well equipped office, procurement of new fire engine with requisite equipment and training for fire station staff is needed.	Town of Mailsi

4.6 Parks

4.6.1 Existing Parks

Presently, TMA is maintaining one park located in the TMA office. It is well maintained except provision of toilets. There are playing areas for children with playing equipment. There are lot of trees and benches. According to PMS, PMDFC data on average 440 people visit TMA park on working days and 625 on holiday's people visit the park per day. Many people who come from other towns also visit or take rest in the park. As the town is not a planned one and has scattered housing schemes there was no provision of parks in Mailsi. According to the planning standards adopted by the government of the Punjab there shall be at least 5 -7 % of the area under parks.

Proposed Ladies Park

TMA Park

4.6.2 Needs

Following park proposals were put forward by TMA leadership and staff.

Table 4.19: Needs

Proposal of park	Rationale	Beneficiaries
1) Development of Ladies Park	There is no park reserved for women in Mailsi. In this traditional town recreational activities of women are rare, therefore a park for women is necessary. TMA leadership has pointed out a land available at suitable place. The space is next to girl's school and college and civil rest house. The land belonged to defunct zila council. After devolution no one took care of this land. But TMA is confident that it can be obtained for the development of park.	Women in Mailsi town especially students of girls school and college.
2) Development of park near Railway station	There is only one park in Mailsi i.e. in TMA office. As population is increasing and new areas are being developed more parks area needed. TMA leadership is interested in developing another park. Railway has got land near railway station that can be used to develop a modern park. Four acres of land is available at this site.	Whole town of Mailsi would benefit from this park.

4.7 Slaughter House

Slaughter house was visited by planning team, PMDFC with sanitary inspector.

4.7.1 Existing Situation

Existing slaughter house is located at Vehari road at a distance of 1 km from TMA office. Vehari road is a major road of Mailsi with 24 feet mettle width. Therefore, even during rainy season there is not much problem in accessing the site.

Exhibit : Slaughter House

The slaughter house was developed on rented premises adjacent to a major graveyard. There is a religious institute near the premises. Across the road there is densely populated area and commercial shops. There are two sheds used for slaughtering and skinning. One of them is structurally weak. The area of the premises is 10 Marla or 1084 sq feet. There is no office, doctor's room, dispensary, bath or toilets etc.

15-20 small animals are brought each day along with 5-10 large ones. These are by estimate 40 % that are actually slaughtered in Mailsi. Operation of the slaughter house is contracted out.

- **Water Supply System**

There is an electric water pump installed in the premises having capacity of 1 BHP. There is no water storage arrangement. In case of power failure, no arrangement of washing exists.

- **Drainage System**

Effluent disposal is not connected to sewerage system and is discharged into open channel that connects with the sewerage system that is 200 feet from the site. Although contaminates are not toxic in natures, but they can introduce bacterial contamination and increase nitrates, phosphates and sulfates concentration in water, leading to health problems. There is a pool of filthy contaminated water present in front of the slaughter house. The channel is choked and is a house for insects and a source for spreading diseases for citizens.

Exhibit: Sewerage Drain in front of Slaughter House

- **Solid Waste**

Solid waste is being dumped in front of the slaughter house and is disposed of by TMA SWM staff. No treatment is being done on the solid waste generated. Soil is also being contaminated where solid waste is being dumped.

- **Existing Establishment**

The veterinary doctor is on honorarium of Rs. 800/- per month which is extremely low. Due to this reason he is not available during slaughtering and he has deputed a dispenser to check the health of animals. One sanitary worker is attached with the slaughter house.

4.7.2 Needs

Existing slaughter house is not capable of fulfilling the present slaughtering requirements as well as social issues and needs to be shifted as a priority. There is so much smell and contamination of soil by liquid and SWM discharged from slaughtering operations that citizens are always complaining. Stray animals and birds flock dirty site and are an additional source of spreading diseases.

A very nominal fee of Rs 7.0 is charged. Discussions with TMA staff suggested that not many facilities are being provided to the butchers; therefore, more fees cannot be obtained from them.

TMA Mailsi staff and elected representatives have suggested a place for shifting the existing slaughter house that is away from population but at a reasonable distance

for butchers to carry the animals for slaughtering. Suggested location is owned by TMA on the Dodha Road.

Table 4.20: Proposal

Proposed Sub-Project	Rationale	Beneficiaries
Shifting of existing slaughter house to new location	Present slaughter house is housed in a small rented place, located in a densely populated area. It is poorly equipped without proper SWM and liquid discharge facilities. TMA owns land that is ideally located on Doodah road for building a proper slaughter house.	Shifting slaughter house out of town would benefit the entire town as present slaughter house is a source of spreading diseases and is aesthetically unpleasant.

CHAPTER 5 WORKSHOP ON PRIORITIZATION OF INFRASTRUCTURE SUB-PROJECTS

5.1 Methodology for Project Prioritization

Projects identified were based on surveys, analysis and 'technical judgment'. The projects identified needed validation and prioritization by the elected representatives of the people through consultations.

The following methodology was adopted for the prioritization process.

5.1.1 Pre-Workshop Consultations

Several meetings were held between PMDFC officials and TMA staff. In one of these meetings, Tehsil Nazim Mailsi was also present, in which workshop methodology and the proposed projects for Mailsi were presented by consultants. The purpose was to develop a common understanding and build consensus about the workshop methodology and projects. The meetings were held in TMA office, Mailsi.

PMDFC gave briefings about salient features of workshop methodology, its style structure, objectives, the way it would be conducted and material that would be used during the workshop (charts, cards, and presentation through multi-media including visuals/maps). PMDFC also briefed how the workshop would proceed, such as formation of groups, inter-sector prioritization (i.e. roads Vs water supply Vs sewerage etc.), followed by intra-sector prioritization, e.g. in case of roads sector, individual road projects and their priorities.

Also discussed in the meetings were the workshop participants. Tehsil Nazim was of the view that apart from the councilors, some local prominent should also be invited. This was agreed upon.

In the pre-workshop meetings, the Tehsil Nazim was requested to invite the participants for workshop and make available suitable venue for it, which he agreed to. The participants to be invited were mostly members of the concerned union councils.

In second part of the briefing the PMDFC officials and the Tehsil Nazim was briefed about the identified projects that would be presented in workshop for prioritization.

5.1.2 Stakeholders Consultative Workshop

The work shop was held on 27th August, 2007, in TMA complex, Mailsi. It commenced at 11:00 a.m and was concluded at around 2:30 p.m.

The number of participants was 43. The stake holders were mainly the representatives of the Tehsil Council and Union naib nazims, from 2 urban UCs of TMA, Mailsi.

After registration of the participants and recitation from Holly Quran, PMDFC gave a welcome address and briefed the participants about the purpose of the workshop. Mr Talal Ahmed Khan, Consultant Planning, PMDFC gave background of the project and the role of PMDFC.

Maps were displayed in the workshop hall where the participants could easily read about the existing situation and proposed projects.

The workshop was formally started with a presentation given by PMDFC on the existing situation of the town and proposed list of sub projects. During the presentation, the participants took a keen interest, and asked a number of questions about the working of, and already projects under taken by PMDFC. They further updated the information about the existing situation e.g. the stakeholders identified a number of sites for the development of a park in the town, as it is non existent in the town.

The participants were divided into 5 groups at random, but it was ensured that people from same UC may not be included in the same group. Each group comprised of 6 persons.

In the first round, inter-sector prioritization was done. Each group was given a list of sectors i.e. roads, water supply, sewerage etc. They were first to label their priority before each sector e.g. if they thought drains was the most important problem of the town they were to assign 1 before drains, etc.

The results of the Inter sector prioritization were entered into a ‘priority matrix’. In this matrix, the group-wise sector priorities were entered as assigned by the group members. Based on the frequency of responses, the inter-sector prioritization was finalized.

In the second round, group members were asked to prioritize intra-sector projects.

The priority-wise projects were then entered in intra-sector priority matrix, and sub-projects finalized on the basis of frequency of responses. There were two projects for sewerage.

The prioritization was then discussed in the plenum where it was finalized. After finalization of projects, the workshop was declared closed by the Tehsil Nazim

The Planning process adopted rules out the selection of projects at random or biasness, rather it reflects the ground realities and is demand driven. If the projects are not need based, they are not sustainable for long period of time and become redundant without any benefit to the community or the user. Even if such projects survive, they benefit only a specific group of people. It is therefore important for Infrastructure projects to be need based and both beneficial to and acceptable to the community. To make it mandatory, the involvement of stakeholders was ensured at all stages of planning, including the process of prioritization of the development projects.

Thus a prioritized list of projects was developed for TMA Mailsi, as shown below:

5.2 Prioritized Development Projects

Table 5.1: Prioritized Projects

Sector	Sector Priority
Sewerage System	1
Water Supply	2
Solid Waste Management	3
Street lights	4
Roads	5
Parks	6
Fire Fighting	7
Slaughter House	8

The Planning process adopted minimizes the selection of projects at random or biasness, rather it reflects the ground realities and is demand driven. If the projects are not need based, they are not sustainable for long period of time and become redundant without any benefit to the community or the user. Even if such projects survive, they benefit only a specific group of people. It is therefore important for Infrastructure projects to be need based and both beneficial to and acceptable to the community. To make it mandatory, the involvement of stakeholders was ensured at all stages of planning, including the process of prioritization of the development projects.

CHAPTER 6 SITUATION ANALYSIS AND PMDFC INTERVENTIONS

TMA Mailsi was no different than other TMAs of Punjab in terms of lacking institutional and individual capacity required to meet post devolution challenges. Initial field appraisal carried out by PMDFC revealed that:

1. TMA staff was never offered much needed computer training and necessary hardware essential for creating an automated office environment. Before ID activities initiated by PMDFC.
2. Information flow within the TMA and with its stakeholders was quite rudimentary and means of communication adopted were notice board and word of mouth.
3. The complaint center, a mandatory requirement of PLGO 2001, was not formally established. Complaint resolution was devolved to the level of union councils where complaints related to CO Office were resolved by relevant staff. However complaints' resolution was without a set of standard operating procedures and lacked coordination amongst TMA staff.

As PMDFC is geared towards improving the skills of TMA staff and considers improvement in service delivery inconceivable without a strong human resource base, it introduced human resource development initiatives unprecedented at TMA level under the umbrella of PMSIP. Since, PMSIP aims to improve performance and service delivery of TMAs - office automation is identified as the first step towards achieving these goals.

Following Institutional development efforts are being done in TMA Mailsi along with the planning exercise.

6.1 Capacity Building / Trainings

As IT skills are integral to efficient and effective office management in present times, PMDFC imparted I.T. training to the TMA Mailsi staff. It was complemented with the provision office equipment is; they were able to use it efficiently. Moreover, they said IT trainings are an important step towards the computerization of office records and are resulting in efficient office management. It is hoped that analysis of data would become easy and errors in record keeping would be decreased considerably. Moreover, I.T. skills are also a pre-requisite for PMSIP interventions such as: Financial Management System, Complaint Tracking System, Performance Management System etc.

PMDFC arranged for the basic computer training of 25 staff members, nominated by the TMA. The trainees attended a 3 month short course. An interim assessment of trainees was done by PMDFC and their performance and level of skills gained was found to be dissatisfactory. There was only one computer in TO(F) office and PMSIP provided four(4) more computer with printers. Therefore, each TO office has now

computer and a printer. Periodic follow-up efforts are made by ID, PMDFC to check equipment usage and application of skills acquired. Refresher courses were also offered.

Table 6.1: Staff Trained under PMSIP

Sr. No.	PMSIP Intervention	No. of Staff Trained
1.	Basic Computer Training	25
3.	Level Machine	2
4.	Complaint tracking system	2
5.	Website	2
	Total	31

6.2 Complaint Cell (Complaint Tracking System)

Section 188 of PLGO 2001 lays down for the establishment of a complaint cell at the Tehsil level. It states:

> "Every District Government, Tehsil Municipal Administration, Town Municipal Administration and Union Administration shall set up a complaint cell for redress of grievances within the ambit of their responsibilities under this Ordinance."

The Tehsil Nazim and the TMO were involved in setting up a complaint cell at the TMA office. The complaint cell was established under the supervision of the TMO and Sabir Shah (Computer Operator).

The Complaint Tracking system was introduced in TMA Mailsi in two steps: 1) Manual Complaint Tracking System and 2) Computerized Complaint Tracking System. In Manual system a standard design of complaint register was developed by PMDFC and the register was handed over to the TMA. A one day hands-on training was given to the officials in accordance with the standard operating procedures developed by PMDFC for complaint resolution. For computerized system PMDFC developed a in-house software for complaint resolution and handed over to TMA after requisite training. A computer and a printer were also provided to the TMA with this software. Both systems track type of problem and its resolution details.

PMDFC hopes that its ground breaking interventions will go a long way in the human resource development of TMA Mailsi and its staff once equipped with right skills set can be expected to provide timely, cost effective and reliable services to the citizens of Mailsi.

6.3 Performance Management System

PMDFC is introducing Performance Management System in Year – II TMAs. Field assessment of the TMA revealed that data existed in rudimentary form regarding performance indicators on municipal services like water supply, solid waste, street lights and sewerage. However, there was lack of data tracking, updation and reporting culture.

6.3.1 Performance Management System

Performance Management System in TMAs is one of the key institutional development components of performance improvement plan (PIP) that PMDFC is implementing in partner TMAs.

6.3.2 Data Collection & Analysis

Before initiation of PMS, there was lack of data collection and reporting culture particularly in municipal service delivery. After development of performance indicators and selection of core indicators, data collection formats were developed and shared with the TMAs during the two workshops held in July 05 (3 & 10 July). Trainings were also provided to TMA staff where required for data collection. The last two workshops were arranged to train the nominated TMA staff for road rating and parks survey. Mailsi was then asked to collect and report data on core performance indicators by the end of July 06, which was used as baseline for year 2006-07.

It almost took more than four months to clean the data and get the reports in given reporting formats. The reporting formats were developed as per discussions with relevant TMA officials. Data for the reported period was analyzed and its cleaning was done.

6.3.3 Target Setting

After finalization of baseline values during the month of Dec 06, TMA was facilitated to set target values against each performance indicator. Target setting was based on the analysis of present infrastructure, cost of providing services, revenue from services and available resources for any up-gradation/repair/maintenance of municipal services.

The targets set by TMA Mailsi involved serious discussions with Tehsil Nazim, TMO and TO (I&S) particularly and other TMA staff.

6.4 Financial Management System

It is envisaged that the computerized financial management system will be able to address the issues faced by the TMAs in managing their finances on more professional grounds. The following list highlights some of the areas where TMAs are facing issues maintaining books of accounts.

Highlights of Computerized Financial Management System

The following list highlights some of the areas where TMAs will benefit from the computerized financial management system:

- Only one point entry of the receipts and payment vouchers and the system will automatically maintain all the subsidiary records.
- Minimize the duplicate and redundant data maintenance.
- Automation of bank reconciliation with the Cash Book and other registers.
- Separate accounting record for special grants, CCB funds etc.
- Facilitate in preparation of annual budgets.
- Matching cost of services with the related revenue.
- Maintenance of contracts, billing and collection records to manage water rate, rent of shops, license fee, auctioned revenues to contracts etc.
- Generation of various analytical reports related to income and expenditures for various authorities.
- Monitoring of CO unit-wise revenues and expenditures.
- Improvement in budgetary controls by converting annual figures into monthly breakups, which will be comparable with actual monthly accounts.

FMS in TMA Mailsi

In TMA Mailsi FMS was installed and basic training was given to the TMA staff. Initial setups were completed and data was entered in Water Consumer database, establishment check register, shop demand and collection register, and classified abstract. Mr Khalid Rashid from accounts branch and a Computer Operator was trained to work on FMS and was also appointed as focal person by TMO.

6.5 TMA Website

PMDFC has introduced this intervention under PMSIP for developing a modern interface of TMA with citizens of its area and other stakeholders. With the development of a TMA website, all the relevant information would be a click away. For TMA Mailsi http://www.tmamailsi.com was chosen as the web address. Two TMA officials were selected supervising website maintenance.

CHAPTER 7 OUTLINE STRUCTURE PLAN

Due to rapid urbanization, the cities in Punjab are growing in a haphazard manner, without any development control. The available infrastructure in these towns is deteriorating as the population pressure is not keeping pace with the available resources for the extension of the infrastructure. These towns face the problems like incompatible land uses, unhealthy environment, and loss of amenity. Hence, an Outline Structure Plan has been devised for Mailsi. This plan identifies the growth potential in an economical and contiguous manner for future development of the town.

7.1 Brief Introduction

This plan has been prepared as a part of the planning report of Mailsi. The report indicates that the town is expanding without proper planning and development control. The Outline Structure Plan, thus prepared describes the **strategy** and **outline spatial plan.** In essence, the strategy identifies immediate development priorities for various service sectors. The spatial plan provides general information on planned land uses and the structure of development in the town.

The plan provides a systematic approach to address the immediate development needs as well as long term development requirements for next 20 years. The plan highlights remedial measures to solve existing problems as well as suggests ways for future systematic growth of the town.

7.2 Visioning and Priority of Stakeholders

Focus of PMSIP planning is constant input of various stakeholders in all planning stages. Initial contact was developed with TMA leadership and the relevant staff. Field data collection was done in collaboration with line TMA staff and various segments of the society. This assisted in developing broad vision for existing fabric of the municipal services. Finally, a formal stakeholder workshop attended by elected representatives, NGOs, important citizens etc prioritized municipal services to finalize a vision for the town. This process is hence the amalgamation of technical inputs and the aspiration of the stakeholders' improved municipal services with an effective O & M framework were deemed a vision to improve life of citizens. Further, general consensus was developed on the priority sectors that needed immediate attention.

The order of importance to stakeholders for improving various municipal serves is as follows:

1. Sewerage
2. Water supply
3. Solid waste Management
4. Street Light
5. Roads
6. Park

7. Fire fighting
8. Slaughter House
9. Bus stand

Therefore, improvement in sewerage and improved sanitation is the most important need of the town followed by solid waste management and street lights.

7.3 Development Plan

After determining the priorities, the next step of the Plan was to provide broad guidelines to suggest measures to control the future growth of the town. This has been determined after assessing the potentials and constraints in the existing urban set up. The plan is prepared with 20 years perspective from year 2010 to year 2030.

This section of the report deals with an outline of proposals regarding;

- Identifying the growth potentials for the town as a whole so that the provision and extension of infrastructure remains economical.
- Identifying gaps in exiting municipal services as well as identifying needs for the incremental population growth.

Development Strategy

Mailsi is a medium sized town of Punjab. It is strategically located in the vicinity of Lodhran, Dunyapur, Kehror Pacca and Vehari.

The following development strategy is recommended for Mailsi;

- Since the trend of growth is towards east, so development should be encouraged in the eastern direction.
- Decentralization, by proposing more than one growth centers in either directions.
- To improve the flow of traffic within the town by improving physical condition of the existing roads. Linkages be improved within the neighborhoods so as to lessen the pressure of traffic on the town centre, improving the circulation pattern within the town by improving the inter neighborhood linkages.
- Future residential development to follow neighborhood pattern of growth. Self contained neighborhoods, provided with all basic public and utility services, be developed.
- Provision of parks in the town.
- Improving the existing infrastructure, its maintenance and operation.
- Provision of municipal infrastructure to the newly suggested growth corridors.
- Inculcate Operational & Maintenance culture with provision of capacity building for the same.

Table 7.1: Population Projections

Year	1998	2010	2030	Incremental population for next 20 years
Population	55,434	78,851	141,862	63,011

Growth rate = 2.98 %

The population of the Mailsi according to 1998 census was 55,434 persons. The estimated population for 2030 is 141,862 persons, i.e. at the end of plan period. The total area occupied by the urban uses or the built up area is 1500 acres. The incremental population is estimated to be 63,011 for next 20 years time. This has been calculated by using the growth rate 2.98 %.

7.4 Growth Direction

Most of the city is expanding towards the eastern direction. This expansion is residential in nature and is taking place along the Karampur Road. This area is adjacent to Haripur Road and Karampur Road. Here new residential establishments are being developed. This area is sporadically developed.

Some other development is taking place in north-west direction. New residential settlements are being developed along Mitroo Road. The housing schemes in this part are Tariq Colony, Ahmad Raza Colony, Baba Town and Riazabad.

7.5 Densification of the Existing Built-Up Area

In order to have some idea of existing housing situation in Mailsi Town, some information was gathered from the field as well as from concerned agencies. According to the information the condition for large of the population are not satisfactory as the shelters built by the people are mostly without public utilities and services. In the Outline Development Plan (1984-2009) there were 4,800 dwelling units for the estimated population of about 38,800. This means that there are about 8 persons living in one dwelling unit as compared to desirable figure of 6 persons per dwelling unit. Most of the outer localities are haphazardly built and about 25 – 30% of the houses are very sub standard as they are mud houses with no utility services and hard surface approach. Overall density was 19 persons per acre on the basis of total area (2080 acres) within municipal limits and total population of the town which has been estimated to be 38,800. The net residential density is about 94 persons per acre. This figure is not much useful without understanding the distribution of density in different areas and more importantly the relationship of persons per net residential acres to the levels of utility services and land coverage.

Present population of Mailsi city is 72,202 and total households are 9,500 taking growth rate of 2.98 as per DCR 1998.

Densification criteria vary from city to city. Each city has its own growth and development potential, based on economic activity, social, cultural and geographically strategic importance. Not all of the incremental population shifts towards the newly developed areas, rather some of the percentage is absorbed in the existing one. This is mainly because of the economic reasons. Its most serious consequences are the overburdening of the existing infrastructure; therefore, upgrading may be needed with the passage of time.

The density map **fig. 7.1** shows existing density in the town. Since the dark brown area is the most densely populated and is the oldest part of the town, therefore, it is expected that not much vertical expansion occurs. Also, the structures are deteriorated and in shabby condition. The road widths are narrow and irregular.

These structures are unable to bear the load of vertical expansion. Therefore, in this area densification would be low, i.e. between 10-20 % is expected in the plan period. Light brown area is relatively less dense area. This part of the town grew in pre partition. The approximate densification would be 20-30 % that may occur in this area during the plan period. Yellow area is sparsely populated and 50-60 % may be densification in the plan period. This part of the town is recently developed. This part also determines the existing growth pattern of the town.

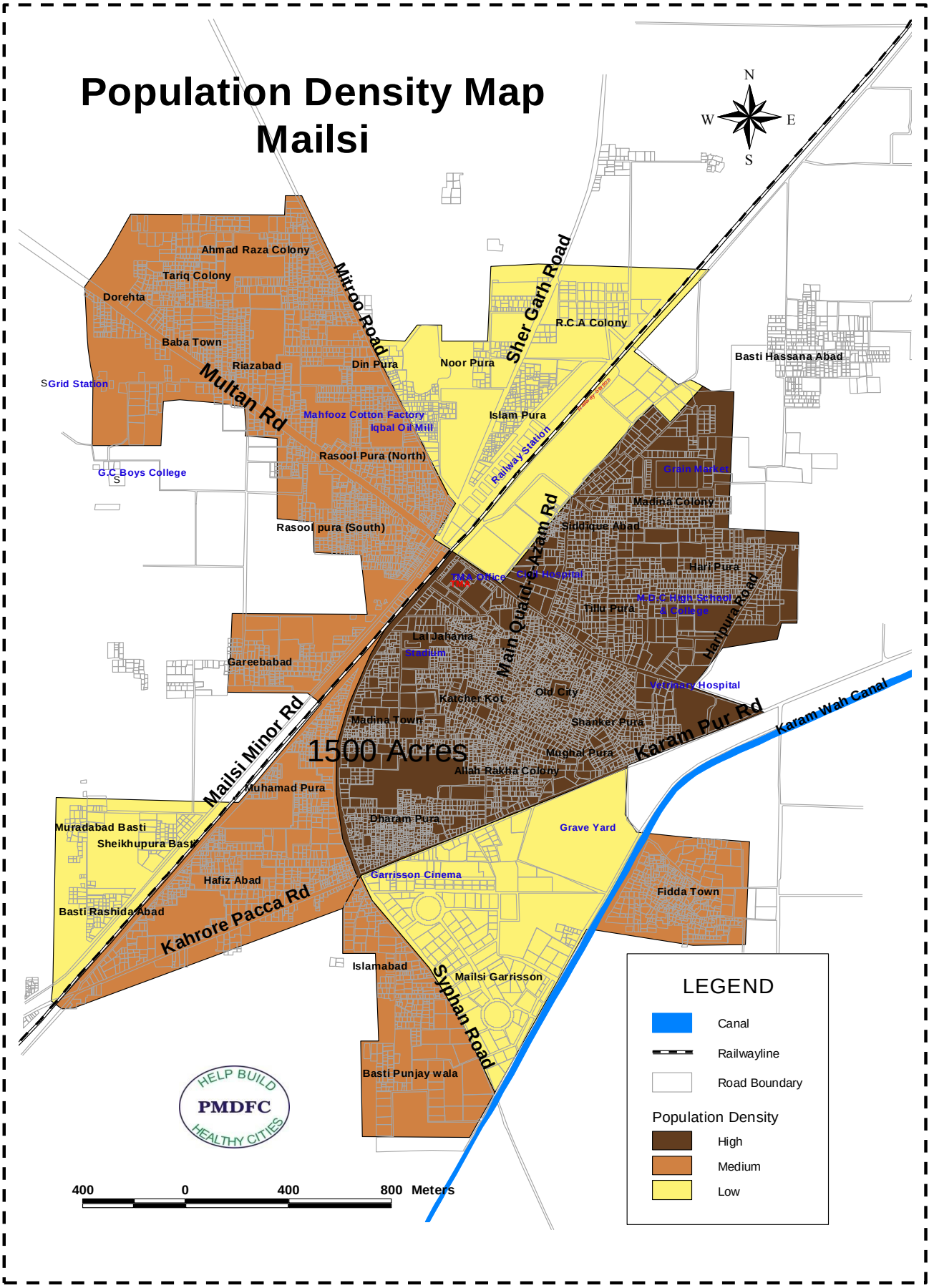


Figure 7.4: Density Map – Mailsi

7.6 Land Requirements for Future Urban Expansion

To identify the area required for future growth depends upon two important criteria's. First is the location criteria and the second is the allocation criteria of land. The location criteria explain the availability of land in terms of the direction of growth, with respect to physical, socio-economic factors.

The allocation of land for future growth of population is made by dividing the population to be accommodated by the density. This gives area in acres for each of the four subsequent stages.

Present built up area of the town is 1500 acres. Taking present population of 78,851, present density is 52 persons /acre. Following table indicates land requirement for residential purposes for the plan period.

Table 7.2: Incremental Population

Year	2010-2015	2015-2020	2020-2025	2025-2030	Total
Incremental population	12,471	14,442	16,727	19,371	63,011
After taking account densification factor of 30 %	8,729	10,109	11,708	13,559	44,105
Residential Land Requirement (Acres)*	167	194	225	260	846

* Residential density of 52 persons/acre are assumed for proposed land use plan

As residential area is approximately 70% of the total land. Total land requirement in the plan period for all land uses=846*3/10=253+846=1,099 acres.

7.7 Proposals

The town is growing in two distinct directions i.e. in the eastern and the western. The major roads going out of the town are taking maximum development pressure. This has led to ribbon development along the road. However, the rest of the area is left unattended. Therefore, two distinct proposals are devised for Mailsi Town.

- ***Proposal I***

Since the maximum growth potential is in eastern direction, 650 acres of land is identified for the future development as shown in fig. 7.2. A neighborhood centre is proposed with a park, commercial area and an institutional site as shown in fig. 7.3. This will cater for the extended development plan.

- ***Proposal II***

The other site is identified in western direction, along Mitroo Road. The site plan is of 500 acres as shown in fig. 7.2. Another park is proposed in this part along with a commercial centre. There is a large school along which an institutional zone is provided as shown in fig. 7.3.This neighborhood plan is located to extreme west in order to encourage urban development and hence check ribbon development.

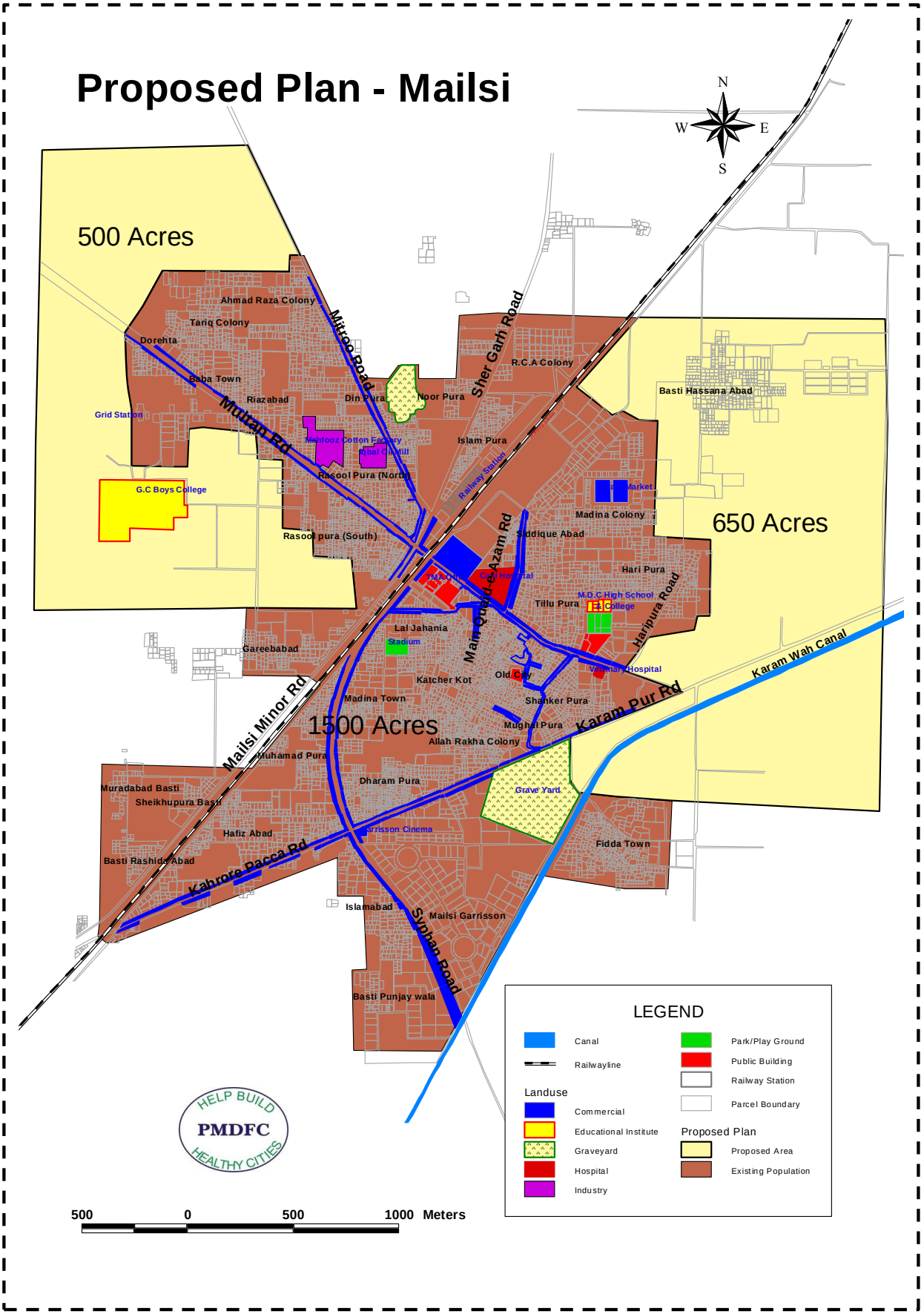


Figure 7.5: Proposed Plan – Mailsi

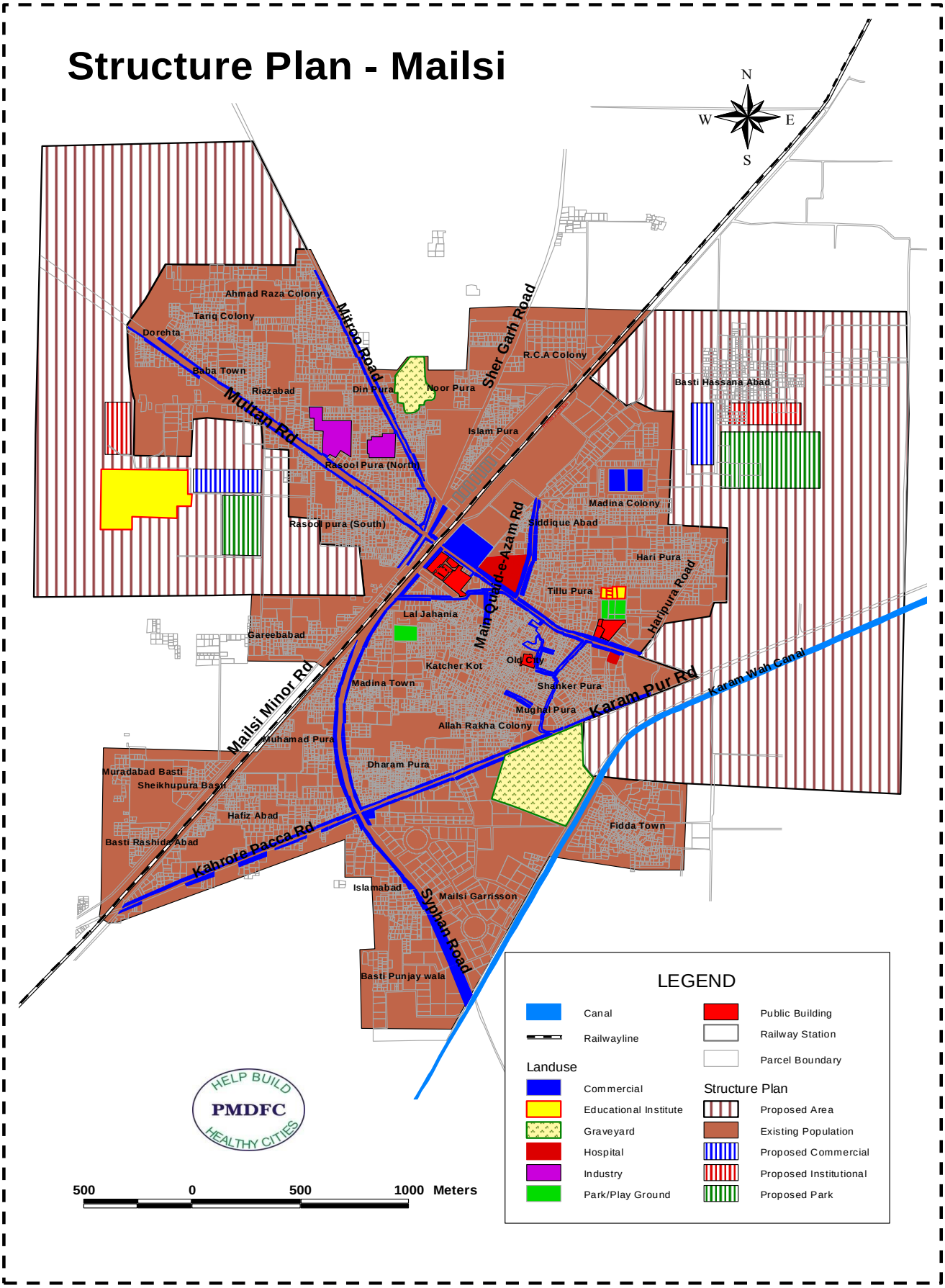


Figure 7.6: Structure Plan – Mailsi

Annex A

Number of Street lights not Working

For month of July 2010

TMA Mailsi

Sr. #	Name of Mohallah	Total No. of Streets (Nos)	Total No. of Street Lights (Nos)	No. of Street Lights not Working during the Month (Nos)	Percent of Street Lights not working during the month
1	Hari Pura	20	110	77	70
2	Saddique Akbar	19	95	76	80
3	Farooq Azam	5	38	28	74
4	Islam Pura	13	53	45	85
5	Lal Jahanian	11	56	44	79
6	Quaid-e-Azam Road	1	20	2	10
7	Railway Road	1	9	1	11
8	Din Pura	8	37	27	73
9	Rasool Pura Shamali	15	30	18	60
10	Rasool Pura Janoobi	15	96	75	78
11	Masjid Saddique-e-Akbar	12	60	47	78
12	Riaz Abad	18	77	67	87
13	Imam Abad	6	13	12	92
14	Doorhata	7	22	20	91
15	Multan Road	1	82	25	30
16	Mohallah Muhammadi	3	26	13	50
17	Bhatti Wala	9	39	26	67
18	Katcha Kot	5	14	9	64
19	Gao Shala	4	12	6	50
20	Shankar Pura	12	52	20	38
21	Al Badar Colony	8	45	22	49
22	Stadium Wala	8	26	15	58
23	Chaoni Road	1	76	43	57
24	Vehari Road	1	18	9	50
25	Kahroor Pacca Road	1	26	13	50

26	Canal Road	1	30	16	53
27	Dharam Pura	19	122	56	46
28	Madni Masjid	12	43	18	42
29	Masjid Makoray Wali	6	25	11	44
30	Masjid Bahadur Khan	12	42	16	38
31	Bhaata Wala	3	15	6	40
32	Masjid Mai Wala	9	43	11	26
33	Masjid Saeeda	8	33	10	30
34	Mohallah Faridi Afghana	17	32	15	47
35	Kothi 122	4	28	13	46
36	Allah Rakha Colony	5	10	5	50
37	Madina Town	12	21	11	52
38	Fida Bazar Mughal Pura	17	53	18	34
39	Circular Road	1	14	3	21
40	Janazgah Road	1	7	2	29
41	Thana Bazar	1	6	0	0
42	Toll Tax Road	1	20	7	35
43	Mitroo Road	1	8	3	38
44	Link Road Islam Pura	1	8	1	13
45	Natthay Shah Road	1	12	2	17
46	Sirgana Road	1	8	6	75
47	Colony Chauk To Railway Station	1	54	23	43
Total		**338**	**1766**	**993**	**56%**

Source: PMD Data, PMDFC

Annex – B

Water Supply Data

Average Hours of Water Supplied to Households per Day

For the Month of September 2010

TMA Mailsi

Tubewell No.	Location of Tubewell	OHR	Served Localities	Total Operational Hours during the Month	Total Supply Hours during the Month	Avg. Supply Hours per Day During the Month
1	Committee Bagh	Committee Bagh	Mohalla Lal Jahanian, Madina Town, Circular Road, Quaid-e-Azam Road, Colony Road, Mohalla Patwarian, Mohalla Qazi Iqbal	0.00	0.00	0.00
2	Committee Bagh			205.00	92.00	3.07
3	Old Bus Stand	-	Mohalla Islam pura, Din Pura (East & West), Mohalla Rasool Pura (North & South), Mitroo Road	152.50	152.50	5.08
4	Nathay Shah	-	Katchi Abadi, Mohalla Dharam Pura, Mohalla Mughal Pura, Katcha Kot, Alla Rakha Colony	146.00	146.00	4.87
5	Near Police Station Saddar	-	Thana Bazar, Mohalla Hari Pura, Quaid-e-Azam Road, Mughal Pura, Shanker Pura, Lower Circular Road, Mohalla Masjid Maie Wali	140.00	140.00	4.67
6	Katchi Abadi	-	Opposite Old City, Circular Road, Mohalla Afghanan, Mohalla Katcha Kot, Madina Town, Chowk Giarhween, Gao Shah	143.00	143.00	4.77
7	Multan Road	-	Mohalla Rasool Pura (North & South), Din Pura (East & West), Mitroo Road	154.00	154.00	5.13
8	Near Tehsil Office	-	Mohalla Imam Bargah, Masjid Bahadur Khan, Tehsil Bazar, Rehmanian Bazar, Masjid Maie Wali, Chowk Nisar Wala, Nathay Shah Road	156.00	156.00	5.20
9	Near DSP Office	-	Mohalla Tillu Pura, Saddiq-e-Akbar, Saeedi Town, Opp. Grain Market, Railway Road, Quaid-e-Azam Road	151.50	151.50	5.05
	Total			**1248.00**	**1135.00**	37.83

Total hours of water supplied to households during the month	=	1135.00
Avg. hours of water supplied to households per day during the month	=	4.20

Main Components of the Existing System

Tube wells (depth 400-450 ft)

T / Wells Nos.	Location	Discharge (Cusec)		TDS Value * p.p.m	Year of Installation
		Designed	Actual at 80 ft head		
1.	TMA Office	1.0	1.22	260	1975
2.	TMA Office	1.0	1.20	270	1983
3.	Bus Stand	1.0	1.10	230	1984
4.	Near Nathey Shah	1.0	1.31	270	2005
5.	Near Police Station	1.0	1.20	250	1985
6.	Near School	1.0	1.27	220	1987
7.	Multan Road	1.0	1.35	260	1986
8.	Near Tehsil Office	1.0	1.29	220	1987
9.	Near DSP Office	1.0	1.33	270	1993