USAID FIRMS PROJECT

District Economic Development Strategy - Multan

July 5, 2011

This publication was produced for review by the USAID. It was prepared by Dr. Ahsan Rana for an assignment commissioned by Chemonics International under the USAID Firms Project.

USAID FIRMS PROJECT

District Economic Development Strategy - Multan

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development, the United States Government or Chemonics International inc.

Data Page

Contract Number:	GBTI II Task Order No. EEM-4-07-07-00008-00
Contractor Name:	Chemonics International, Inc.
Name of the Component:	Business Enabling Environment (BEE)
USAID Technical Office:	Office of the Economic Growth and Agriculture; USAID Pakistan
Date of Report:	July 5, 2011
Document Title:	District Economic Development Strategy - Multan
Author's Name:	Dr. Ahsan Rana
Editing:	Zehra, M. Anum, P., Tahir, S. (USAID Firms Project)
SOW Title and Work Plan & Action ID:	SOW title 414, Work Plan Level 2322, Action ID 32300
Project Area:	Multan, Punjab, Pakistan
Key Words:	Multan, economic development, agriculture, economic growth, infrastructure, institutional development, manufacturing, private sector development, regulatory environment, trade and commerce.

Abstract

This report presents an economic development strategy for Multan district. While taking a holistic view of the economic activity in the district in full appreciation of the backward and forward, and vertical and horizontal linkages between various sectors, the report focuses on three key sectors due to their role in growth, commodity production and job creation. These sectors are: 1) physical infrastructure; 2) manufacturing, trade & commerce; and 3) agriculture. The overarching objective is to formulate strategic recommendations to facilitate private sector's participation in various sectors by creating an enabling legal and institutional framework, by strengthening the institutional capacity of the district government to provide oversight, and to leverage government funding to attract private sector investment.

Acronyms

ADP	Annual Development Plan
AO	Agriculture Officer
BDS	Business Development Services
BEE	Business Enabling Environment
C&W	Communication and Works
CCB	Citizen Community Board
CDG	City District Government
CDRC	Community Development Resource Centre
DCO	District Coordination Officer
DEDS	District Economic Development Strategy
DO	District Officer
E&IP	Enterprise and Investment Promotion
EDO	Executive District Officer
ERU	Economic Reform Unit
F&P	Finance and Planning
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussion
FIS	Financial Information System
FPCCI	Federation of Pakistan Chambers of Commerce and Industry
FSC&RD	Federal Seed Certification and Registration Department
FY	Financial Year
GAP	Good Agricultural Practices
GST	General Sales Tax
MDA	Multan Development Authority
MEPCO	Multan Electric Power Company
MICS	Multiple Indicator Cluster Survey
MIS	Management Information System

MTDF	Medium Term Development Framework
NEPRA	National Electric Power Company
NGO	Non-Government Organisation
NTC	National Trade Corridor
O&M	Operations and Maintenance
OSR	Own Source Revenue
OWFM	On Farm Water Management

Table of Contents

Executive Summary ..... **xv**
1. Introduction **1**
1.1 Background 1
1.2 Strategy Development Process 1
1.2.1 Selection of Sub-Sectors 1
1.2.2 Methodology 2
1.2.3 Embedding Ownership of DEDS 5
1.3 Overview of the Strategy 5
1.3.1 Conceptual Framework 6
1.3.2 Report Overview 8
1.3.3 Implementation Approach 9
2. District Profile **13**
2.1 District Overview 13
2.2 Demography, History and Culture 15
2.2.1 Demographic Distribution 15
2.2.2 History and Culture 17
2.3 Overview of Multan's Economy 20
2.2.3 Major Industrial and Commercial Sectors 21
2.3.3 Multan Industrial Estate 23
2.3.4 Multan Chamber of Commerce and Industry 24
2.3.5 South Punjab Women Chamber of Commerce and Industry 25
2.3.6 The Business Profile 26
2.3.7 Capacity Constraints at the District Level 26
2.4 Overview of Multan's Agriculture 28
2.4.1 Major Kharif and Rabi Crops 28
2.4.2 Livestock and Forestry 31
2.5 Women's Participation in Agriculture and Business 32
2.6 Tourism 34
3. Physical Infrastructure **35**
3.1 Introduction 35
3.2 Electric Power 35
3.2.1 The Inhibitive Legal Regime 36
3.2.2 The Supply Demand Gap 37
3.2.3 Geographical Spread of Power Consumption 38
3.2.4 Current Initiatives 39
3.2.5 Recommendations 39
3.2.6 Using Multan's Comparative Advantage for Local Power Generation 40
3.2.6.1 Using Solar Power for Electricity Generation 40
3.2.6.2 Electricity Generation from Biomass and Solid Waste 41
3.2.6.3 Using Gaseous By-products for Textile Units for Electricity Generation 42
3.2.6.4 Electricity from Micro Head Hydroelectric Turbines 42
3.2.7 Proposed Projects for Local Power Generation 42

3.2.7.1 Project to Use Municipal Solid Waste to Produce Power 42
3.2.7.2 Small Scale Electricity Generation from Irrigation Network 43
3.3 Irrigation 44
3.3.1 Recent Legal and Institutional Reform 45
3.3.2 Demand Supply Gap 47
3.3.3 Investments in Improvement of Irrigation Network 48
3.3.4 Recommendations 48
3.3.5 Proposed Projects to Improve Availability of Irrigation 49
3.3.5.1 Multan Irrigation Channels Improvement Project 49
3.3.5.2 Creating Farmer Awareness on Water Use Efficiency 50
3.4 Municipal Services 50
3.4.1 Water and Sanitation 51
3.4.1.1 Key Issues and Institutional Gaps 51
3.4.1.2 Recommendations 52
3.4.2 Solid Waste Management 54
3.4.2.1 Recommendations 55
3.5 Communication Infrastructure 56
3.5.1 Roads 56
3.5.1.1 Volume and Composition of Vehicular Traffic in Multan 57
3.5.1.2 Findings from the Urban Transport Policy Study for Five Cities of Punjab 57
3.5.1.3 Current Initiatives 58
3.5.1.4 Truck *Addas* 60
3.5.2 Air Transport 61
3.5.3 Multan Dry Port Trust 62
4. Manufacturing, Trade and Commerce 65
4.1 Introduction 65
4.2 Overview of Manufacturing, Trade and Commerce Activity in the District 65
4.2.1 Industrial Activities 65
4.2.2 Trade Associations 66
4.2.3 Punjab Small Industries Corporation (PSIC) Multan 66
4.2.4 Exports, Imports and related infrastructure 66
4.3 Imports and Exports of the Region 66
4.4 Trade 67
4.5 Financial Sector 67
4.6 Enterprise Development 69
4.7 Business Environment 71
4.7.1 Ease of Doing Business 71
4.8 Major Constraints to Enterprise Development in the District 71
4.9 Small and Medium Enterprises (SMEs) 73
4.9.1 Availability of Advisory and Information Services for SMEs 75
4.9.2 Sector Constraints 76
4.10 Priority Industrial Sectors for Multan 77
4.10.1 Ginning Sector 78
4.10.1.1 Constraints 78
4.10.2 Hand and Power Looms Sector 78
4.10.2.1 Sector constraints 79
4.10.3 Meat Processing Sector 79

4.10.3.1 Sector Constraints 79
4.10.4 Leather Sector and Its Composition 80
4.10.4.1 Sector Constraints 80
4.10.5 Dairy sector 81
4.10.5.1 Sector Constraints 81
4.11 Economic Development and Strategy 82
4.11.1 The Way Forward 83
4.11.2 Recommendations 86
4.12 Projects Proposed For Rapid And Sustainable Economic Development 87
5. Changing the Agricultural Landscape 95
5.1 Introduction 95
5.2 District Agriculture Profile 96
5.2.1 *Kharif* and *Rabi* Crops 96
5.2.2 Livestock Production 98
5.3 Generic Constraints to Agricultural Development in the District 98
5.3.1 Capacity Gaps in District Agriculture Office 99
5.3.2 Lack of Supportive Legal and Institutional Framework 101
5.3.3 Limited Farmer Access to Agricultural Services 102
5.3.4 Poor Crop Reporting Services 102
5.3.5 Inadequate Agricultural Storage 102
5.3.6 Inefficient Supply-Driven Agriculture Markets 105
5.4 Constraints to Agricultural Production in Selected Sectors 106
5.4.1 Description of Sub-Sectors and Rationale for their Selection 106
5.4.2 Constraints on Cotton Production 106
5.4.2.1 Diseases and Pests, the Extension Crisis, and Issues in Seed Provision 107
5.4.2.2 Inadequate Support from Cotton R&D Institutes 108
5.4.2.3 Non-availability of Bt varieties in the Formal Sector 109
5.4.3 Constraints on Wheat Production 110
5.4.4. Constraints on Mango Production 112
5.4.5 Constraints on Livestock Production 114
5.5 Recommendations 116
5.6 Specific Proposals for Investment 121
5.6.1 Capacity Building of the District Agriculture Office 121
5.6.2 Outsourcing Extension Service Provision to the Private Sector on Pilot Basis 122
5.6.3 Establishing a Comprehensive Program for Cotton R&D 123
5.6.4 Improving Production, Post-Harvesting Care and Export of Mango 124
5.6.5 Mango Supply Chain Value Addition Project 125
5.6.6 Women Participation in Mango Post Harvesting Project 126
5.6.7 Enhancing Private Sector's Agricultural Storage Capacity 127
5.6.8 Promotion of Quality and Marketing of Vegetables 128
5.6.9 Promotion of Livestock Development 129
5.6.10 Establishment of Cold Storage Capacity 129
5.6.11 Conversion of Existing Commodity Non-specific Cold Stores into Control Atmosphere Commodity-specific Type Cold Stores 130
5.6.12 Advocacy for Legal and Institutional Reforms 131
6. The District Resource Envelop 133
6.1 Introduction 133

6.2 Overview of District Receipts and Expenditure 133
6.3 Analysis of DG and TMA Receipts 135
6.3.1 Analysis of OSR 136
6.3.1.1 Legal Regime Governing Levy, Assessment and Collection of OSR 136
6.3.1.2 Analysis of DG OSR 137
6.3.1.3 Analysis of TMAs OSR 141
6.3.1.4 Proposal for Reform of Business Processes 146
6.3.2 Provincial Transfers to DG/TMAs 148
6.3.2.1 The PFC award 2006 148
5.648% 151
6.3.2.2 Provincial Allocations – Commitments and Receipts 151
6.3.3 Multan Development Authority and Water and Sanitation Agency 152
6.3.4 Vertical Programs (Tied Grants and Provincial ADP) 153
6.4 Expenditure 153
6.4.1 Expenditure of District Government 153
6.4.1.1 Development Expenditure of District Government (2007-09) 154
6.4.1.2 Throw Forward of Development Schemes 155
6.4.1.3 Allocation for Citizen Community Boards Schemes 155
6.4.1.4 Sectoral Distribution of Annual Development Program (2009-10) 156
6.4.2 Expenditure of TMAs 156
7. Recommendations 158
8. Appendices 178
Appendix-1 Documents Reviewed 178
Appendix-2 List Of Persons Met 180
Appendix-3 Sites Identified By Irrigation Department For Power Generation 189
Appendix-4 Smultan's Irrigation System's Designed Capacity and Drainage Data 190
Appendix-5 Detailed Analysis of Legal Regime for Assessment and Collection 193
Appendix-6 Local Government Taxation Rules/ Legislation And Resource Generation 195
Appendix-7 List Of Government Properties Proposed To Be Sold (Million Rs.) 6

List of Tables

Table 1 Number of Union Councils in Multan 15
Table 2 Key Demographic Indicators 16
Table 3-Ethno Linguistic Distribution (%) (Multan vis-à-vis Pakistan) 17
Table 4 Social Infrastructure in the District 19
Table 5 List of Industrial Units and their Installed Capacity 20
Table 6 Area under Major Crops (2006-08) (000 Hectares 29
Table 7 Production Trends of Major Crops (1999-2008) 29
Table 8 Poultry Treatment 31

Table 9 Breed Improvement by District Government Multan 32
Table 10 Veterinary Facilities in District Multan 32
Table 11 Percentage of Population by Economic Categories 32
Table 12 Demand Supply Gap of Multan Circle 38
Table 13 Demand-supply Gap (2007-08) (cusecs) 47
Table 14 Volume and Composition of Traffic – N-5 (2009) 56
Table 15 Road Linkages with Neighboring Cities and Towns 57
Table 16 Statistics 61
Table 17 Sector wise Summary Break-up of Loans Outstanding in the SBP Region 68
Table 18 Export refinance Year-wise amount Outstanding (Million Rs.) 68
Table 19 Commodity wise Break-p of Export Refinance as on 30-06-2009 68
Table 20 Number of Companies Incorporated with SECP Multan Region (Jan 2005 – June 2010) 69
Table 21 Establishments Registered with the Labor Department 70
Table 22 Time and Cost Taken to Start a Business 71
Table 23 Kharif Crops (2008-09) 96
Table 24 Rabi Crops (2008-09) 97
Table 25 Livestock in Multan (million) 98
Table 26 Cotton's Contribution to Multan's Economy 106
Table 27 Wheat's Contribution to Multan's Economy (2007-08) 110
Table 28 Mangoes' Contribution to Multan's Economy (2007-08) 112
Table 29 Overview of DG Finances (2007-09) (million Rs.) 134
Table 30 Overview of TMA Finances (2007-09) (million Rs.) 134
Table 31 Taxes and Fees Recovered by DG for Provincial Government (2008-09) 135
Table 32 Taxes, Rents and Fees – DG Multan (2007-09) (million Rs.) 139
Table 33 OSR and provincial grants – Multan TMAs – (2007-09) (million Rs.) 141
Table 34 Criteria and Purpose of Various Provincial Grants 149
Table 35 Respective Share of DG and TMAs from Provincial Allocable Amount 150
Table 36 Multan's Share in Population and Resources (2007-10) 150
Table 37 Income and Expenditure of MDA (million Rs.) (2007-10) 152
Table 38 District Government Expenditure (2007-09) (million Rs.) 154
Table 39 Development expenditure of DG Multan (2007-09) (million Rs.) 154
Table 40 The Throw Forward from Previous Years (million Rs.) 155
Table 41 Funds Allocated and Utilised for CCB Schemes (2003-10) 155
Table 42 Sectoral Distribution of ADP (million Rs.) 156
Table 43 Overview of TMA Expenditure (million Rs.) (2007-09) 156
Table 44 Strategy Matrix 160

List of Figures

Figure 1 Strategy Development Plan 3
Figure 2 Conceptual Framework for DEDS 7
Figure 3 Implementation Arrangement 10
Figure 4 District Map- Multan 13
Figure 5Pottery in Multan 14
Figure 6 Gender Distribution 15
Figure 7 Urban-rural Divide 15
Figure 8 Population Distribution by Age Group 16
Figure 9 Infant Mortality Rate 17
Figure 10 Mausoleum of Baha-ud-Din Zakaria (left) and Shahi Eid Gah (right) 18
Figure 11 The Sikh Gurdawara 19
Figure 12 Organogram of Finance and Planning Wing at the District Level 27
Figure 13 Cultivated & Uncultivated Areas 28
Figure 14 Irrigation by Source 28
Figure 15 Percentage of Women in Workforce in Selected Sectors 34
Figure 16 Mausoleum of Shah Rukn-e-Alam : 34
Figure 17 MEPCO's Income and Expenditure (2007-08) (million Rs.) 36
Figure 18 Operational Hierarchy of MEPCO Multan Circle 36
Figure 19 Tehsil-wise Electricity consumption (2009) 39
Figure 20 Irrigation Network in Multan 44
Figure 21 List of Incorporated Companies 70
Figure 22 SMEs in Pakistan 74
Figure 23 Services Sought By SMEs At Multan And Multan From SMEDA 75
Figure 24 Process Flow of District Economic Development Strategies - Manufacturing, Trade and Commerce 86
Figure 25 Organogram – District Agricultural Establishment 99
Figure 26 Irrelevance of Extension to Cotton Cultivation 100
Figure 27 Comparison of Land Use and Production of Cotton – Punjab (2007-08) 107
Figure 28 Comparison of Land Use and Production of Wheat – Punjab (2007-08) 111
Figure 29 Comparison of Land Use and Production of Mango – Punjab (2007-08) 113
Figure 30 Multan's unenviable position in cattle production (000) – (2007-08) 116
Figure 31 Trends in Development and Non-development Expenditure (2007-09) 134
Figure 32 Fees as a Component of DG OSR (million Rs.) 140
Figure 33 OSR as a proportion of total TMA receipts (2007-09) (million Rs.) 142
Figure 34 OSR Components for Multan TMAs (2008-09) 142
Figure 35 TTIP & UTIP (2008-09) 143

Figure 36 Percentage Contribution of Various Fees to TMA OSR – (2008-09) 144
Figure 37 Cattle Market Fee (2008-09).....145
Figure 38 Building Plan Fee (2008-09) 145
Figure 39 Rents from Municipal Properties (2008-09) 146
Figure 40 Sector-Wise Distribution of Annual Development Program.....156
Figure 41 Comparison of TMA Expenditures (2007 – 2009) 157

Executive Summary

The district economic development strategy (DEDS) for Multan has been formulated through technical assistance provided by the USAID. The strategy takes a holistic view of district's economy. It also examines Multan's economic linkages with neighboring districts, which embeds the district strategy in a broader regional framework. Such regional view of development within Southern Punjab helps identify a future course of action on what could be done to ensure economic development of the district, in terms of income enhancement, employment generation and poverty alleviation, with special focus on women. The strategy aims at ensuring 5-7% average yearly economic growth over the next few years and generation of about 12,000 additional jobs in various sectors.

The strategy is based on review of available data, examination of the work recently done on Multan by the public sector, non-government organizations and international aid agencies, and intense engagement with key stakeholders such as public institutions, farmers, traders, manufacturers, community organizations and other groups with interests in the local economy. The first step was to carry out a thorough assessment of current economic activity in the district, which helped identify strengths, weaknesses, opportunities and threats towards the preparation of a district profile highlighting Multan's comparative and competitive advantages. While taking cognizance of the overall situation of the district, the focus was placed on three key economic sectors: infrastructure development; manufacturing, trade and commerce; and agriculture and agri-business. Across these three sectors, various sector-specific and cross-cutting initiatives were identified, which must be undertaken for up-gradation of the local economy. Within these three sectors, a number of sub-sectors were identified for detailed analysis in consultation with local stakeholders. This selection was informed by the following considerations: 1) sector's economic contribution; 2) the employment generated; 3) the potential for growth; and 4) linkages with the broader Project mandate. While the DEDS team was fully cognizant of the linkages between social and economic development, its exclusive focus on latter arose from specific mandate of the assignment.

DEDS focuses on enhancing the local economic capacity of the district, improving the investment climate and increasing productivity and competitiveness of local enterprises and labor force, while identifying ways to create new economic opportunities in the local economy. It presents a unique developmental paradigm in a way, that unlike previous developmental efforts, it assesses the local conditions that have been promoting or impeding or have the potential to promote or impede the local development. Such conditions include the local comparative advantages, local economic, social and physical attributes, capacity of the government machinery and existing development agenda. This localised insight guides the design and approach to implementation of the district economic development strategy.

For each of the selected sub-sectors, DEDS maps the infrastructure and the economic activity, critically examines the legal and institutional regime and business processes, proposes a set of strategic recommendations, and presents the broad contours of a number of specific investment options/development projects to operationalize these recommendations of the strategy. Any project from the investment portfolio can be taken up by any tier of the government and/or by international aid agencies.

DEDS realizes the key role physical infrastructure plays in the broader development process. It identifies lack of a reliable and adequate power supply as a major constraint on economic development, and proposes a multi-pronged strategy to remove this constraint. DEDS also proposes the modernization of Multan's irrigation, water supply and sanitation, and solid waste management infrastructure as a pre-requisite for boosting agricultural activity in rural areas and for promoting industrial and commercial activity in urban areas.

Considering the centrality of agriculture to Multan's economy, DEDS contains a number of specific recommendations to change the agricultural landscape of the district. The strategy takes a holistic approach and proposes interventions in a range of agricultural sub-sectors, including major crops, horticultural products and livestock. The strategy aims at increasing agricultural productivity by about 20-25% and about 15-20% value addition throughout the value chain. Hence, interventions to improve harvesting/picking, grading, packing, dry/cold storage, transportation and marketing comprise an essential part of the strategy and its proposed operational arrangements.

These interventions comprise the investment portfolio for district and provincial governments, the private sector and international aid agencies. In most cases, these three actors – governments, private business and aid agencies – will have to pool in resources to create synergies and make social/economic investment feasible. Although, proposals contained herein are part of a coherent whole, and they would produce the best outcomes when implemented in a holistic manner, they have been formulated as separate projects to allow government and/or aid agencies to prioritise their investment according to resources they are able to commit during any period of time. It is expected that sector investment by the private sector alone would exceed US$ 150 million.

DEDS also includes a detailed resource analysis, estimating the resources required for implementing the proposals. The resource assessment exercise has taken into account the existing resource base of the district and identifies a resource gap that must be filled by provincial and federal government and international aid agencies to enable the district operationalize strategic recommendations contained in this report. DEDS also includes proposals for institutional development to ensure that the district has adequate institutional capacity to deliver on the economic development strategy. This institutional strategy covers opportunities for business process automation and re-engineering specially in the public institutional interface for private sector related issues.

The strategy also proposes a framework to implement specific recommendations contained herein. To oversee the implementation process, it is proposed to set up a District Steering Committee comprising of important stakeholders and a full time dedicated Project Management Unit with expertise in relevant areas headed by an experienced Team Leader with sufficient delegation of authority to manage project activities.

1. Introduction

1.1 Background

The district economic development strategy (DEDS) for Multan has been formulated through technical assistance provided by the USAID. The objective is to develop a holistic proposal for private sector led economic development in the district that promotes economic growth, generates employment, builds institutional capacity and reduces poverty. This objective is aligned with the previously identified needs through World Bank's 'Doing Business Survey 2010'. Formulating broad-based economic development strategies for selected districts of Pakistan is part of USAID's mandate and this report now presents the economic development strategy for district Multan.

1.2 Strategy Development Process

Effective strategic planning ensures that priority issues are addressed and limited resources are well targeted. Ideally, the development of a district development strategy should be an integral part of a broader strategic planning process for a sub-national region like southern Punjab. For the present assignment, however, the focus was only one district, viz. Multan, and since it was an administrative, rather than an economic unit, its economic linkages with neighboring districts were examined to embed the district strategy in broader regional framework.

The strategy planning process began by identifying important stakeholders such as public institutions, farmers, traders, manufacturers, community organizations and other groups with interests in the local economy. This step in the strategy development process was completed early on. The knowledge, skills and resources of stakeholders provided a foundation for success.

The team went to a great distance to ensure all important stakeholders' involvement in every step of the process. Following the review and approval of the proposed strategy, there is a need to move quickly to designate a local home and qualified district development team for its execution. There is also a need to ensure that formal and informal structures are in place to support implementation, monitoring and evaluation of agreed upon strategy. Once formulated, ultimately, the strategy and action plans must be assessed in terms of local capacity and local resources.

1.2.1 Selection of Sub-Sectors

A thorough assessment of current economic activity in the district was carried out. The purpose was to identify strengths (capacity, friendliness, ease of doing business), weaknesses, opportunities and threats towards the preparation of a district profile highlighting its comparative and competitive advantage. USAID conducted a number of sector assessments in the initial stages of project planning. Based on these mapping exercises, this strategy has been formulated reflective of a shared common vision, goals, objectives, programs, projects and action plans.

While taking cognizance of overall situation of the district, the focus was placed on three key economic sectors: infrastructure development; agriculture and agri-business; and manufacturing, trade and commerce. Across these three sectors, various sector-specific and cross-cutting initiatives were identified, which must be undertaken for up-gradation of the local economy. Within these three sectors, a number of sub-sectors have been covered in consultation with local stakeholders for detailed analysis. This selection has also been informed by earlier diagnostic work carried out by USAID, while keeping in view the following considerations in each case: 1) sector's economic contribution; 2) the employment generated;

3) the potential for growth; and 4) linkages with the broader USAID mandate. While the DEDS team was fully cognizant of the linkages between social and economic development, its exclusive focus on latter arises from specific mandate of the assignment.

- Within the infrastructure sector, the DEDS has focused primarily on urban infrastructure, assessing its existing status and future needs. The urban infrastructure includes transport, communications, water supply, solid waste management, power supply, etc. In addition, irrigation and farm-to-market roads have also been covered, which fall under rural infrastructure.
- Within the agriculture and agri-business sector, the district economic development strategy has attempted to cover various key crops as well as horticulture (fruits and vegetables). The selected sub-sectors have been reviewed across the value chain, including agricultural inputs, extension services, seed and nursery management, agricultural productivity, access to market and value addition.
- The manufacturing, trade and commerce sector includes an analysis of three key sub-sectors; cotton ginning, meat processing and dairy; and leather goods, covering the sector specific challenges and problems. However, besides these sector-specific issues, the work also includes a brief overview of the local business environment, government's institutional interface with the private sector, local bottlenecks, etc.

1.2.2 Methodology

A clear and robust methodology was developed to complete the project on time. The process started with a review of project documents, literature related to agriculture, manufacturing, trade, commerce and services in the country, province and the district (see Appendix 1 for a list of documents reviewed). Field trips were undertaken, meetings with individual stakeholders and Focused Group Discussions with key players were held in order to collect data from primary sources (see Appendix 2 for a list of persons met). A team of field researchers was also deployed to collect primary data from the field. These activities helped develop an insight into unique challenges specific to each sub-sector selected for the focus. This work is dynamic in nature and refinements will continue to be made based on new findings and feedback from clients. Figure 1.1 (below) presents a schematic of the methodology followed in developing DEDS. The strategy development was developed into three distinct phases: inception, execution and formulation.

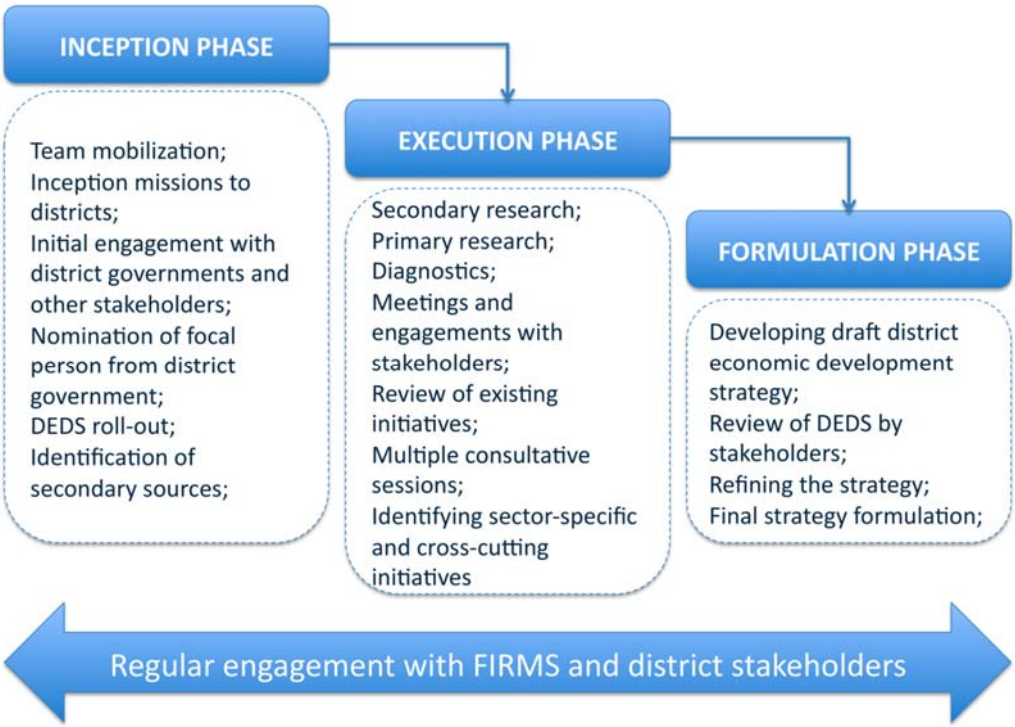


Figure 1 Strategy Development Plan

1.2.2.1 Inception Phase

During the inception phase, the team was mobilized and various inception missions were sent to the target districts. The team leader engaged with the district government at the highest level. The district government ensured its full support and cooperated fully with the team in the subsequent phases as well. The team members held a number of meetings with the district government officials and local stakeholders, including members of Chamber of Commerce and Industry, businessmen, industry associations, etc. The inception phase culminated with the submission of an inception report. The inception report set the stage for formulating the district economic development strategy for Multan and covered the findings from the team meetings. The inception report also threw light on team's understanding of the assignment, an appreciation of the task, current situation in the target district, outline of the strategy, a proposed management plan for undertaking the work including the identification of sources for primary and secondary information. The inception report was then approved by the Project.

During the inception stage, a formal Project Launch event was also held in Multan. The purpose was to assemble key stakeholders and seek their input on the proposed design and process for the formulation of this strategy. The participants of this event included government officials from relevant departments, representatives of Multan Chamber of Commerce and Industry, representatives from other industry and trade organizations, academia and farmers. Their feedback was used to refine the methodology for this assignment. The event also provided a good opportunity for team members to establish contact with key local stakeholders.

1.2.2.2 Execution Phase

During the execution phase, besides working closely with district-level stakeholders, extensive secondary and primary research was conducted and diagnostics were run to identify enterprise and sector level growth impediments. The evolved thinking was further refined and validated

through a number of sector-specific and cross-sectoral consultative sessions. The execution phase concluded with development of draft reports from sector specialists. These reports/sections were reviewed by the team leader to fill the gaps and integrate them into a cohesive strategy. Some of the activities carried out in the execution phase, included the following:

“An important development in the past few months was the passage in the Parliament of the 18th Amendment. The Amendment was examined to ascertain if any modification was warranted in the strategy development process and approach. It transpired that the Amendment favored decentralization and transfer of functions from the federal to the provincial governments, but it did not deal with transfer of functions from provincial governments to district governments. Therefore, it had hardly any implication for the district specific recommendations that were emerging in the course of stakeholder engagement. However, there may in future be a transfer of some federally administered development programs to provincial governments, which may lead to transfer of responsibility and resources to provincial governments in the first place and to district governments in the second place. This would require placing greater emphasis on building the local capacity to undertake and manage such transferred projects”.

Secondary Research: The team members reviewed all the available research reports, previous work and available data. This secondary review helped in better understanding the local ground realities and identifying gaps. These gaps were subsequently filled through primary research. The secondary sources included government sources, such as reports/data from the Punjab Economic Research Institute and the Punjab Bureau of Statistics, as well as diagnostic reports prepared under a number of donor-funded projects.

Primary Data Collection: More specifically, during the execution phase, different sector specialists developed a number of tools, instruments and templates for data collection. Two dedicated data collectors worked closely with the rest of the project team for collection of this information. The instruments were pre-tested and then used, after appropriate modifications. In addition, primary data collection involved meeting a large number of key economic actors in agriculture, manufacturing, trade and services sectors. Gender was a cross-cutting theme; all sector specialists collected gender-segregated data insofar as possible and constructed their respective strategies with the overall objective of increasing women’s economic activity. In addition, the gender specialist conducted a separate audit of women’s economic activity in Multan in general and in selected sectors in particular, and produced a set of specific recommendations to increase women’s economic participation.

A series of focus group discussions (FGDs) were also held to explore sector-specific issues in-depth and to deepen understanding of the constraints on economic activity in these sectors. These FGDs were conducted by the team leader, infrastructure specialist, agriculture specialist, public finance specialist and the trade and manufacturing specialist. These FGDs were aimed at extensively discussing local problems, possible solutions and the available resources. These FGDs greatly helped in crystallizing the recommendations.

Field Visits: Field visits to various parts of the district were conducted frequently to assess the situation on ground. The team members visited a number of existing development projects as well as various communities to assess the challenges and the economic situation of the masses.

Working with District Government Officials: Some of the team members, especially the Team Leader, District Coordinator, Agriculture Specialist and the Public Finance Specialist, worked very closely with the district government officials, to identify local priorities, ongoing and planned initiatives and the resource umbrella. Selected government offices were reviewed to assess their present interaction with the public and to identify room for improvement.

Consultative Workshop: The project launch in March 2010 provided the occasion to apprise the key district officials about the DEDS and to seek their views on how to undertake this work effectively. Stakeholder feedback from this workshop was used to refine the design and structure of this assignment.

1.2.2.3 Formulation Phase

The work done in the execution phase was crystallized into the draft economic development strategy during the formulation phase. The draft was shared with USAID team and its feedback was incorporated in the draft, which was then shared with key stakeholders in a consultative session held in July 2010. Stakeholders participating in this workshop included government officials (especially from Agriculture, and Finance and Planning (F&P) departments), representatives of industrial and manufacturing establishments, transporters, farmers, representatives of growers organizations, representative of Women Chamber of Commerce and Industry, and economic development experts from Baha Uddin Zikria University. This represented a cross-section of economic actors, whose feedback was incorporated in the draft. Key strategies were also shared with the provincial government at a seminar held at the Planning and Development (P&D) Board, Government of Punjab. The report was finalized after incorporating comments and feedback from these key stakeholders.

1.2.2.4 Interaction with Client

Throughout these phases, a close contact was maintained with USAID to keep them abreast of project progress. After the initial approval of the inception report, a bi-monthly progress report was shared to highlight the project progress throughout its implementation. USAID's representatives were invited to key events and consultative workshops to keep them informed about the developments. A detailed meeting was held in early June to update the USAID team on the progress made and to share the broad contours of the strategy being proposed in the selected sectors. The draft strategy was shared with project team and its feedback has been incorporated in this final document.

1.2.3 Embedding Ownership of DEDS

Throughout the project, it was ensured that DEDS should not be seen as a supply-driven initiative and rather should have a strong ownership among various stakeholders, especially government. For this purpose, the following steps were taken:

- The district government officials, right from the top to middle-level officers, were engaged extensively, right from the inception mission to the formulation phase.
- The district government was requested to nominate a focal person for DEDS, to develop an effective working relationship.
- The DEDS took into account the ongoing and planned public sector initiatives and focused on district government's priorities as well.
- The findings of the DEDS team were shared extensively with various government officials and other stakeholders to incorporate their comments.
- The DEDS team kept itself informed of various developmental work going on in Multan district, within the public, private and citizen sectors' domains.

1.3 Overview of the Strategy

The proposed district economic development strategy reflects thinking and priorities of key stakeholders for the promotion of economic activity in Multan. It is expected that this strategy

document would provide a solid foundation to various stakeholders including district, provincial and federal governments as well as the multilateral and bilateral donors for identification of developmental priorities of the district and devising tailored solutions to achieve medium-to-long term economic growth.

1.3.1 Conceptual Framework

The DEDS has been formulated after taking into account ongoing projects, planned initiatives and future needs of Multan and district-specific economic opportunities and bottlenecks. The DEDS has attempted to address these bottlenecks, while capitalizing on the opportunities. Figure 1.2 (below) presents the conceptual framework of DEDS. As discussed above, DEDS has taken a holistic view of the economic activity in the district, but has placed focus on three key economic sectors: infrastructure development; agriculture and agri-business; and manufacturing, trade and commerce.

The DEDS takes a regional view of the development within the southern Punjab to identify a future course of action on what could be done to ensure economic development of the district, in terms of income enhancement, employment generation and poverty alleviation, with special focus on women. The idea of regional economic development is not new and globally a number of regions/states/provinces have developed such strategies. Such geographical-region focused strategies provide an assessment of the local economic base, available and potential opportunities as well as bottlenecks to growth and investment. With this localized understanding, the local communities embark on a broad-based development agenda shaped by the local priorities.

The DEDS has been formulated based on the following key principles:

- Local comparative advantages can play a great role in promotion of local businesses.
- Businesses need capable human resource, specialized skills and a friendly investment climate.
- All districts have specific set of conditions – both opportunities and bottlenecks – which must be addressed in order to economically develop the district.
- Although federal and provincial governments have well-defined (and sometimes not that well-defined) economic development plans, such plans must correspond to local development plans reflecting ground realities and local priorities.
- With increasing focus on decentralization in the wake of local government system, the need for local economic development becomes all the more important.
- These strategies, when developed for a specific district also have the potential of exploring development synergies between adjacent districts in terms of trade, transport, infrastructure development or manufacturing.
- Although the regulatory issues in Pakistan are mostly dealt at the provincial or federal level, the capacity of local government machinery, the local institutional interface and overall urban governance may play a critical role in manifestation of the overall regulatory regime.
- Crosscutting economic development goals, such as infrastructure development can be best addressed by taking a regional view.
- A district with well-defined development priorities and well thought out implementation strategy can serve as a model district for the rest of Punjab with the potential for replication in other districts.

The district economic development strategy, besides setting the medium-to-long term goals for Multan, also includes a detailed resource analysis, estimating the resources required for implementing the DEDS. The resource assessment exercise has taken into account the projected public resources, identified the resource gap and presented some resource-mobilization strategies/recommendations. The resource mobilization strategy also contains specific proposals to increase district's local resource base. The DEDS also includes proposals for institutional development to ensure that the district has adequate institutional capacity to deliver on the economic development strategy. This institutional strategy covers opportunities for business process automation and re-engineering specially in the public institutional interface for private sector related issues.

In short, the DEDS lays out a path for Multan to streamline and crystallize the local economic development agenda, align it with provincial and national development priorities and devise recommendations keeping in view the local, national and international market conditions. The DEDS focuses on enhancing the local economic capacity of the district, improving the investment climate and increasing productivity and competitiveness of local enterprises and labor force, while identifying how new economic opportunities can be created in the local economy. It presents a unique developmental paradigm in a way, that unlike previous developmental efforts, it assesses the local conditions that have been promoting or impeding or have the potential to promote or impede the local development. Such conditions include the local comparative advantages, local economic, social and physical attributes, capacity of the government machinery and existing development agenda. This localized insight has then guided the design and approach to implementation of the district economic development strategies.

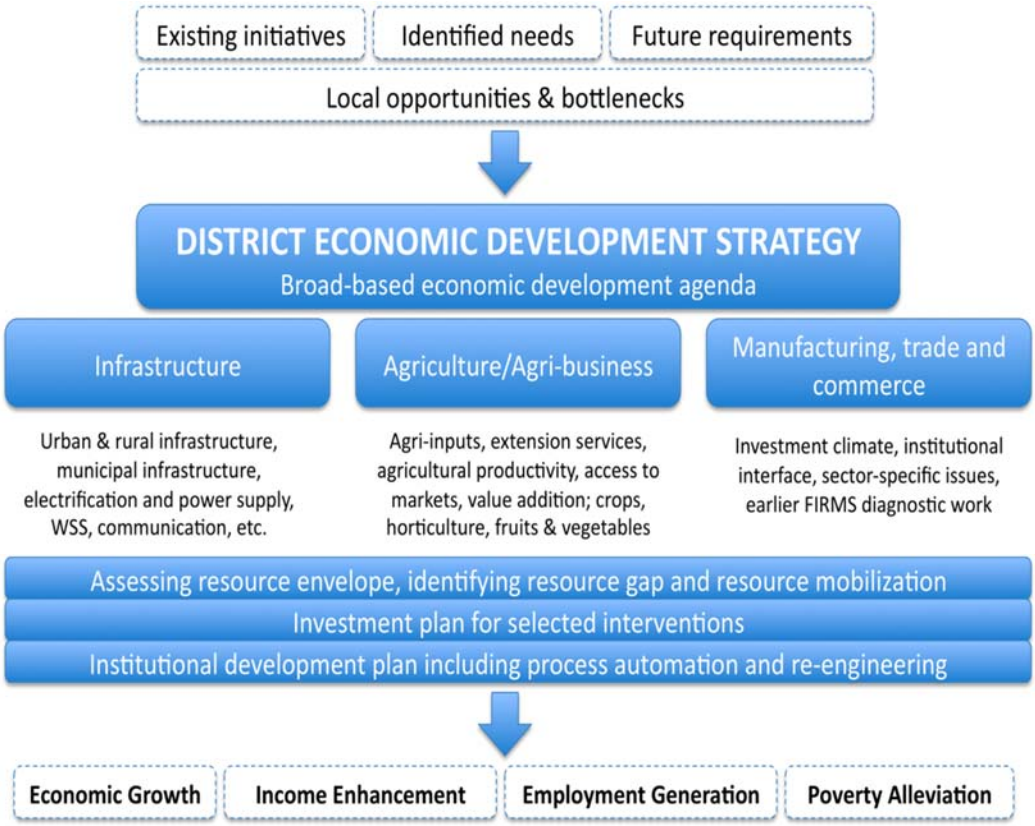


Figure 2 Conceptual Framework for DEDS

1.3.2 Report Overview

This report is organized in two parts. The first is a summary document that: 1) overviews the analyses conducted by sector specialists; and 2) briefly discusses the strategy proposed in each case to bridge gaps, remove barriers, create appropriate frameworks, enable economic activity (especially of women), and use government development portfolio to leverage private sector investment. The second part comprises six chapters, including this introductory chapter. Each chapter does the following: 1) maps the infrastructure and the economic activity in a particular sector; 2) critically examines the legal and institutional regime and the business processes; 3) proposes a set of strategic recommendations; and 4) presents the broad contours of a number of specific investment options/development projects to operationalize these recommendations of the strategy. Any project from the investment portfolio can be taken up by any tier of the government and/or by international aid agencies. The costs, etc. indicated in each case are tentative; detailed feasibilities will need to be developed by interested parties before undertaking any project from the portfolio. A brief overview of the chapters is given below.

Chapter 2 presents an overview of district Multan, including its population, geography, economy, socio-economic issues, district government, resource and expenditure overview, major development projects, etc. The chapter shows that Multan has a broad economic base ranging from rich heritage artefacts to modern day industry. History once called it the 'city of Gold'[1] and today it is called a cotton mine with more than 760,000 bales of cotton production, 112 ginning factories, about three dozen spinning and weaving units, and 35,000 power looms manufacturing cotton goods for domestic consumption and export. Still the economy is predominantly agricultural, with mangoes, citrus, sugarcane, cotton, rice, maize, tobacco, vegetables (mainly potato, onion and cauliflower), lentils and oil seeds being the main crops. This chapter also includes a review of the existing district government setup and existing institutional capacity at the district level. It identifies and highlights Multan's comparative advantages in a number of sub-sectors based on sector assessment studies conducted earlier on.

Physical infrastructure of the district is the focus of Chapter 3, which examines electric power, irrigation, municipal services (water and sanitation and solid waste management) and the communication network. An examination of load sheets of Multan Electric Power Company (MEPCO) showed that the district had a net average shortfall of 616 MW during summer 2009 and 404 MW in winter 2009. Since provision of reliable electric power is a fundamental requirement of doing business, it is proposed that a comprehensive strategy be adopted to reduce consumption, to improve load management and to increase local power generation. A number of specific projects are included that propose co-generation at textile units, use of municipal waste as fuel for power generation, and use of naturally occurring falls in the irrigation network to generate electricity for local consumption. In a similar manner, the importance of adequate and reliable supply of irrigation cannot be over-emphasized in increasing agricultural production. Towards this objective, the irrigation network is examined to identify need for rehabilitation and renovation. The water supply and sanitation system, solid waste management and the communication network are also examined to identify key areas that require public investment. It is argued that decent and reliable municipal services and communication network are the fundamental infrastructural requirements to promote economic activity in the district.

Chapter 4 deals with manufacturing, trade and commerce in the district. Based on their contribution to district economy, share in employment and potential for growth, the following sub-sectors have been selected for detailed examination: cotton ginning, power looms, meat processing and dairy, and leather products. These sub-sectors are selected because of their

[1] http://en.wikipedia.org/wiki/History_of_Multan

massive contribution to Multan's economy and share in total employment. There are 49 spinning and weaving units in Multan. They belong to an organized sector and the principal support they require from the district government is provision of basic infrastructure. An examination of the ginning factories shows that they are using outdated machinery. Investment in equipment will improve efficiency of ginning operations and make them more competitive. However, it is noted that most ginning factories are working on less than full capacity (sometime as low as 30%), which discourages any further investment in technology and equipment. This links with the total cotton production in Multan and surrounding districts. Similarly, the activity in power looms and meat processing sectors is examined and specific recommendations are offered to create an enabling legal and institutional framework, to improve the capacity of the district government to play its facilitative and regulatory role, and to leverage government funding to attract private sector investment in these sub-sectors.

It is now commonly agreed that agriculture has historically suffered from neglect in Pakistan during the last six decades of economic development. This is despite the fact that for the poorest people, GDP growth originating in agriculture is about four times more effective in reducing poverty than GDP growth originating outside the sector. Considering agriculture's huge potential for improvement, Chapter 5 examines basic issues in agricultural production, research, seed provision and marketing, and proposes a number of projects to help Multan's farmers in harnessing the full potential of their labor. Cotton, wheat and mango are examined in detail underscoring the need for public investment in agricultural research and provision of extension services. Privatization of extension services is proposed in one tehsil on pilot basis. It is also proposed to launch a comprehensive program in the private sector for research and development (R&D) on cotton. This will supplement the existing public sector R&D in developing new cotton varieties that meet farmer needs, and would also benchmark quality standards in private sector seed provision. Post-harvest losses are identified as a major problem in mangoes. Recent work by USAID to improve mango picking and post-harvest handling is examined. A comprehensive training program is proposed that involves women workers in the mango picking, grading and packing activities. This will increase farmers' income, generate local employment and contribute to Pakistan's domestic consumption and exports.

Chapter 6 examines the resource envelop of the district. It examines the income and expenditure patterns during the last three years. Data shows that vertical transfers from the provincial government under the Provincial Finance Commission (PFC) award comprise the major income source for the district and the tehsil municipal administrations. The criteria for PFC are briefly examined to underscore the need to increase weightage of factors other than population in the distribution of provincial allocable fund. In order to reduce district's dependence on vertical transfers and to identify new sources of income, the district/tehsil own source revenue (OSR) is examined in detail. The legal and institutional framework under which the district/tehsil collects various taxes, fees and rents is examined and many areas of reform are identified. The business processes for the levy, assessment and collection of these taxes and fees are also examined. A number of proposals are formulated to simplify these processes (including abolishing certain low-yielding fees). It is hoped that these legal and institutional reforms will help the district increase its local resource generation, which can then be used to implement some of the strategic recommendations contained herein. A few government properties are also identified that have commercial value and which can be relocated without significant social costs. The district can use these properties to leverage private investment for development projects, or it can sell them to generate substantial resources for local investment.

1.3.3 Implementation Approach

To implement the district economic development strategy, it is proposed that a District Steering Committee comprising of important stakeholders – five officials and five from the private sector

– be constituted. This committee should be headed by the District Coordination Officer (DCO). Other public officials may include Executives District Officers (EDOs) of relevant departments and representative of Multan Development Authority (MDA). The private sector may be represented on the Steering Committee by Multan Chamber of Commerce and Industry, Women Chamber of Commerce and Industry, growers/farmers associations, and leading investors/businessmen. All meetings of the Steering Committee would be announced ahead of schedule and would be open to public. Proceedings of the meetings would be recorded and be made available to anyone interested in such information.

The Steering Committee is to be assisted in its work by a full time dedicated Project Management Unit (PMU) with expertise in relevant areas headed by an experienced Team Leader with sufficient delegation of authority to manage project activities. Under the overall supervision and guidance of the Steering Committee, the PMU should be responsible for coordinating development activity undertaken by district/provincial government and various aid agencies to operationalize strategic recommendations contained herein. The PMU will also lobby provincial/federal government for legal and policy reform, where needed. Sufficient resources should be allocated enabling the PMU to carry out these activities. But the essential role of the PMU (and the Steering Committee) will be to aid and assist, rather than to build and operate. The PMU will work to remove barriers and to make strategic investments in areas where some support is required to make initial private sector investment feasible.

As will be seen in the following chapters, there are two sets of actionable items in various sectors. The first are the legal and institutional reforms, which must be carried out as a precondition for promoting economic activity. Most of these would fall under the purview of the provincial and the federal government. The PMU will initiate and implement such reforms at the district level, and will pursue the provincial/federal government if they are to be undertaken at that level. The second are investment proposals to improve infrastructure, to provide reliable water and sanitation, to strengthen agricultural department at the local level, to pilot innovative approaches to provide extension, and to increase local resource generation on a continual basis. The PMU will explore public and private sector funding for these proposals. An implementation arrangement has been proposed in each case, but the same will be negotiated by the PMU as and when an intervention is undertaken.

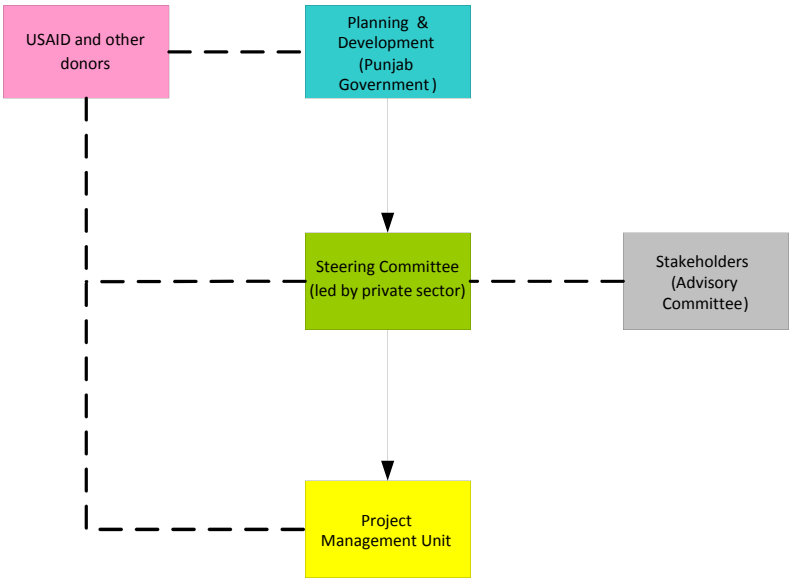


Figure 3 Implementation Arrangement

Last but not least, a district Advisory Committee, comprising of important stakeholders representing priority sectors such as power generation, textile and ginning, cotton, wheat and mango production, and the like, is to be constituted. This Committee will provide expert advice to the Steering Committee and remain available for consultation throughout the implementation of the strategy. With or without the mandate, the Advisory Committee may also play an important watchdog role of monitoring the performance of those directly responsible for project execution with the intent to keep project activities on course.

2. District Profile

2.1 District Overview

District Multan is a flat plain spread over an area of 3,720 sq km in Southern Punjab. District Khanewal to the northeast, districts Vehari and Lodhran to the east, district Bahawalpur to the south, and districts Muzaffargarh, Dera Ghazi Khan and Rajanpur to the west surround it. River Chenab flows along the western boundary of the district, separating it from district Muzaffargarh. River Satlej is situated to the south and marks its boundary with district Bahawalpur. Its location makes it a natural commercial hub for the surrounding and connecting cities.

A network of canals fed by river Chenab flows across the district and irrigates the land. The water of river Sutlej was allocated to India under the World Bank mediated Indus Water Treaty of 1960, still surplus flood water released by India or rainwater at times flows into the otherwise dried up riverbed. During summer, mercury rises to about 50°C and during winter, it drops to around 1°C. Average rainfall is approximately 178.5 mm (7 inches).

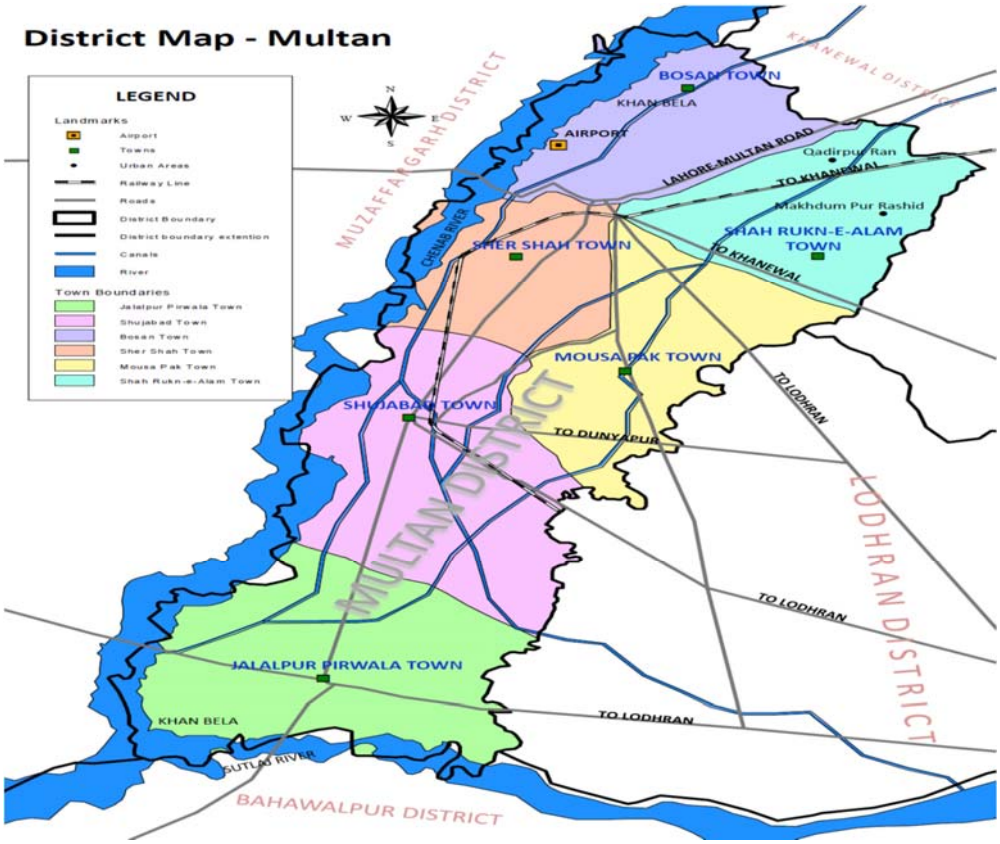


Figure 4 District Map- Multan

Multan enjoys good road, air and rail connection with major cities of Pakistan. A good four-lane national highway connects the district to Lahore in the North and to Karachi in the South. Highways are accessible from all points within one to two hours travel time. The district has 140 km of national highway, 134 km of provincial highway and 873 km of farm to market roads.2 When municipal roads are added, the total length of metalled roads in the district is 1,972 km.3

[2] Bureau of Statistics 2009. Punjab Development Statistics 2009, Government of Punjab, Lahore.
[3] ibid

A new six-lane motorway is being built between Faisalabad and Multan, which will reduce the travel time to Faisalabad and Islamabad, and create road links with many nearby cities.

Multan lies on the main railway track between Karachi, Peshawar, Lahore and Quetta. There are eight railway stations in Tehsil Multan and five stations in Tehsil Shujaabad. Multan airport is situated ten km away from the city centre. It is a medium size airport, yet has daily flights to/from Lahore and Karachi and flights to Islamabad five days every week. Multan airport also caters to the travel needs of people from nearby districts, such as Vehari, Khanewal, Muzaffargarh, Rajanpur, Sahiwal, and Pakpattan. A project to upgrade Multan airport to an international airport is already underway.

Figure 5 Pottery in Multan

Multan is the sixth largest city of Pakistan. It has a rich history spanning over many centuries with strong cross regional trading, commercial and cultural undertakings. It has a diverse economic base ranging from rich heritage artifacts to modern day industry. Traditional crafts include embroidery, blue pottery, ceramics, camel skin lamps, wooden crafts, furniture, metal handicrafts, and Multani shoes (khussa). It's extremely talented artisans are known country-wide for their skill and dexterity, which shows a strong potential of its cottage industry to grow into a sizeable contributor to Multan's economy. Modern industry includes textile spinning and weaving, ginning, auto parts, hosiery, beverages, pharmaceuticals, rice husking, flour mills, vegetable ghee manufacture, soaps and detergents, and tanneries.

Despite growing urbanization in recent decades and the growth of (mainly agro-based) industry, agriculture continues to be a significant contributor to Multan's economy in numerous ways. Mango, cotton, wheat, citrus and sugarcane are the major crops cultivated in the district. Rice, maize, tobacco, lentils and oil seeds are also grown. Potatoes, Onion and Cauliflower are the main vegetables grown in the district. Other horticultural products include dates, pears, bananas and guavas. As shown in Chapter 5, there is considerable growth potential in major crops and horticultural products. About 2,000 acres of land is under forest. Wildlife includes fox, jackal and wild boar. Amongst birds grey and black partridges, quail, plover and pigeons are common, whereas sand grouse visit the district in winter.

The district comprises of four tehsils (sub-districts) and six towns. The first two twin-tehsils are Multan City and Multan Sadar, which emerged from the bifurcation of old Tehsil Multan in 1980. Multan city as commonly understood is spread over these two tehsils. The other two tehsils are Shujaabad and Jalalpur Pirwala. Following the promulgation of the Punjab Local Government Ordinance in 2001, Multan District was upgraded as a City District and was divided into six towns. These six towns include: Shah Rukan-e-Alam Town, Sher Shah Town, Bosan Town, Mumtazabad Town, Shujabad Town, and Jalalpur Pirwala Town. This resulted in creation of six Town Municipal Administrations (TMAs). The district has 129 Union Councils besides the cantonment, which falls outside the District Government jurisdiction although it is geographically contiguous and forms an integral part of Multan city. The number of urban and rural UCs in each town is given in the table below

Table 1 Number of Union Councils in Multan

1	Shah Rukan Alam Town	25	16	09
2	Sher Shah Town	24	12	12
3	Bosan Town	24	14	10
4	Mumtazabad Town	24	15	09
5	Shujaabad Town	17	02	15
6	Jalalpur Pirwala Town	15	02	13
	Total	**129**	**61**	**68**

Multan has ten grid stations ranging in capacity from 66 KV to 132 KV. Natural gas is available in Multan city, Shujaabad, Qadirpur Rawan, Larr, Makhdoom Rashid and Fatehpur for domestic and industrial consumption. There are 20 telephone exchanges in the district, whose capacity varies from 50 to 34,000 lines. All major cellular phone companies have their network in the district. The district does not have a sizeable drain to carry its domestic and industrial effluent. In theory, industrial effluents can be disposed off in river Chenab after pre-treatment with permission from the Irrigation and Power Department, Government of Punjab. In practice, none of the industrial units has a water treatment plant; so industrial effluents are discharged into the river as such.

2.2 Demography, History and Culture

This section presents a broad overview of Multan's demography, history and culture. Data from the 1998 housing and population census is used to extrapolate for 2009-10. Estimates of the Population Welfare Department are also used to indicate current population distribution in various categories (age groups, gender, location, etc.). Basic data on social indicators obtained from Punjab Government's recent surveys is also presented. Qualitative data for this section were obtained through individual and group interviews/discussions.

2.2.1 Demographic Distribution

The total population of district Multan is estimated at 3.7 million, out of which 52% (2.03 million) are male and 48 % (1.9 million) are female (Figure 2.3). Almost two-third of the population (65%; 2.4 million) lives in rural areas, and the remaining (35%; 1.3 million) lives in Multan and other towns in the district. In this respect, Multan is only slightly more rural than the national average (64% rural and 36% urban). Average population density in the district is 837 persons per square km.

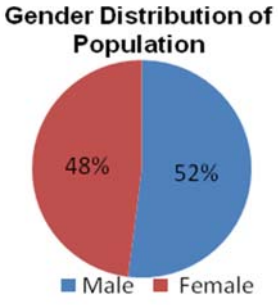


Figure 6 Gender Distribution

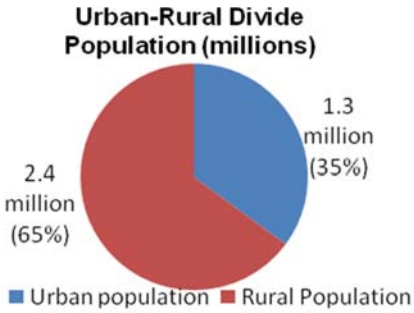


Figure 7 Urban-rural Divide

Source: Population Welfare Department, Multan

According to the City Report Multan, the percentage of economically active population in the district is 26.48 % and represents crude activity or participation rate. The percentage among population aged ten years and above representing refined activity rate or labor force participation rate is 36.07%. This average masks the large discrepancy between the labor force participation rates for male (64.17%) and female (3.11%) population. As the population pyramid (below) shows, 4 30 % of the population is between the age of 20 years and 59 years.

The population is growing at a rate of 2.0%, which is higher than the national average of 1.56 %. Total Fertility Rate in the district equals 4.0 children born/woman, which is higher than the national rate which currently stands at 3.43. The Population Doubling Time is estimated at 35 years for Multan, which needs to be brought down at least to the national average. Multan has an average household size of 7.1 persons, which is also higher than the national average of 5.5 persons per household. About 39 % people live in single-room housing; the district average is estimated at 3.4 persons per room.

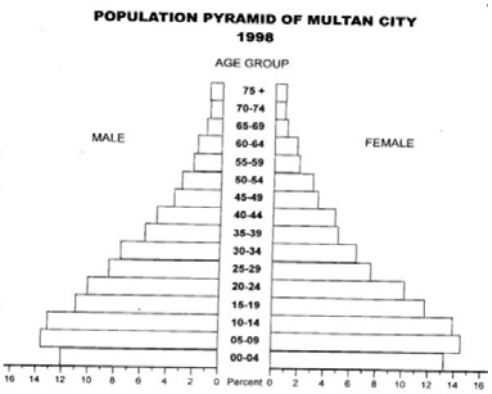


Figure 8 Population Distribution by Age Group

Source: City Report Multan, population and housing census 1998

Table 2 Key Demographic Indicators

Total Area	3,720 Sq/km
Total Population	3.7 Million
Male Population	2.03 million (52%)
Female Population	1.9 million (48%)
Urban population	1.3 million (35%)
Rural Population	2.4 Million (65%)
Population density	837 Sq/km
Contraceptive Prevalence Rate	36%
Infant Mortality Rate	75 per 1000
Total Fertility Rate	4.0
Population Growth Rate	2.0%

[4] City Report Multan, Population and Housing census, 1998 (p. 22, Fig. 2.5)

Doubling Time	35 years
House Hold Size	7.1 persons
Persons per Room	3.4
Population living in One-room Houses	39.0%

Source: Population Welfare Department, Multan

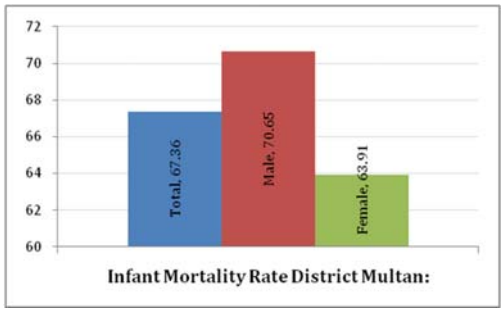


Figure 9 Infant Mortality Rate

Multan ranked as the ninth highest district on incidence of poverty, with 38.4% below the poverty line in 2004-05. According to the Social Policy and Development Centre (SPDC), Multan ranks 13th on the district deprivation ranking of 34 districts in the province and falls in the category of medium deprivation districts. 5 However, the Multi Indicator Cluster Survey (MICS) 2003-04 ranks Multan 16th on the district deprivation ranking of 34 districts. Poverty is more rampant in the rural areas than in urban areas. Despite their substantial contribution to both the provincial and the national economy, the rural masses of this area have a relatively low per capita income, and suffer from under-employment and unemployment. The eventual result is poverty. The rural poor largely comprise small farmers, tenants, and the landless laborers. As spelled out in the Government's Poverty Reduction Strategy Paper (PRSP), agriculture development is considered critically important to meet the poverty reduction targets as defined in the Medium Term Development Framework (MTDF). The infant mortality rate equals 75 live deaths per 1000 which is a bit higher than the national average (67.36 deaths/1,000 live births). Once again, this average masks gender differences in infant mortality, which is slightly higher for boys (71%) than for girls (64%).

2.2.2 History and Culture

Historically Multan has been located at the crossroads of east-west and north-south trade routes; hence it has been an important location for local and international trade. This locational advantage has persisted to date. In fact, it has become even more important, as Pakistan's main north-south rail and road routes for both national and international trade, air routes, and east-west link roads pass through Multan. The District Multan is popularly known as the locus of Saints and Shrines, as a large number of saints, sufis (mystics) and religious scholars of great fame lived here at different times. Major tribes of the district are Syed, Gilani, Qureshi, Gardezi, Khakwani, Arain, Kamboh, Pathan, Baloch, Jat and Rajput.

As Table 2.3 shows, more than two thirds of the population are Saraiki speaking; the second place goes to Haryanivis, who are almost five times less numerous than the dominant Saraikis. The third largest ethnic group is that of Punjabis (11%). Muhajirs, Sindhis, Pashtuns and Balochs collectively account for less than 8 % of the district population.

Table 3-Ethno Linguistic Distribution (%) (Multan vis-à-vis Pakistan)

[5] Social Development in Pakistan: Devolution and Human Development – Annual Review 2006-07

Saraiki	66.58	8.38	Sindhi	1.04	14.1
Haryanvi	14.59	0.00	Pashtun	0.62	15.42
Punjabi	11.14	44.68	Baloch	0.07	3.57
Muhajar	5.68	7.57	Others	0.28	6.28

Source: Population Welfare Department, Multan

Multan has a number of famous mausoleums and mosques. These include the mausoleums of Baha-ud-Din Zakaraiya, Shah Rukn-e-Alam, Shah Shams Sabzwari, Shah Gardez, Musa Pak Shaheed, and Hazrat Hafiz Muhammad Jamal Multani. Among the famous mosques are Masjid Al-Khair, Jamia Zia-ul-Aloom, Eid Gah Mosque, Masjid Sardar Mohammad, Jamia Khair-ul-Madaris, Mosque Ahmed Shah Abdali, Mosque Muhammad Bin Qasim, and Qila Qukna (the first mosque of the Subcontinent).

Figure 10 Mausoleum of Baha-ud-Din Zakaria (left) and Shahi Eid Gah (right)

There is one historical fort in Multan district, namely Multan Fort or Qilla Kohna, originally called Katochgarh, and a magnificent Sikh Gurdawara. The city has far fewer parks as are required for a city this populous. Prominent parks include, Jinnah Park, Chamanzar-e-Askari Cantt. (Lake), Qasim Bagh (inside Multan Fort), Langey Khan Garden, Shah Shamas Park, Aam-Khas Garden and the parks at Bohar gate, and Cantonment Garden.

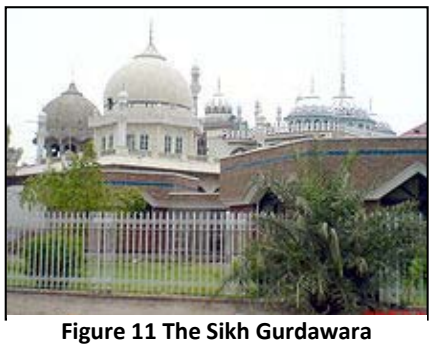


Figure 11 The Sikh Gurdawara

Major hospitals are the Multan Institute of Cardiology, Nishtar Hospital Multan, Civil Hospital, City Hospital, and Fatima Medical Hospital. Bahauddin Zikria University, Multan is a major public sector university of Punjab, which provides higher education in a diverse range of subjects to students from Multan and other districts of South Punjab. Al-Khair University and Preston University also have their campuses in Multan. Table 2.4 provides basic data on school enrolment and social infrastructure in the district.

Table 4 Social Infrastructure in the District

Multan	1015	11	12	23	8	120	150
Shujaabad	327	1	2	2	5	26	14
Jalalpur Pirwala	222	Nil	Nil	2	Nil	8	7

Source: DCO office records

According to Department of Social Welfare, 43 non-government organizations (NGOs) have their programs and projects for social development in the district. The more prominent ones are: the Punjab Rural Support Program, Human Rights Commission of Pakistan, Caritas Pakistan, Azaan Development Organization, Anjum Mafad-e- Amah, Asheyana Development Organization, Pakistan Young Council, Noor Development Foundation, Aaghosh Development Organization, Multan Theatre Foundation, Hadi Welfare Society, Community and Environment Development Society, Zakariya Welfare Development Association, Taraquee Passand Organization, Women Rights Association, Women Development Organization, Shoaib Welfare Society, Aagahi, Roshni Welfare Organization, Pakistan Human Development Foundation, Organization for Development and Peace, Women Empowerment Organization, Sujhal for Social Change, Women Development Organization, Trust for Volunteer Organizations, Pakistan Volunteer Human Development Foundation, Justice and Peace Commission, Islamic Media Foundation, Pattan Taraqiati Tanzeem, Peoples' Development Organization, Rawadari Development Organization, Fiza Development Organization, Women Empowerment Organization, Awam Dost Citizen Community Board, Ali Organization for Development, Anjuman Falah-e-Awam, Pakistan Youth Forum, and Afaq Development Organization.

These organizations are involved in a very diverse set of activities ranging from policy advocacy for women empowerment to provision of basic health services to marginalized communities in rural and urban Multan. Mostly, the scale of activities is small due to weak local capacity to design development projects and to approach potential funding sources. NGOs working in Multan need institutional strengthening support from provincial and district government and from international aid agencies to build their capacity to the level where they can effectively conceive and design projects that meet stringent requirements of major donor agencies.

2.3 Overview of Multan's Economy

Multan is the most industrially developed district in Southern Punjab. In comparison with other districts in South Punjab, it has a vibrant business environment thriving on host of industrial, commercial and agricultural activities. As per Punjab Development Statistics 2009, it has 613 registered industrial units and 3,400 cottage industries. Only 34 registered industries employ over 100 persons whereas other registered industries employ less than 100 persons. Average monthly wage in manufacturing industry is Rs. 7,250.

Major industrial and manufacturing activity includes: beverages, cotton ginning and pressing, diesel engines, drugs and pharmaceuticals, fertilizers, fiber glass industry, flour mills, rice mills, food industry, fruit juices, power and hand looms, motor/pump/turbines, oil mills, pesticides/insecticides, poly propylene bags, poultry feed, readymade garments, tannery, textile processing, textile spinning, textile weaving, motor tires/tubes, hospital furniture, collapsible tubes, cosmetics, household appliances, cutlery and utensils, dyes and pigments, ceramics, steel sanitary fittings, electrical accessories/fittings. Table 2.5 (below) presents the number of industrial units and installed capacity in each category.

Table 5 List of Industrial Units and their Installed Capacity

Sr.	Industry	Units	Installed Capacity
1	Beverage	3	33,300 Crates/ Day
2	Biscuits	5	1,030 M. Tons
3	Chemical	2	1,700 M. Tons
4	Cotton Ginning & Pressing	112	520 Saw gins, 112 Press
5	Diesel Engines	2	515 Nos.
6	Drugs & Pharmaceuticals	6	-
7	Fertilizer	1	542,400 M. Tons
8	Fiber Glass Industry	1	5,000 Nos.
9	Fire Bricks	1	18 lac
10	Flour Mills	42	3,620 M. Tons/ Day
11	Food Industry	1	25 M. Tons
12	Foundry Products	1	450 Nos.
13	Fruit Juices	3	950,000 Crates
14	General Engineering	1	400 Nos.
15	Glass & Glass Products	3	50,400 Th. Nos.
16	Glue	1	576 M. Tons
17	Hatchery	2	3,500,000 Nos.
18	Hosiery Products	2	27,400 Th. Nos.
19	Industrial/ Burn Gases	7	120500 Kg
20	Iron & Steel Re-Rolling Mills	3	12,450 M. Tons
21	Leather Footwear	1	300,000 Pairs
22	Motor/ Pump/ Turbines	2	950 Nos.
23	Oil Mills	144	460 Expellers
24	Pesticides /Insecticides	1	50,000 Liters

Sr.	Industry	Units	Installed Capacity
25	Poly Propylene Bags	1	20,000 Nos.
26	Poultry Feed	7	63,500 M. Tons
27	Readymade Garments	2	285 Machines
28	Solvent Extraction	9	123,000 M. Tons
29	Tannery	40	
30	Textile Processing	5	4,289,200 Meters
31	Textile Spinning	20	328,000 Spindles; 3,650 Rotors
32	Textile Weaving (Mill Sector)	29	3,309 Looms
33	Textile Weaving (Loom Sector)	1135	5,450 Looms
34	Vegetable Ghee/Cooking Oil	13	249,900 M. Tons
35	Woolen Textile Spinning/Weaving	12	3,814 Spindles, 12,300 M. Tons

Source: Government of Punjab 2010, http://pportal.punjab.gov.pk/portal/portal/media-type/html/group/320/page/default.psml/js_pane/P-1207f7bb77a-10011?nav=left, accessed on 17th May 2010

2.2.3 Major Industrial and Commercial Sectors

As can be seen from the table above, major industrial and trading activity is concentrated in a few sectors. This section presents an overview of the economic activity in these sectors.[6] A detailed discussion of opportunities and strategies to capitalize thereupon is left to Chapter 4.

2.3.1.1 Textile Spinning and Weaving

There are 20 spinning and 29 weaving units in Multan, which makes it an important textile centre in Punjab. The units are of small to medium size and their machinery needs modernization. At present, the biggest challenges are unreliable and inadequate supply of raw cotton and frequent power failures. During the last few years, domestic consumption of cotton lint has exceeded domestic consumption, creating a demand-supply gap in the local market. This has led to import of cotton lint in large quantities (average 2-3 million bales during 2007-09), which is not only expensive *per se* but also leads to an escalation in the price of domestic cotton. If local cotton is not available in sufficiently large quantities to meet domestic consumption by spinning units, the textile industry runs the risk of being non-competitive. Another major problem is inadequate and irregular power supply. The textile units in Multan can partly solve this problem by modernizing their machinery, which would allow them to use gaseous by-products from their normal operations to generate electricity (for further discussion on this subject, please see Chapter 3).

2.3.1.2 Ginning Sector

As shown in Chapter 5, cotton is the biggest cash crop in Multan district. Raw cotton has one of the most diverse supply chain activities in rural Multan which covers vast array of businesses and business development services. Cotton is manually picked by female workers. Cotton is procured by ginning factories usually by traditional method of visual and hand assessment of quality. No scientific quality tests are conducted as standard practice. Cotton procured is piled up into large heaps and blended through manual labor. Cotton is not segregated variety or character wise. Female workers are employed sparingly or at will by the ginners to pick up/clean contamination prior to feeding cotton to saw gins. The current ginning technology was evolved

[6] This section is based on the Business Development Services (BDS) Delivery Gap Analysis and Mapping recently conducted by USAID (Pakistan).

with the help of Cotton Export Corporation of Pakistan and Food and Agriculture Organization of the United Nations in the late 80s. No significant improvement has taken place since then in ginning machine technology/engineering. Ginners rely heavily on traditional *Mistri* for selection of new machinery or ongoing maintenance. Obsolete state of ginning machinery causes additional loss of 1.5% or more in residual lint, higher electric consumption and inconsistent quality.

Multan is a hub of cotton trade in Pakistan. The Pakistan cotton Ginners association of Pakistan (PCGA) also has its central office in Multan city. It has host of spinning, weaving and garments enterprises in Multan district as downstream linkages to raw cotton and ginning production in the district.

2.3.1.3 Hand and Power Looms Sector

This sector consists of two segments: Hand looms, and Power looms. Both segments have distinct business dynamics and, hence, have unique challenges, issues and growth prospects. Hand looms sector used to be a major employing sector in the past but is now facing gradual decline. Hand looms sector is a cottage industry, as most looms are installed at homes of owners/operators. Whole family is engaged in a variety of production jobs. The total number of entrepreneurs is estimated between 100 to 120. Currently, hand looms are clustered in Multan city only. Average unit size is six looms whereas unit size of ten or more hand looms is considered large. Maximum unit size is about 40 looms. This scale of economy is very small and poses serious capacity constraints. Large and medium size export orders cannot be satisfactorily performed with such small capacity. Hand looms sector is facing extinction and may gradually vanish in obscurity.

Power looms is a growing sector and is clustered in Multan city. Approximately, 40,000 power looms are installed in Multan city. It is estimated that a unit of 24 power looms helps to employ about 120 persons. Economy of scale is very small. Most units are 12-16 looms, whereas 24-36 looms unit is considered as large. Power looms are mainly scattered in residential areas, rather than being located in an industrial cluster. Hence, this sector faces many problems related to poor infrastructure. Women participation is on lower side as women comprise only 15 to 20% of the work force (mainly in the unskilled category). No woman entrepreneur was reported. Women participation at management level is also nonexistent. Being labor intensive, the sector has significant potential for employment generation. Multan is a hub of spinning mills and, hence, has abundant raw material for power looms. This sector has huge potential to absorb public and private investment.

2.3.1.4 Medical Services Sector

Medical Services sector comprises the public sector network of health facilities and a thriving private sector. Bulk of medical services to masses is still delivered by the public sector health system at various levels in rural areas, towns and big cities. However, private sector has substantially expanded its outreach in major towns and cities during the last two decades. Private sector consists of illegal practitioners (quacks), government approved *Hakims*, Homeopath, general practitioner (GP) doctors and specialist doctors who work as consultants in private hospitals. The network of private sector health facilities comprises clinics, small and medium size hospitals, specialized hospitals, charity free/subsidized dispensaries, laboratories, diagnostic centers and educational institutions. Private sector is largely unregulated, lacks standardization of services/charges and does not have quality control mechanism to ensure efficiency, quality, accountability and reliable patient care.

Most private clinics and hospitals in Multan are not purpose-built facilities, and hence, lack basic

infrastructure. Quality of services seems unregulated and unchecked by health authorities. Charges are un-standardized and often exorbitant vis-à-vis the quality and range of services provided. Inadequate availability of diagnostic and surgical facilities and poor post operative care are commonplace. Incidents of greed and malpractices of doctors, specialists, paramedical staff and diagnostic service providers overshadow the sustainable growth of the sector. Private health care is largely considered an unchecked money making bonanza by many of its providers. Laboratories lack basic and updated equipment and properly trained technicians. Various malpractices, such as, charging commissions and prescribing host of unnecessary tests, are making private health care unviable for patients. Standardization of quality and charges does not exist. Similar state of affair exists in diagnostic services sub-sector.

Female participation is quite high in this sector with a number of women engaged in health service delivery at various levels. Despite many problems, medical services sector has very good potential of growth and women participation.

2.3.1.5 Leather Sector

Leather sector in Multan district is clustered in Multan city. There are two large modern tanning factories, three wet blue tanneries, about 30 bag tanneries , about ten leather garment units and ten exporters of footwear with the production support of about 70 small shoe manufacturing units. There is a small participation of women in large tanneries but their participation in bag tanneries and wet blue tanneries is non-existent. Women participation is small but noticeable in leather garments.

Large tanneries process finished leather and mainly export their produce. None of them is into product extension to leather garments or footwear. Wet blue tanneries, another sub sector, process and sell their produce either to sponsor tanneries or to the open market. These companies are operating with basic and obsolete technology and add least value to raw hides. Bag tanneries are cottage in their scale of operations. Their processing method is traditional which does not include usage of modern chemicals. Leather garment units in Multan are on decline. Footwear segment in Multan has domestic and export product range. Export oriented units manufacture traditional Chappal for Middle East market. Designs are simple and traditional which does not require very high craftsmanship. Manufacturers of traditional shoes for men, women and children, known as Khussa, are very small cottage manufacturers. Multan is the production hub for these articles. These units are scattered in residential areas, and are managed by the owner with the help of skilled and unskilled workers and designers.

2.3.2 Major Business Associations

Following are the major business/trade associations in the district: Pakistan Cotton Ginners Association, All Pakistan Handloom and Traditional Textile Manufacturers and Exporters Association, All Pakistan Power Looms Association, Multan Mango Growers Association, Multan Cotton Association, Bed Sheets and Upholstery Manufacturers Association, Multan Exporters of Natural Sheep Casing Association, The Pakistan Medical Association (Multan Chapter), Pakistan Tanneries Association, and Pakistan Footwear Manufacturers Association. These associations have a major contribution in articulating industry concerns with the government and influencing policy formulation. They serve as a bridge between the government and industry, and provide information, support and guidance to respective industry members.

2.3.3 Multan Industrial Estate

The district has an industrial cluster known as Multan Industrial Estate established adjacent to Multan Cantonment area during the 1960s. Multan Industrial Estate is spread over an area of

714 acres; its second phase is partially developed and spreads over 667 acres. In all, 213 industries are operational; another 174 are in the pipeline. There are 178 operational units and 28 under construction units in phase I while 32 units are working on rental basis. In phase II, three units are operational and 349 plots are available for industrial settlements for which Punjab Industrial Estate Development and Management Board awaits Environment Clearance Certification. Board's major responsibilities are to manage industrial issues, to educate individual and government investors through workshops, seminars, and to conduct feasibility studies. The Board does so in collaboration with SMEDA and Punjab Small Industries Corporation. Currently, these two are facilitating newly developed units to get clearance/approval from concerned government departments. They are also preparing feasibility studies to revive sick units.

The growth of new industrial establishments has been rather slow in the recent past due to a host of factors, such as, lack of investors' confidence, high cost of doing business, deteriorating law and order, absence of a reliable system of dispute resolution, problematic enforcement of contracts, unreliable power supply, poor communication network, lack of civic facilities, etc. Further, there is little technical assistance available from the government departments in preparing feasibilities, providing market information and creating effective linkages.

2.3.4 Multan Chamber of Commerce and Industry

Multan Chamber of Commerce and Industry is one of the premier chambers of Punjab. The Chamber has four classes of membership, namely, Ordinary Class, Associate Class, Town Association and Trade Group. It has membership from the entire Multan Division. Currently it has 600 members in all categories. Multan Chamber of Commerce provides technical support through its WTO help desk and official news bulletin on trade inquiries and potential business opportunities.

Every year Chamber's Executive Committee forms Sub Committees on various subjects relating to Trade and Industry. The Sub Committees formulate recommendations for consideration and approval of the Executive Committee. Every year comprehensive memoranda and policy proposals are sent to the Government. There are Sub Committees on the following subjects: Industry, Taxation, General Sales Tax, Refund, Gas/Power Utilities, Banking/Insurance/Economic Affairs, Import/Export, Chamber's Building, Communications, PIA, Railway, Road Transport, Telephone, Provincial/local Taxes, Municipal Corporation Affairs, Labor and Social Welfare, Industrial Estate, Computer/Internet, Auto Engineering, Cotton and Textile, Custom/Excise, Small Traders, Agriculture Products Export, Research and Development, Women Entrepreneurs, UNDP-SMEDA, and BZU Liaison. The Chamber has representation on various Advisory Committees/Boards constituted by district and provincial government at various levels.

2.3.4.1 Sub-Committee on Women Entrepreneurs

A Sub-Committee on women entrepreneurs was established in the Multan Chamber of Commerce some eight years ago. Since then, this Committee has grown to a membership of 70. This number is very small by any standards considering the population of Multan. The chairperson of the Committee, Ms. Kosar, is a woman entrepreneur who has a business of hand embroidered garments. According to her, the reason for the fairly small number of women in the sub-committee is that they do not appreciate the importance of their association with the Chamber. "Being the member of a Chamber of Commerce and Industry can facilitate and improve their business and also open many doors for them", says Ms Kosar, "but the fact is that the Chamber does not have any regular facilitation to offer to its women members". The Chamber provides information about various events and exhibitions and the women can obtain

invitations for various events inside the country and abroad for participation but other than that there is not much to offer. Further, the Committee has arranged various trainings for the women members and many non-members from time to time and also facilitated women in taking part in exhibitions and expos.

Until recently the Sub-Committee on Women did not have a separate room in the Chamber and had to use shared space and the committee room for its meetings. There is a great need to utilize this very important organization for bringing a substantial improvement in the participation of women in various economic sectors in Multan. An important step would be to strengthen the Sub-Committee by providing improved accommodation, offices, staff, equipment and a substantial endowment enabling it to evolve into a viable institution for supporting and strengthening women entrepreneurs in Multan. Without this strengthening, this Sub-Committee is in no position to support women entrepreneurs in bringing marked improvement in their work and business.

One of the most important future roles for the Sub-Committee on women can be the formation of an Association of Working Women in Multan having membership from growers, manufacturers, artisans, retailers and importers and exporters. This Association of women can play the role of an umbrella organization for working women and artisans from all over Multan. Under this umbrella, women can become a formidable force with the passage of time. Working together, they can increase their awareness of their rights and improve the quality of life by substantially benefiting from their arts and crafts as well as their businesses. The Association can provide a platform for women to learn, to earn and to move forward in the business world.

The Association can potentially play the role of a watch dog, pressure group, lobby, as well as an umbrella organization for providing guidance, training, facilitation, counselling, legal advice, mediation, financing and many other facilities that working women might need. The Association can also lobby the government both at the district and provincial level for adopting policies which would enable gender mainstreaming and be inclusive in their very design. It is not enough to allocate budgets for a few special projects but efforts have to be made to ensure the inclusion of women in the mainstream of all the economic activity in the district in order to achieve substantial improvement in the economic growth and to move towards the goal of gender parity.

2.3.5 South Punjab Women Chamber of Commerce and Industry

Established in July 2008, South Punjab Women Chamber of Commerce and Industry (SPWCCI) is the first ever women chamber in Pakistan. Its current membership is 139 and it comprises women entrepreneurs from commercial sectors, such as, embroidery and other women-dominated activities. Ms. Aneela Iftikhar, its dynamic chairperson, became the first lady Executive Member of the Federation of Pakistan Chambers of Commerce and Industry (FPCCI) in Jan 2009. With the objective of ultimately boosting women entrepreneurs' clusters, SPWCCI holds policy dialogues with government, and national and international trade agencies. It also conducts trainings, seminars and exhibitions. It has already held exhibitions in many countries including high-value markets, such as, France, USA, Italy and Syria. There have been several meetings with diplomats, consulate generals, government officials and representatives of international organizations, but this interaction needs to be institutionalized. The Chamber has also advised provincial and federal governments on core economic issues, federal budget, trade policy, monetary policy, industrial policy and, investment policy. Among its strategic partners are the Trade Development Authority of Pakistan, the Islamic Chamber of Commerce and Industry, and the Centre for International Private Enterprises. The Chamber has planned a number of future activities, including the establishment of a skill development institute with support from the provincial government, and organizing ladies' clusters for mass production in selected sub-sectors to achieve economies of scale.

2.3.6 The Business Profile

USAID recently conducted a survey of business establishments in Multan as part of their Business Development Services (BDS) component. The survey explored interesting questions about registration, ownership, membership, type and age of business in six priority sub-sectors, namely cotton ginning, power looms, mango processing, meat processing, medical services and tanneries. Key findings from this survey are reproduced below. It should be noted that the survey findings are specific to these six sub-sectors.

The survey showed that cotton ginning and leather tanneries were the only sub-sectors, which were invariably registered under relevant laws with the concerned authority. At the other extreme were hand and power looms, where only 3% establishments were registered. In between were meat processing (13%), medical services (10%) and mango processing (7%). This showed that bulk of economic activity in mango and meat processing, medical service provision and looms was in the informal sector without any regulatory oversight from the district or the provincial government. In the next section we examine the capacity constraints that effectively disallow the district authorities from extending oversight to these un-registered establishments in the informal sector.

Most of the businesses surveyed for this study were inherited. Ginning sector survey results reflected 60% inherited organizations whereas meat and meat processing sector had 63% inherited businesses. Trend of business inheritance was the highest in hand and power looms with 93%, mango sector as 90% and leather sector as 80% inherited businesses. This shows the existence of monopolies and barriers to entry in these sectors.

Most of the businesses surveyed were more than 10 years old. 60% of ginning sector respondents in the survey reported their annual turnover as over Rs. 20 million; only 13% of hand and power looms reported their turnover as Rs. 20 million or above. Business in other sectors mostly fell between Rs. five million and Rs. 20 million. This showed the small size of business operations in these sectors. Most businesses were limited to local markets; only 13% of hand and power looms reported exporting 50 % or above of their product. For only 5% businesses in the leather sector exports exceeded 5% of their annual production.

Membership of relevant trade and industry association reflected the networking strategies of business in Multan. Trade associations also act as policy advocacy platform and interest group to promote and defend the group's interest with relevant government, administrative or other forums. The survey showed that most businesses were member of their relevant trade organization. 100% respondents from leather sector reported membership, 65% of ginners, 57% of medical services, 43% of meat and meat processing and 23% of mango respondents confirmed that they were members of their relevant trade association. However, not everybody (even of the registered entities) was a member of the local Chamber, which shows that Chamber membership did not figure prominently on their networking strategy to access information and resources, and to articulate their interests.

2.3.7 Capacity Constraints at the District Level

There exists a severe capacity constraint at the district level for planning, executing and managing industrial and trade promotion activities. In the devolved set up under PLGO 2001, EDO (Finance and Planning (F&P)) is responsible for Enterprise and Investment Promotion (E&IP), which covers all industrial and commercial activities in the district. In addition to investment promotion, the EDO Office is supposed to assess the resource requirements of and prepare budgets for as many as 30 departments in the district. The Office also monitors and controls those budgets. The EDO is also responsible for formulation of district's Annual Development Plan (ADP). District Officer (DO) Planning and District Officer E&IP assist the EDO in planning and managing the important function of facilitating and managing industrial

and trade activity in the district.

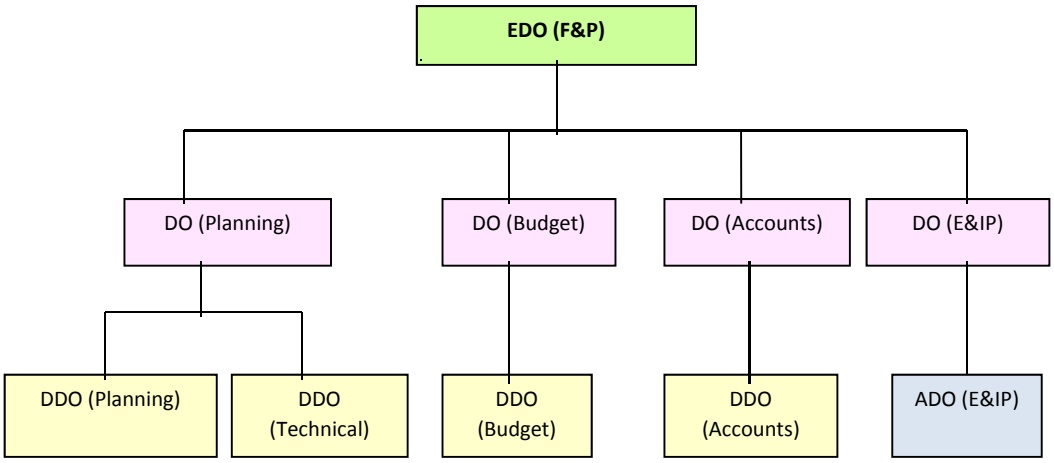


Figure 12 Organogram of Finance and Planning Wing at the District Level

The DO (E&IP) performs two major tasks, namely, registration of firms and planning for industrial investment. Partnership firms are registered under the Partnership Act of 1932, whereas nonprofit societies are registered under the Societies Registration Act of 1860. In other words, the District Office (E&IP) provides the framework under which new business (and/or nonprofit activity) can be started in the district. (Business can also be set up under other instruments, such as the Companies Ordinance of 1984, but our focus here is district level regulatory framework and capacity). The second function involves planning with respect to new industrial establishments or already running industries. In case of new establishments, the department conducts pre-investment study. It also conducts surveys to identify new industries that did not contact DO (E&IP) before establishing. For those applying for new industrial establishments, the DO authorises the establishment through a 'Location Clearance Certificate'. This certificate allows the investor to commence construction as and where applied for. If the establishment of an industrial/manufacturing entity is considered potentially hazardous for environment or for local community, the activity can be disallowed and the area can be declared a 'negative area' for such activity. However, such extreme measure is seldom taken without taking the Chamber into confidence. DO (E&IP) is also responsible for implementing industrial laws and policy. Labor laws are handled by the District Officer (Labor).

The second key member of the EDO (F&P) team is DO Planning, who is responsible for preparing the Annual Development Plan of the district. He collects proposals from various departments in the district and from key industrial, trading, agricultural and political lobbies. These proposals are put together each year as the ADP, subject to available resources. In this rather mechanical development of the ADP, there is hardly any scope for strategically planning and using public investment to promote industrial/manufacturing activity.

The EDO office (including its component DO offices) suffers from capacity constraints in more ways than one. First, the human resource required to effectively plan and manage industrial development in the district is not available. There are far too few people to effectively perform the myriad tasks assigned to this office. Even these few people lack the required skills. There is no system of rationalizing work load and of capacity building to regularly upgrade the skill set currently possessed by the department. Second, the infrastructure required to carry out functions entrusted to various office does not exist. Use of information technology is still in its nascent stage, and management information system, databases, spatial mapping, geographical

information system, etc. are by and large alien concepts in the officialdom. A substantial institutional strengthening program is warranted to transform the current bureaucratic, slow and rent-seeking apparatus to a modern outfit that facilitates, guides and enables (local and foreign) private investment in the district.

2.4 Overview of Multan's Agriculture

As noted before, Multan is an agricultural district where 66% people live in rural areas. It has nine *Markaz*, 126 Union Councils – 51 urban and 75 rural – and 503 villages. The cultivated area is 788,586 acres and 91,722 acres are not available for cultivation. Out of the uncultivated area, an area of 51,148 acres is waste land that cannot be cultivated, 3,070 acres is water logged area and a small area of 1,341 acres is under forest cover. According to Agriculture Census 2000, average farm size in the district is 8.3 acres. The total number of farms in the district is 103,101 of which nine are government farms and 103,092 are privately owned farms.

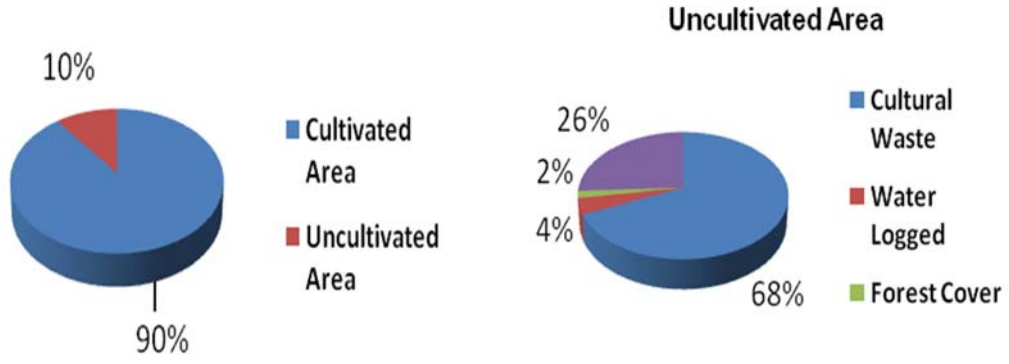


Figure 13 Cultivated & Uncultivated Areas

There are two types of canals i.e. perennial and non-perennial. 77.8% area is irrigated by canal water while 19.3% of the area is irrigated by tubewells.

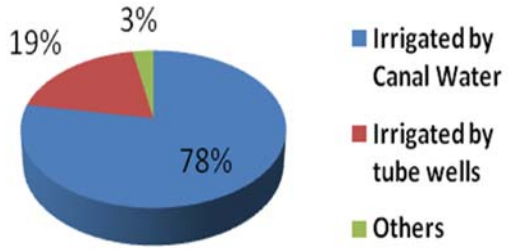


Figure 14 Irrigation by Source

2.4.1 Major Kharif and Rabi Crops

The district is blessed with good soil, climatic conditions, sweet ground water and perennial canals, premier R&D institutions, the centrality of its location and other supportive

agronomic/production/marketing facilities. Consequently, per acre yield of such crops as cotton, wheat, vegetables and fruits, particularly mango, is relatively competitive.

Major Kharif crop of the district include cotton, sugarcane, rice followed by moong, sesamum and a variety of vegetables and fruit particularly mangoes. Multan is a significant player in the production of cotton and the largest district in terms of land use and production of mangos. A number of vegetables and fruits are grown in the district including citrus, guava, potato, onion and cauliflower. Table 2.6 shows land use statistics for major crops of the district. During the last three years, there has been reduction in area under cotton and wheat, whereas area under rice has slightly increased. These yearly fluctuations are the result of the usual farmer response to market vicissitudes and conditions of cultivation. Were land use statistics for 2009-10 available, it would have been interesting to see how farmers have responded to the increase in wheat procurement price this year.

Table 6 Area under Major Crops (2006-08) (000 Hectares

	2005-06		2006-07		2007-08	
	Total	Irrigated	Total	Irrigated	Total	Irrigated
Cotton	193	193	190	190	189	189
Wheat	203	196	192	185	186	182
Rice	11	10	11	11	12	12
Sugarcane	2	2	3	3	2	2

Source: Punjab Development Statistics 2009, Table 47, Table 48

Table 2.7 presents time series data on production of cotton, wheat and sugarcane – the three major crops in the district.

Table 7 Production Trends of Major Crops (1999-2008)

Crops	Production (000 tons)							
	1998-99	1999-2000	2000-2001	2002-03	2003-04	2005-06	2006-07	2007-08
Cotton (000 bales)	394.29	664.43	618.24	600	623	889	830	760
Wheat	388.34	472.50	480	486	475	517	547	434
Rice	-	14	14	12	15	17	16	23
Sugarcane	212.30	168.50	153.30	186	181	88	124	106

Source: Punjab Development Statistics, 2004 and 2009

2.4.1.1 Cotton

Cotton is a major *kharif* crop in Multan. It is generally cultivated in rotation with wheat, but in recent years, farmers have also experimented with year-long cotton. It is cultivated by small and large farmers in all tehsils of the district. According to figures available for 2007-08, Multan is the eighth largest district in land use (467,000 acres) and fifth largest in cotton production (760,000 bales) in the country. Multan has good soils, perennial canals, sweet sub-soil water, is home to federal government's Central Cotton Research Station and Punjab's Cotton Research Station, and yet it is fifth in the district ranking.

This is principally because cotton production in the district has suffered from a number of problems in the recent past, such as diseases and pests, water scarcity, high temperatures, lack of extension services and non-availability of quality seed. Until 2005-06, bollworms were a major

issue, but this problem has been by and large solved through the introduction of insect-resistant genetically modified cotton varieties (called Bt cotton). In 2006-08, cotton crop was severely attacked by mealy bug, which disappeared 2009 onwards, once its parasites caught up to enormously increased mealy bug population.[7] Cotton leaf curl virus is currently the major constraint on cotton production in Multan (and neighboring districts). Nationally, it is estimated that cotton leaf curl virus causes a loss of approximately 4-6 million bales every year.[8] There is no reason to suspect that the loss to cotton crop due to virus is proportionally smaller in Multan. Hence, it can be safely stated that leaf curl virus causes an annual loss of approximately 250,000 – 380,000 bales to Multan's economy. This is a very substantial loss, and if we can find a solution to the virus problem, this would have a major impact on Multan's agricultural economy.

Multan is home to premier cotton research institutes of federal and provincial governments. Yet, there is no pipeline of cotton varieties, which are tolerant to cotton leaf curl virus, perform well under water and heat stress, and have higher lint yield per unit of land. The seed provision is in a mess due to widespread marketing of Bt seed in the informal sector. Since private seed companies as well as the Punjab Seed Corporation have been marketing Bt seed in the informal market during the last 4-5 years, there is no system of quality control to ensure that farmer gets good-quality, pure seed that germinates well and performs in the field as promised.[9] Public sector extension services have become practically irrelevant as shown in Chapter 5.

2.4.1.2 Wheat

According to figures available for 2008-09, Multan is the14th largest district in land use (461,000 acres) and 16th in wheat production (433,000 tons) in Punjab. It is the largest *Rabi* crop with 75% of cropped area. While the cultivation area of wheat remains stable, the total production fluctuates in a narrow range. Together with cotton it forms the cropping package used by most producers in the region. The production system is input-intensive, with even the smallest-scale producers typically using fertilizer and insecticide buy inputs on credit. The wheat sub-sector is dynamic, involving many different actors. As with cotton, input suppliers heavily market their products to producers. The majority of wheat produced within the region is subsequently purchased and processed into flour at several major mills. The flour produced is largely shipped elsewhere in Pakistan for consumption or for value addition, e.g. for a variety of bakery items for consumption by higher end of the market.

Vertical expansion of wheat depends upon the availability of high yield quality seed, water use efficiency inclusive of quantum and timing of rainfall, and balanced use of fertilizer. Other initiatives that could help include the availability of credit, availability of implements and other inputs at reasonable cost and increased support price. Wheat production should not be limited to favorable irrigated environment and opportunities need to be explored in marginal rain-fed areas.

2.4.1.3 Mangoes

Multan is an important mango production area in Pakistan. It has significant share in mango

[7] Recent reports from the field suggest that mealy bug may resurge later this year. Prima facie, farmers have been spraying their crops extensively in an effort to control the white fly (which is the vector for the cotton virus). Regardless of their success in controlling virus inoculation, indiscriminate pesticide spray seems to have substantially brought down the population of beneficial insects, once again disturbing the natural pest-parasite-predator balance for the mealy bug.

[8] Forrester, N. 2009. Changing the Cotton Landscape in Pakistan, Ali Tareen Farms, Lodhran

[9] Rana, Muhammad Ahsan 2010. Formalising the Informal: The Commercialisation of GM Cotton in Pakistan, University of Melbourne, Melbourne.

exports and boasts of some special varieties. The mango sector has several large growers, a sizeable population of medium sized growers and many more small growers. Geographically mango orchards are divided into three clusters: 1) Lutfabad, Butch Khuzroabad, and Nawabpur Bosan is a rich cluster having 20,000 to 25,000 orchards; 2) Qasim Bella, Shersha, Muzaffarabad and Jalapur are the 2nd cluster having 10,000 to 15,000 orchards; and 3) Shujaabad cluster having approximately 5,000 orchards. Women participation is almost non-existent in the sector. Women are not even employed in packing mangoes in wooden crates.

Large and medium size orchard owners have their on-farm nurseries for the plantation. Other farmers purchase plants from commercial government nurseries. Survival of mango plants is a major problem. A mango plant takes on average ten years to reach the age of production. Survival rate of mango plant is 30%. Most of the mango plants die at the time of plantation. On-farm warehousing and cold storage facility is not available in the district. There is neither a specialized training institute nor a scientific grading facility for mangoes. Grading of mangoes is usually conducted on visual assessment. There are three mango growers associations in Multan, namely, Multan Mango Growers Association, Mango Growers Association of Pakistan and Progressing Mango Growers Group.

Figures for mangoes exported from Multan district are not available, but they are unlikely to be different from the national export figure of 4% of the total mango produce on the average. This is due to a number of problems, such as farmers' inability to establish a pipeline of standardized mangoes, their lack of knowledge on food safety standards in high-end export markets and poor integration/linkages with global food chains. There are only three Global Good Agricultural Practices (GAP) Certified mango orchards in Multan district. With appropriate support systems in place, Multan's mango sector has the potential to improve its share in national produce as well as to access the high-value retail markets in Europe and North America.

2.4.2 Livestock and Forestry

The district has a large poultry industry, which provides eggs and chicken meat for consumption in Multan and adjoining districts. The following table shows the services provided by the district government.

Table 8 Poultry Treatment

Period	Post-mortem examinations conducted	Birds Treated	Laboratory Tests Performed	ND vaccination performed
2007-08	79242	43.246 Million	0.0132 Million	0.710 Million
2008-09	22233	12.24 million	0.0612 Million	2.362 Million

Source: DO Livestock, CDG Multan

The district also has a substantial livestock population. An important activity is breed improvement. This intervention is concerned with improvement in genetic makeup of the livestock. For example, cross-breeding is undertaken with exotic breed animals, whose semen are artificially obtained and used for obtaining improved breed. High pedigree bulls are used to fertilize cows in large numbers through artificial insemination techniques. The market value of such proven bulls may range between Rs. 10 million to Rs. 20 million. The task of breed improvement also takes into account breed nutrition and management of the animal. In addition to veterinary facilities managed by the district government, an NGO – Livestock Experts and Devoted Society (Leads) – is also working in the district. A few years ago, Leads celebrated a 'Save the Sahiwal Cow' year. They successfully lobbied the Punjab Government to establish a directorate for breed improvement in general and preservation of Pakistan's valuable stock, such as Sahiwal cow, in particular.

Table 9 Breed Improvement by District Government Multan

Period	Insemination				Income in Rs.		
	Buffalo	Cow	Exotic	Total	A.I Fee	G. D Fee	Total
2000-01 Before Devolution	10390	16521	5400	32311	967830	1500	969330
2007-08	25598	27906	7279	57783	1734090	2115	1736205
2008-09	17063	30999	6786	54848	1648500	2290	1650790
2009-10	15324	24027	3403	43136	1293280	2185	1296265

Source: DO livestock, CDG Multan

The district also maintains and operates a set of veterinary care facilities to provide service to livestock farmers in Multan (see Table 2.10 below). (Private sector participation in providing these services is small for the time being. Mostly it is limited to quacks in rural areas.) Then farmers' days are celebrated mainly for conservation of livestock and productivity increase. In the same spirit, 'Vaccination Year 2010' is being celebrated this year and district Multan is an active participant. Similarly media talks, seminars and conferences are arranged to create awareness and to educate farmers on better livestock management practices. In the public sector, in addition to veterinary centers and hospitals, there exists a network of research institutes to conduct research on various issues in breeding and livestock management, and to train extension workers and farmers. More prominent ones are: the Veterinary Research Institute Ghazi Road Lahore and the Research Institute of Foot and Mouth, and Livestock Production and Research Institute Bahadar Nagar.

Table 10 Veterinary Facilities in District Multan

Sr.	Facility	Number
1	Hospitals	14
2	Dispensaries	23
3	Veterinary Centers	44
4	Artificial Insemination Centers	2
5	Artificial Insemination sub-centers	15

Source: District Officer, Livestock, CDG Multan

2.5 Women's Participation in Agriculture and Business

As per official statistics, women's economic participation is rather limited in the district. However, official statistics grossly underreport labor force participation rates for women. There are grave problems in the collection of data, such as, an inappropriate definition of economic activity, enumeration by male surveyors who get information regarding working women from the male members of the family, and exclusion of the informal sector where most women are employed. Much of the work that women do is 'invisible' in national censuses, despite its productive and social worth. One reason for this undercounting is that women activities are concentrated in small-scale agriculture, the informal sector and the home – areas for which data are deficient. Labor force participation data in Table 2.11 (below) is a good example of this under-counting. It shows that 69% of domestic workers are women, and yet it reports proportion of economically active women as 2.25%.

Table 11 Percentage of Population by Economic Categories

Economic Category	Both Sexes	Male	Female

Economically active (labor force)	26.48	47.74	2.25
Not economically active	73.52	52.26	97.75
Students	9.90	17.77	0.92
Domestic workers	32.77	0.99	69.01
Others	4.28	7.90	0.15
Labor force participation rate (refined)	36.07	64.17	3.11

Source: City Report Multan 1998

Women are concentrated in the secondary sector of labor market. Their work is low paid, low status, casual, and lacks potential upward mobility. Women are overwhelmingly concentrated in the agriculture sector, which employs 79 percent of female labor force as compared with 57.3 percent of male workers. Nearly 36–38 percent of economically active rural women work on their own family farms. Women's engagement in multiple home-based economic activities leads to under remuneration for their work. Women traditionally spend long hours fetching water, doing laundry, preparing food, and doing hard work in agriculture sector including taking care of the livestock. Most of the time, their labor is unpaid and unappreciated.

The nature and sphere of women's productivity in the labor market is largely determined by socio-cultural and economic factors. Women do not enter the labor market on equal terms vis-à-vis men. Their occupational choices are limited due to social and cultural constraints, inherent gender bias in the market, and lack of support facilities such as child care and transport. Their primary role is still considered to be of a homemaker; even skilled and educated women are not allowed to exercise the chance of venturing out of their homes and earning for themselves and their families. Earning by the women is considered to be a blow on men's ego and a symbol of rebellion.

Women lack ownership of productive resources. Despite women's legal rights to own and inherit property from their families, there are very few women who have access and control over these resources. A micro level survey of 1,000 rural households conducted in 1995 in Punjab found that only 36 women owned land in their own name, while only nine of them had control over it. Field work for this report brought to the fore similar patterns in Multan.

Similarly, formal financial institutions do not cater to women's credit needs due to the underlying assumption of women's role in the reproductive sphere. Commercial banks ignore women clients due to their preconceived views on women's credit worthiness because of their dependency on men for physical collateral, high transaction cost of small loans, and difficulties in gaining information about a borrower's reliability. The Agriculture Development Bank of Pakistan and First Women's Bank Limited are the only banks that have small-scale credit programs that cater to women. Other sources of credit to women include informal sources such as NGOs, friends, relatives, and moneylenders.

The data of borrowers from First Women Bank Multan shows that from 2006 to 2009 there are only about sixty women borrowers. The data reveal that some of the businesses for which the loan has been taken are considered as male dominated, such as auto spare parts, construction works, drinking corner shop, etc. Perhaps these loans were in fact utilised by the male family members for their businesses in the name of the women.

Particularly relevant to this discussion is the Gap Analysis and Mapping Survey for Multan, which also collected data on women's economic participation in the sectors covered in the survey. In the selected sectors, hand looms and power looms, meat and meat processing and leather tanneries did not have any women entrepreneur in their ranks. However, ginning, mango and medical services sectors respectively had 5%, 3% and 3% businesses owned by women.

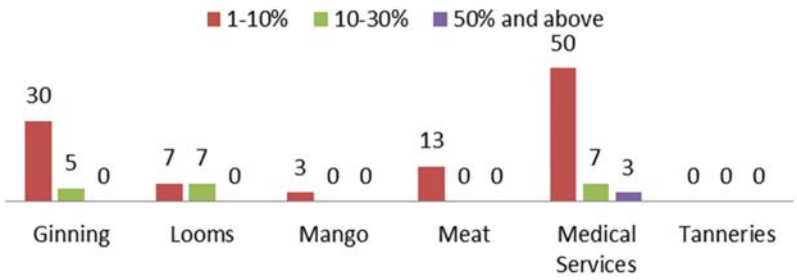


Figure 15 Percentage of Women in Workforce in Selected Sectors

Source: USAID 2010. BDS Gap Analysis and Mapping (District Multan)

Participation of women appears dismal in these sample businesses of all six sectors with the exception of medical services where 50% of respondents reported having employed 1-10% women in their workforce. 30 % respondents in the ginning sector and 13 % in the meat and meat processing sector reported having 1-10% women in their workforce.

Figure 16 Mausoleum of Shah Rukn-e-Alam :

Most of the women employed were either temporary employees or worked on short term contracts. Only in medical services, the majority (57%) women worked as regular employees in their business establishments. In comparison, only 25% women in the ginning industry worked on contract basis; the rest were short-term/seasonal workers. Medical services were the only sector to employ a sizable population in the workforce. This sector also reported having 17% women in managerial positions. An insignificant number of women in ginning and looms work in a managerial capacity. In meat processing and mangoes, there are no women in managerial roles.

2.6 Tourism

The district does not have a large tourism potential. The only tourist attractions are the mausoleums and shrines. Perhaps the most famous is the mausoleum of Bahauddin Zakariya. Then the shrine of Shah Rukn-e-Alam is the second biggest shrine in Asia, which is decorated with blue tiles. Another tourist attraction is the Multan Fort, which has the famous Khooni Burj (Bloody Tower) located in-between the Haram Gate and the Bohr Gate. It is believed that this was the location where Alexander got injured during his quest to conquer Multan in 200 BC. Other gates which are famous include Pak Gate, Delhi Gate, and Doulat Gate.

3. Physical Infrastructure

3.1 Introduction

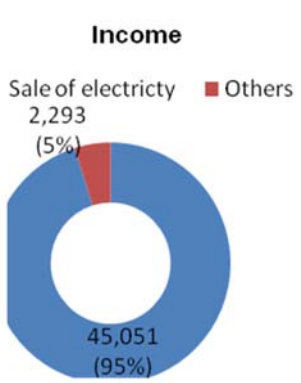
Physical infrastructure and economic development have a symbiotic relationship. Modern infrastructure, such as, uninterrupted power supply, an elaborate road and railway network, regular and reliable air connections with major cities nationally and with popular international destinations, an extensive and reliable communication network, adequate irrigation for major and minor crops, provision of quality municipal services such as sanitation and water supply, a clean and green landscape, and easy access to health and education facilities enables economic development, which in turn generates resources for further development of infrastructure in public and private sectors. It is also generally accepted that infrastructure creates its own demand. Good infrastructure attracts local and international investment, enables public and private organizations to employ high-quality professionals in various fields from across the globe, and provides avenues for investment of profits. The importance of infrastructure for economic development can hardly be over-stated.

This chapter briefly examines the physical infrastructure in Multan district. The objective is to identify areas where investment is required to create a modern infrastructure that supports economic growth and employment generation. Four sub-sectors were identified for detailed examination based on our initial interaction with district stakeholders. These are: electric power, irrigation, urban water and sanitation, and road/rail communication network. Accordingly, this chapter is divided into four sections, each dealing with a sub-sector. Each section maps the district infrastructure, briefly examines the institutional arrangements for providing and maintaining this infrastructure, and identifies a few potential areas for investment.

3.2 Electric Power

Reliable supply of cheap and uninterrupted power is a pre-requisite for manufacturing, industrial and commercial activity. In Multan, electricity provision is the responsibility of the Multan Circle of Multan Electric Power Company (MEPCO), which is the biggest electricity distribution company in Pakistan. MEPCO's area of operation extends from Sahiwal to Sadiqabad, from Bahawalnagar to Bahawalpur and from Tounsa to Rajanpur.

MEPCO's audited accounts for 2007-08 show that the company is running in huge financial loss. Its major income is from the sale of electricity, which is substantially less than the amount it pays for purchasing electricity (Figure 3.1). This is due to line losses, power theft and failure to recover the amount due against various consumers (discussed below). Add to it the operational expenses and financial charges, and the Company loss comes to Rs. 11,855 million in that year.



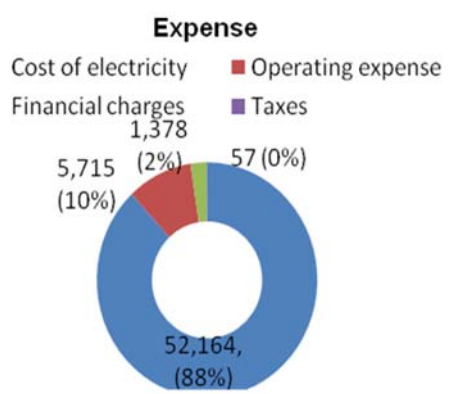
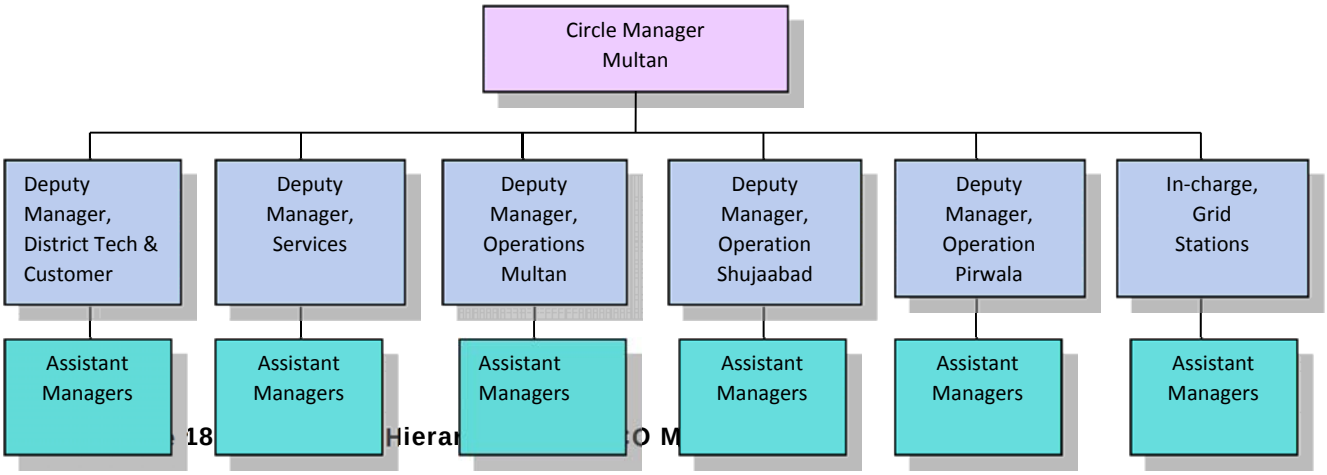


Figure 17 MEPCO's Income and Expenditure (2007-08) (million Rs.)

Source: MEPCO audited accounts 2007-08

The Multan Circle comprises six divisions and 33 sub-divisions. Figure 3.2 presents the organizational hierarchy of MEPCO Multan circle. Falling in the district of Multan, there are ten grid stations ranging in capacity from 33 KV to 500 KV. There are 189 distribution transformers in all to step down the electricity from the national/local grid. The total distribution capacity of the system is 5,800 MW. The average power inflow into the district through these grid stations varies from season to season depending upon the supply from the national grid and the generation by the nearby thermal plant in Kot-Addu.



18 Hierar O M

3.2.1 The Inhibitive Legal Regime

Production, transmission and generation of electricity are governed by the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (as amended from time to time). Of particular relevance are clauses 15, 16 and 20, which are reproduced below. These provisions are inhibitive towards free generation, transmission and distribution of electric power, as they disallow any party to perform these functions without license from a federally controlled authority, the National Electric Power Regulatory Authority (NEPRA).

15. Generation license — (1) No person shall except under the authority of a license issued by the Authority under this Act and subject to the conditions specified in this Act and as may be imposed by the Authority, construct, own or operate a generation facility.

16. Transmission license — (1) No person shall except under the authority of a license issued by the Authority under this Act and subject to the conditions specified in this Act and as may be imposed by the Authority, engage in the transmission of electric power.

20. Distribution licenses — No person shall, except under the authority of a licence issued by the Authority under this Act and subject to the conditions specified in this Act and as may be imposed by the Authority, engage in the distribution of electric power.

An extensive set of Rules and Regulations was framed under this Act to govern conduct of business in the power sector. These are:

- Tariff Standards and Procedure Rules, 1998.
- Licensing, Application and Modification Procedure Regulations, 1999
- Licensing (Distribution) Rules, 1999
- Licensing (Generation) Rules, 2000

- Fees and Fines Rules, 2002
- Consumer Eligibility Criteria (Regulations), 2003
- Resolution of Disputes between IPPs and other Licensees, 2003
- Performance Standards Distribution Rules 2005
- Performance Standards Transmission Rules 2005
- Interim Power Procurement (Procedure and Standards) Regulations, 2005

Recently, NEPRA has taken a few initiatives to facilitate private sector participation in power generation and distribution. For example, it has allowed Captive Power Plants to sell surplus power to the national grid or to distribution companies (such as MEPCO) with rates negotiated mutually. A flexible tariff setting mechanism for private sector hydro power projects has also been prescribed.

In 1994, the Government also created a Private Power and Infrastructure Board as a one-window operation to facilitate independent power plants. In 2002, a Policy for Power Projects was also announced, which focused on exploitation of indigenous resources for power generation. The policy provided a number of incentives to attract private investment in this sector.

These initiatives will help to some extent, but fall short of a comprehensive reform of the legal framework. In the wake of the acute shortage of power, a facilitative legal framework is warranted, which enables market forces to produce and distribute power more economically and efficiently. If power sector is decentralized and deregulated, it will attract innovation and investment, particularly in small-scale production, which can be distributed locally without incurring transmission costs and associated losses. Similarly, in the present legal framework, self generation and cogeneration is permitted, but only within individual private sector units. These units have no incentive to make their surplus power available to others. The legal framework needs an overhaul to become private sector friendly.

3.2.2 The Supply Demand Gap

Net supply and demand for the year 2009 for MEPCO's Multan Circle has been calculated from the load sheets. There is considerable variation from day to day. The following table presents the net average demand and supply for different categories of consumers on a typical summer day and a typical winter day in the year 2009.

Table 12 Demand Supply Gap of Multan Circle

Category	Summer		Winter	
	Demand (MW)	Supply (MW)	Demand (MW)	Supply (MW)
Domestic	300	230 (76.7%)	185	145 (78.4%)
Commercial	1075	702 (65.3%)	687	420 (61.1%)
Industrial	708	610 (86.1%)	456	393 (86.2%)
Agricultural	425	370 (87.1%)	282	248 (87.9%)
Total	2508	1912 (76.2%)	1610	1206 (74.9%)

Source: Load Sheets of MEPCO Offices

It appears that MEPCO is able to supply only about three quarters of the power demand in the Circle. Although the capacity to distribute power is much larger being of the order of 5,800 MW, there is simply not adequate electricity available from the national grid to distribute locally to different categories of consumers. It appears that the shortfall is distributed more or less proportionally amongst domestic, industrial and agricultural consumers, though commercial consumers have to bear a disproportionately larger share of the shortfall.

Partly the demand-supply gap is due to excessive line losses and widespread power theft. As per the MEPCO office records, the line losses run in the range of 10 – 12%. These are due to impedance losses in the transmission, power factor losses, and losses due to low efficiencies of the transformers and the switch gear. Losses also occur because use of substandard motors in tube wells causes a drop in the power factor. Power theft accounts for another 2.5 to 5.0% of the net supply. This is due to illegal connections, meter tampering and wrong billing by MEPCO staff. There has been some improvement during the last few years in checking the leakage and theft from the system, but is has been difficult to completely eliminate these losses.

Together, line losses and power theft account for around 12.5 – 17% of the net electricity supply to the Company. Line losses can be reduced by improving transmission infrastructure (transformers, switch gears, etc.) and by using quality electrical equipment in households and commercial enterprises. Power theft can be reduced by educating the users, developing a system of community vigilance and by increasing Company's capacity to enforce its Rules and By-laws. Since Multan's Circle's total demand-supply gap stands at about 25%, any reduction in line losses or power theft would substantially improve electricity availability in the district.

3.2.3 Geographical Spread of Power Consumption

The load sheets of MEPCO office indicate that in 2009 Multan city and Multan Cantonment together accounted for about three quarters of the total consumption in the district. Shujaabad and Jalalpur Pirwala tehsil consumed about 12% and 13% of the electricity supplied to the district, although these two rural tehsils together account for 65% of the population (Figure 2.4) in the district.

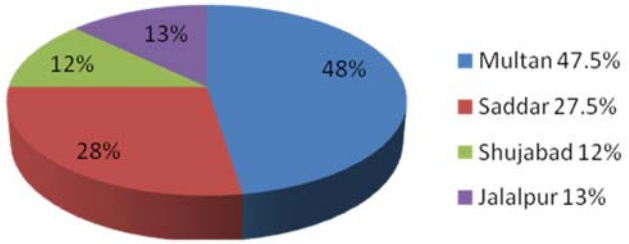


Figure 19 Tehsil-wise Electricity consumption (2009)

3.2.4 Current Initiatives

It is very important for any distribution company to have an effective and sound distribution management mechanism. Since proper and timely up-gradation of the MEPCO distribution system was not done, transformers and lines got overly loaded. To improve the system, certain programs have been introduced with a view to building better management at the grid stations. For example, MEPCO has concluded agreements with the World Bank and the Asian Development Bank to obtain financial assistance to carry out a grid station improvement program. A Project Management Unit has been established under the Chief Engineer (Development). This initiative will help reduce line losses. It is hoped that the existing problems and issues can be addressed with better management practices.

Initiatives have been taken not only to strengthen the distribution but also to improve the management. Land has been acquired for two new grid stations in Multan. Agreements have been signed for procurement of 24 new transformers. A new 132 KV grid station at Qasim Bagh, Kari Jamandan is under construction where two power transformers of 20/26 MVA capacity will be installed. A new 132 KV grid station at Jail Road is also under construction where two power transformers of 20/26 MVA capacity will be installed.

The Prime Minister of Pakistan has also extended a grant of Rs 1 billion for three new grid stations in Multan under his special package for Multan. In addition, the World Bank and Asian Development Bank have provided amounts for establishing Power Management Units and for procurement of necessary equipment and materials required for these units. The World Bank has extended another credit of Rs. 660 million for procurement of 24 power transformers of 20/26 MVA, 357 distribution transformers, 59 switch gears and 11 panels of 11 KV each.

3.2.5 Recommendations

The above discussion shows that there exists a serious shortfall in electricity supply and demand in the Multan Circle. Following interventions are recommended to improve the situation. Only a few of these can be implemented by local authorities of Multan Circle or Multan district; most will require action by MEPCO or by provincial and federal governments.

- An enabling legal framework should be created to allow decentralized power production and distribution, especially at a small scale. The current reform initiatives mainly aim at organized private power production at large scale. They are geared more towards incentivizing foreign capital investment, rather than encouraging local initiative at the small scale. A decentralized and deregulated regime would allow local production and consumption, which, *inter alia*, will save transmission costs and losses. It is proposed that a comprehensive analysis of the existing legal framework be commissioned and proposals for legal reform be formulated with the express mandate of incentivizing small-scale production from conventional and non-conventional sources.

- In the aftermath of such legal reform that facilitates small-scale power generation and distribution, Multan Circle can take the lead and advertise request for proposals for innovative small-scale power generation projects. These proposals should be evaluated locally and the more promising ones should be supported from a fund specially created for this purpose.
- Alternate energy production should be encouraged. Use of solar panels for domestic consumption can be demonstrated as part of a pilot project.
- Multan Circle also needs to encourage electricity co-generation in textile units located in Multan. Multan has 20 spinning and 29 weaving units. The processes adopted in the latter (and to a lesser extent in the former as well) produce gases that can be used to produce electricity, which can be used by the unit or can be sold to the national grid.
- Other avenues of electricity generation also need to be explored to reduce the supply-demand gap insofar as possible. For example, solid waste can be used as a raw material to fuel the generation process. Multan city alone produces around 1,000 tons of solid waste per day (@ 0.45 kg/person/day). A feasibility study should be urgently conducted to assess the comparative viability of power generation through this method.
- Serious efforts should be made to bring down transmission and line losses and to check power theft. Together these account for around 12.5-17% of the net electricity supplied to Multan Circle. If these are eliminated, 50-68% of power shortage could be avoided. It may not be possible to eliminate either the line losses or the power theft, but it is quite possible to bring these down drastically. For this, MEPCO's Multan Circle will have to put its house in order and invest in infrastructure improvement.
- Innovative arrangements to involve consumers' organizations in power distribution need to be examined. The possibility of bulk provision to, say, the Multan Industrial Estate may be explored. In such case, the Industrial Estate would be responsible for distribution of electricity to its members. This would make the distribution system more responsive to consumer needs and would give the Estate greater flexibility to internally adjust demand and supply.

3.2.6 Using Multan's Comparative Advantage for Local Power Generation

Around the globe electricity is produced using a diverse range of fuels, processes and techniques. A few examples are solar, hydal, thermal, wind and nuclear power production. This section proposes to use Multan's comparative advantage to produce electricity through solar energy, biomass and municipal solid waste, gaseous by-products from textile (weaving) units and irrigation network. It is argued that Multan has: 1) low rainfall and a dry, sunny environment for most part of the year, and thus presents ideal conditions for solar power production; 2) is a city of 1.8 million people producing around 1,000 tons solid waste per day, which can be used to generate power; 3) has 29 weaving units, which can use their own gaseous exhausts to produce electricity; and 4) has a number of points where natural fall occurs in irrigation canals/channels that allows installation of small turbines.

3.2.6.1 Using Solar Power for Electricity Generation

Multan's almost year-round sunny environment provides a good opportunity to use solar energy for electricity generation. In 2009, NEPRA allowed Ms. AZUR Energy Group (a German company that specializes in solar power generation) to set up a 50 MW solar project in Multan. The Group has conducted feasibility studies and is now conducting ground survey in Multan/Bahawalpur area for land acquisition. The Group hopes to install the plant within six

months of land acquisition. The electricity will be supplied at the same tariffs as set by NEPRA, recovering a capital cost of Rs 100 per watt in three years.

This effort will bring real time solar energy technology to Pakistan, and solar projects will be replicated in other areas. Solar energy projects need to be supported through adoption of a liberal and investor friendly policy, broad features of which would include proactive facilitation and guarantees of equal treatment of both local and foreign investors, easy tariff structures and a liberal regime on repatriation of profits.

3.2.6.2 Electricity Generation from Biomass and Solid Waste

Various types of biomass are being used in many countries (including Pakistan) for electricity generation. For example, *bagasse* – a waste product from sugar production process – is being used by sugar mills for co-generation. Dan Chang Bio-Energy Co, Ltd, Suphanburi, Thailand is setting up a 41 MW co-generation plant using *bagasse* and other biomass as fuel. In Pakistan, M/s Jamal Din Wali Sugar Mills Ltd. are setting up three power plants in Jamal Din Wali, Rahim Yar Khan and in Ghotki to generate 200 MW. Another example of biomass use is the THS Bio-Energy Sdn. Bhd, Sabah, Malaysia, which has a 14 MW co-generation plant that uses oil palm empty fruit bunches, fibres and shell as fuel. The electricity generated is used in the palm oil process and the excess of about 10 MW is exported to the grid.

District Multan produces large quantities of a variety of biomass as a by product from its farming operations and agro-based industry. It is recommended that a technical study be commissioned forthwith to examine the feasibility of using these bio materials for power generation. In addition to creating an enabling legal and institutional framework, the government should also support these initiatives at least initially to make them cost effective.

Municipal solid waste is also used in many countries to generate electricity. For example, Rayong Municipality, Rayong, Thailand has a municipal waste to fertilizer and energy plant that treats 25,550 tons of municipal solid waste per year through anaerobic digestion, which produces 5,800 tons of organic fertilizer and generates 5,100 MW of electricity using a 600 kW gas engine system. It is estimated that a unit with 100 tons of daily garbage input of suitable mix can produce power up to 12 MW. Roughly, a plant of this capacity may cost Rs. 315 million excluding the land cost.

Another model suggests plasmafication as a method of waste management. This method uses AC and DC currents on plasma torches to create an electrical arc that demolecularizes matter. Plants use a plasma arc reactor as the central part of the waste disposal process. The thermo-chemical processes generate hydrogen gas, recoverable metals, glass, carbon black, and a synthetic gas mixture of H2, CO, and N4, which can all be captured and resold. The Plasma Arc reactor totally destroys all waste entering into the system. It burns clean and leaves no waste, therefore does not have residues to be disposed off in landfills. The process produces recyclable, saleable, non-hazardous elemental end-products. A part of the power generated by the plant is used to energize plasma torches.

Based on these models, Multan can use its solid waste to produce electricity on a sustainable basis. There is plenty of garbage in the urban areas of the district from which power can be produced. According to estimates of DO Municipal Services, Multan, around 1,000 tons of solid waste is produced in Multan city every day. This waste can be used to generate up to 120 MW of electricity, depending upon the waste content and efficiency of the burning process.10

[10] Recent efforts in Pakistan (e.g. by the CDG Lahore) to use municipal solid waste for power generation have not been successful. However, this failure stems from institutional, rather than technical reasons. There is no scientific reason for power generation from solid waste to be an unfeasible proposition. Hence, district authorities in Multan should not be discouraged by the not so successful experience in other areas.

However, use of solid waste for this purpose would require active citizen engagement in waste sorting at household/shop level.

3.2.6.3 Using Gaseous By-products for Textile Units for Electricity Generation

Multan has a sizeable Textile industry (20 spinning and 29 weaving units). These units, in particular the weaving units, produce gaseous exhausts in the process that can be used in boilers to produce steam, which in turn can be used to propel turbines and generate electricity. There are a number of successful examples in Pakistan, where textile units are using this process to produce electricity for their use as well as the national grid. The government should encourage textile units in Multan to modernize their equipment to utilize their own exhausts to produce electricity.

- [redacted]. has started a captive energy project and has invested Rs. 66.8 million from self-guaranteed funds. Capacity of this captive energy project is 9.2 MW. The power so produced will run 62,112 spindles of four spinning units in Mahmood Textile Mills Ltd. situated in DG Khan and Muzaffar Gargh.
- [redacted]. is a fully-contained and self-sufficient facility with its in-house continuous and reliable power generation facility. The Power Generation department with its Heat Recovery System is designed to generate enough hot water to fire the chilling system for the entire facility, along with producing more than 50% of the steam required for the sizing operation.
- [redacted] Ltd. is Pakistan's leading manufacturer and exporter of cloth materials, operating an integrated textile complex at Landhi, Karachi comprising spinning, weaving, finishing, processing, dyeing, and garment manufacturing units. The textile Mill uses more than 6.5 MW of electricity and produces five tonnes of steam per hour. The company used to buy electric power from national grid, but because of the system's unreliability, it decided several years ago to install standby gas generators. Then in 1992, Al-Karam Mills Ltd. decided to install its own cogeneration plant that serves as a stable and reliable on-site source of its electric power. This plant is gas-based, but uses technology to capture the exhaust gasses and uses them to run turbines. Electricity so produced is fed back to Mill's electricity generation operations.

3.2.6.4 Electricity from Micro Head Hydroelectric Turbines

Multan has an extensive irrigation network. The Irrigation Department has identified a number of locations where sufficient slope is available for installation of a small turbine (see Appendix 3). Small hydroelectric turbines can be installed on such locations on canals and distributaries to produce electricity for consumption in nearby villages and towns, and for addition to the national grid. This shall be an environment friendly and sustainable system of power generation. The district government or the Punjab Government can invest in a few small projects, which will produce the technical know-how that the private sector would require to install and run these small-scale power projects on sustainable basis. However, the success of this operation would ultimately depend upon the creation of a decentralized and deregulated policy framework.

3.2.7 Proposed Projects for Local Power Generation

The following specific projects are proposed to operationalize interventions/recommendations contained in the earlier sections.

3.2.7.1 Project to Use Municipal Solid Waste to Produce Power

Purpose: To meet power shortage by utilizing municipal waste in Multan.

Rationale and/or criteria for selection: Power is a pre-requisite for industrial, manufacturing and commercial activity in modern times, but Multan district faces a net shortfall of about 25%, which is adversely affecting economic activity. The district needs to adopt innovative approaches to meet its energy shortfall. One innovative approach is to use its municipal solid waste as fuel in power generation process. Multan city alone produces around 1,000 tons of solid waste every day, which can be used to produce electricity through suitable technological processes.

Benefits from the proposed project: It is estimated that a unit with 100 tons of garbage inputs of suitable mix will produce 12 MW of electricity. Multan produces ten times as much garbage daily; hence it can potentially produce 120 MW electricity from its own waste. This will also help solve the waste disposal process. Care should be taken that only environmentally friendly processes should be used for energy production.

Technology: Garbage power plants use a plasma arc reactor in which plasma torches create electrical arc that demolecularizes all matter. It is environmentally friendly process. Intense heat is produced when garbage burns, the heat makes steam from which turbines generators run and produce electricity. A part of the electricity is used to run the plant.

Activities to be carried out:

- Institute a private power producer company.
- Conduct feasibility studies. Let the company raise equity by providing land and civil works.
- Contract Municipal Services Department, CDG Multan for providing garbage on agreed rates. Let first one year of free supply and manpower be considered as working capital, and form a public-private partnership.
- Obtain permission from NEPRA.
- Provide matching grant assistance by providing technology, equipment, training and expertise.
- Power will be supplied to grid on agreed tariffs.

Project Location: Multiple sites can be selected around Multan city where garbage is dumped in routine.

Approximate cost: Comparing parallel examples elsewhere in the world, a garbage power plant of 12 MW size costs approximately Rs 315 million. The land and civil works cost is about Rs. 30 million. Equipment, training, expertise and technology will cost about Rs. 135 million. The working capital costs Rs. 150 m/year.

3.2.7.2 Small Scale Electricity Generation from Irrigation Network

Purpose: To use Multan's vast irrigation network to generate electricity.

Rationale and/or criteria for selection: The Irrigation Department has identified a number of sites where sufficient slope exists for installation of small turbines of 0.5 - 1 MW each. These naturally occurring slopes can be utilized for power generation.

Benefits from the proposed project: Power of 0.5 to 1.0 MW will be produced at each site. From 26 identified sites (Appendix 3), 13 to 26 MW can be produced. This is not a large capacity, but this power can be produced with very small operational costs on long term basis. The power can be used locally, which will reduce transmission costs and losses. However, such turbines should be installed only on perennial canals, so that power disruptions are limited to only a few days of annual closure.

Activities to be carried out:

- Irrigation and Power Department will provide 26 sites free of cost.
- The district government or the Punjab Government should set up power generation facilities at a few sites as a pilot project. Private sector can step in subsequently.
- A commercial company will raise equity to be incurred on civil works costs plus first year's working capital. It will also conduct a feasibility study.
- Permission from NEPRA will be obtained on agreed tariffs to produce power as independent power Producer Company.

Project location: Canals and distributaries in Multan where five to ten foot head is available and flows are 350 to 1,000 cusecs.

Approximate cost: The cost of one turbine varies from Rs. 0.8 million to 4.0 million for output of 100 to 500 KW respectively. One hundred such turbines as an average will cost Rs. 240 m. Civil works cost will vary from site to site, but on the average it may be in the order of Rs. 60 million. The working capital will be Rs. 30 million per year.

3.3 Irrigation

Multan is an agricultural district with a total cultivated area of 788,586 acres. 66% of its population lives in rural areas and is directly or indirectly dependent upon the agricultural produce from its fields and orchards. In the backdrop of such agro-based economy, irrigation network is an important component of the infrastructure in the district.

Figure 20 Irrigation Network in Multan

Multan has an extensive irrigation network. 77.8% area under cultivation is irrigated by canal water while 19.3% of the area is irrigated by tube wells. Various canals from River Chenab and distributaries emerging there-from carry irrigation water to the fields. Main canals through which water is supplied to Multan district are Sidhnai canal, Shujaabad branch, Gujju Hatta branch, Multan branch and Makhdoom Rashid branch. These canals are of two types: perennial and non-perennial. About 30% of land is irrigated by perennial canals and the rest by non- perennial canals. Figure 3.4 shows the irrigation network in the district.

3.3.1 Recent Legal and Institutional Reform

In 1997, wide ranging institutional reforms were introduced in the irrigation system, focusing on decentralisation, participatory management, improved services and sustainability of the infrastructure. The World Bank provided a loan for this institutional restructuring. With the promulgation of the Punjab Irrigation and Drainage Authority Act in1997, the management of irrigation system at the operational level was entrusted to the following newly created entities at various levels:

- Punjab Irrigation and Drainage Authority (PIDA) at provincial level; the Authority comprised representation of farmers and the provincial government;
- Area Water Boards at canal command level;
- Farmer Organizations at distributary level;
- *Khal Panchayats* at watercourse level, and

Under the Act of 1997, a set of Rules were also framed, such as: The Area Water Board Rules, 2005; Farmers' Organizations Rules, 1999 (replaced with new Rules in 2005); Farmers Organizations (elections) Regulations, 1999; Farmers Organizations (Registration) Regulations, 1999, Farmers Organizations (Financial) Regulations, 2000; and Farmers Organizations (Conduct of Business) Regulations, 2000.

WATER COURSES AND WATER USERS ASSOCIATIONS

According to the Water Management Directorate, there are 2,233 water courses in Multan (which ranks ninth in the province). With a few exceptions, there is a Water User Association (WUA) for every water course.

These WUAs were formed under the On-Farm Water Management and Water User's Association Ordinance promulgated in 1981. The Ordinance was amended 20 years later in October 2001. A watercourse is defined as ". . . any channel which is supplied with water from a canal, but which is not maintained at the cost of Government and such subsidiary works belonging to any such channel". Where the majority of irrigators – land owners, tenants, lessees – agree to associate in the work of reconstruction, maintenance or improvement of the watercourse, they may form an association known as Water Users Association. By following well laid out process/procedures, an Association may register itself with the Government appointed Field Officer in the area. The Ordinance delegates tremendous authority to the Field Officer in regulating the affairs of the Association, including the recovery of funds from non-complying and non-paying irrigators as an arrear of land revenue, and in almost all cases, his is the final say.

Where a Field Officer, on receipt of an application to this effect or on the basis of his own observation, is of the opinion that a watercourse needs reconstruction, maintenance, or improvement, he may pass an order directing the irrigators of the watercourse jointly responsible with others for the re-construction or maintenance of a watercourse or jointly making use of a watercourse with others to reconstruct, maintain or improve the watercourse within the period specified in that order. Once a watercourse is constructed, its future maintenance is also the responsibility of members of the Association. It is the responsibility of the Field Officer to ensure that watercourses in his jurisdiction are properly maintained.

How sustainable these WUAs are is an important question that needs to be addressed. The short answer, based feedback from multiple stakeholders, is that these are not sustainable at all. According to one estimate, only ten percent of the WUAs are actively engaged in managing their affairs. As long as there is some kind of an incentive for the irrigators, WUAs will remain proactive but when these disappear they are likely to become dormant.

There appears to be a need for the Government to remain proactive in keeping WUAs proactive for their own good by optimizing the use of available water. A good representative sample of the WUAs has complained that they do not have the capacity to manage the affairs of WUA including financial matters. They have indicated the need for capacity building. There is also an absence of a

PIDA took over the assessment and collection of *Abiana* (water charges) so that the system could be made self-sustaining. The Area Water Boards took control of the canal command level and started implementing the reform program. Farmers' Organizations were supposed to operate distributaries in their jurisdiction to distribute water equitably, to do repairs and maintenance, and to resolve water related disputes. WUAs (*Khal Panchayats)* started to perform similar functions at the water courses level. Overall oversight of the policy reform process continued to be the responsibility of the Government of Punjab in the Irrigation and Power Department. However, 13 years have passed by, but there is little improvement in the performance of the irrigation system at the farmer field level, which continues to suffer from inefficiencies, leakages and corruption. The operational sustainability of irrigation operations also remains a big challenge as the government has not been able to shift the O&M cost of distributaries and canals to water users. There has been some success in transferring maintenance of water courses to WUAs, but even here these associations lack the capacity to

make major investments, such as in brick lining, etc. and continue to be dependent upon the Government in this respect.

3.3.2 Demand Supply Gap

Table 3.2 (below) provides water demand and supply during *Kharif* and *Rabi* 2008-09. It shows that only 40% of demand is being met in these seasons respectively. This is due to many reasons, including overall decline in water discharge from main dams and barrages, accumulation of silt, poor management and agricultural intensification (which has substantially increased the demand).

Table 13 Demand-supply Gap (2007-08) (cusecs)

Kharif	6,750	2,702
Rabi	3,500	1,401

Appendix 4 provides canal/distributory-wise data on designed capacity and discharge in 2007-08. It shows that the canal network in Multan had a total designed capacity of 13,710.75 cusec, but only 5,607.7 cusec flew from this network to the farmer's field in that year. It can be seen that the Irrigation Department is not able to provide water more than 40% as an average of the designed capacities of the canal branches and the distributaries. The reasons for this gap are more than one. First, there is simply not enough water in the system. Second, the conditions of channels have deteriorated so much that water does not reach the end users. The outlet discharge is a function of water level elevation in the supply canal. Due to shortages in the main sources and the changes in the channel regime caused by siltation, the committed discharges in water distribution cannot be provided. Due to age and poor maintenance, the delivery is low ranging from 35 – 40% from canal head to crop root zone. Much of the surface water is also lost on the route. If salvaged, it could profitably be used by farmers. Third, the system was originally designed for annual cropping intensity (i.e. yearly cropped area) of 75% to spread irrigation over as large an area as possible to expand settlement opportunities. Increasing demand for agricultural products has caused the annual cropping intensities to rise to about 150%. Finally, like elsewhere, farming practices are quite wasteful in Multan. Since water provision is not made on cost-recovery basis, most farmers follow the flood-irrigation method, which is not only wasteful but is also harmful for agriculture as flooding puts plants under stress. A very small proportion of farmers use modern water-saving equipment and practices, such as the sprinkler or drip irrigation. The combined effect of these factors is a perennial water shortage. In the event of shortage, the water has to be rotated among secondary canals, distributaries and minors. Under an agreed rotational formula called '*Warabandi*', each farmer, among a group, is allowed to take the entire flow of the outlet once in seven to ten days and for a period proportional to his/her land holding.

A major problem is the low efficiency of conveyance, distribution and irrigation of the canal irrigation system. This results in huge conveyance losses from main canals and their branches, from main watercourses, from farmers' watercourses and from irrigation fields through evaporation, seepage, percolation and overflow due to unlined canals, poor designed and maintained watercourses, defective irrigation practices, inequity in water distribution and lack of precision land levelling. As a result, crop yields are 50-80 per cent below their potential, contributing to an increasing gap between actual and potential yield of crops.

This necessitates improving irrigation efficiency of the existing system so as to use available water resources effectively and to prevent wastage of land and water resources. On the one hand, a major project of construction, repair and rehabilitation of barrages, head works and re-modeling of canals, regular de-silting of canals, distributaries and minors, redesigning and improvement of watercourses, post-improvement care by community participation approach and

precision land leveling through laser technology needs to be implemented, on the other hand, the farmers are required to adopt recommended methods of irrigation.

3.3.3 Investments in Improvement of Irrigation Network

In recent past, there has been some emphasis on increasing the conveyance efficiency by brick lining as many water courses as possible. Government of Pakistan's On Farm Water Management Project (OWFM) is a case in point. Supported by the World Bank, the Asian Development Bank and the US Agency for International Development, the Project during its various phases has successfully brick lined a large number of water courses in various parts of Pakistan (28,000 water courses in Punjab, 29,000 in Sindh, 10,000 in Khyber Pakhtunkhwa, 16,463 in Baluchistan, and 3,537 in Pakistan-administered Kashmir by 2005-06). In Multan district, 1,200 water courses have so far been brick lined. On an average Rs. 320,000 were spent on a water course, which increased the land to which water could reach by about 18-25 acres.

Another major initiative towards achieving this objective is the Rs. 12 billion 10-year asset management plan of the Irrigation Department, Government of Punjab for phased implementation of a number of interventions to rehabilitate its water distribution system. In Multan irrigation zone, Rs. 2,900 million are being spent for up-gradation and improvement of the irrigation network. This also includes rehabilitation of Pakpattan Canal, Mailsi Canal, Lodhran Branch, Remodelling of SMB Link Canal and Bahawalpur Canal Lower, Concrete lining of nine Distributaries/Minors, and restoration of flood protection infrastructure. So far work has been undertaken on 250 channels; de-silting has been done for about 180,000 ft length, lining in about 150,000 ft and embankments in about 130,000 ft. In addition to above, rehabilitation of LBDC system falling in Multan Zone under Punjab Irrigated Agriculture Development Sector Project, funded by Asian Development Bank is being undertaken while rehabilitation of Rungpur Canal, Sidhnai Canal System and Pakpattan Canal System and Modernization of Balloki and Islam Head Works will be carried out in subsequent years.

3.3.4 Recommendations

- Considering the success of the OWFM project in improving water conveyance efficiency at the water course level, it is recommended that the remaining water courses in the district be also brick lined through a separate project by the Government of Punjab.
- The irrigation network in the district needs major investments to become a modern and efficient water distribution system. There are a number of channels in Multan district that have not been included in the above mentioned asset management plan of the Irrigation Department. These are indicated by * in the list contained in Appendix 4. They may need one or more of the following: de-silting, concrete lining, and/or embankments. These left-over channels also need to be taken up as these are as much in need of investment/up-gradation as any other canal/distributory. The Government of Punjab needs to implement a separate project to do this.
- Water use efficiency needs to be improved. Even after the irrigation system is rehabilitated to carry and convey optimal level of discharge, it is unlikely to meet farmer needs if the current wasteful practices of flood irrigation continue. A massive program of farmer education needs to be implemented by OWFM to create awareness on modern and more efficient modes of irrigation, such as sprinkler and drip irrigation.
- Water saving modes of irrigation cannot operate in the current time-based irrigation system. Hence, farmers will have to construct water reservoirs. The Government can help by creating awareness and by educating and subsidizing farmers on construction of water reservoirs in their fields.

There is a critical need to improve the financial sustainability of irrigation schemes11. This would require introduction of a gradual cost recovery regime, through an initial grace period to moving on to operation and maintenance costs borne by the beneficiaries. Later on, it can be explored to recover cost or even the total cost of the schemes, in line with international best practices. In addition, the users fee should also be ascertained keeping in view the cropping patterns and estimated farm-level profitability. Furthermore, collection of this user fees also needs to be improved. Once this regime for sustainability is introduced, the concept of efficiently working WUAs can take strong roots in the district and the Irrigation Department can move on to more innovative means, such as complete privatization of canals, etc. Also, in the longer term, once the WUAs are working efficiently and effectively, they must be supported through well-designed credit facilities and bank loans so that they can undertake small-scale irrigation schemes, as per the local requirements.

3.3.5 Proposed Projects to Improve Availability of Irrigation

The following projects are proposed to be implemented to operate the above-mentioned recommendations.

3.3.5.1 Multan Irrigation Channels Improvement Project

Purpose: To improve the water conveyance ability of canals and distributaries in Multan.

Rationale and/or criteria for selection: Because of silting, damaged embankments, seepage and problems at the heads, the existing canals, distributaries and water courses are not able to provide water to farmers, especially the ones lying at the tail end. The irrigation system needs major investment to perform to its designed capacity.

Benefits from the proposed project: Water will be available to end users to the extent the existing canals, distributaries and water courses can provide after these are improved by de-sitting, provision of lining, repair of embankment, and remodeling of their heads. Improved water availability will increase farmer's productivity, household income and district's contribution to provincial economy.

Activities to be carried out: A ten-year rehabilitation program under Irrigation Department's System Improvement Plan costing Rs. 12 billion is already being executed in Punjab. Some canals in Multan zone are included in this Plan, but many others are not. In this Project those canals and distributaries will be rehabilitated, which are not part of the existing Plan. Irrigation Department has already conducted detailed surveys of these canals/distributaries and has the necessary wherewithal to carry out the proposed rehabilitation subject to provision of funds.

Project location: Canals, distributaries and channels in the district that have not been covered in the ongoing rehabilitation program.

Approximate cost:

Survey and engineering works	Rs. 50 million
Civil works	Rs. 250 million
Tools, plants and machinery	Rs. 133 million
Total capital cost	Rs. 433 million

[11] The recommendations to improve financial and operational sustainability of irrigation schemes go hands in hands with complementary interventions in the agriculture sector (explained in subsequent sections). The user fees can be effectively recovered and willingness-to-pay can only be induced if the farmers are hedged against the market risks through appropriate price stabilization mechanisms. Effective extension services can also help these farmers in rationalizing their cropping choices and increasing productivity.

Operation and maintenance costs	Rs. 150 million
Total cost	Rs. 1016 million

3.3.5.2 Creating Farmer Awareness on Water Use Efficiency

Purpose: To improve water use efficiency in farmer fields.

Rationale and/or Criteria for Selection: Currently Pakistan's water use efficiency is far below what is achieved by other water scarce countries (e.g. Australia). This can be improved by educating farmers on using more efficient methods and practices.

Benefits from the Proposed Project: The project will go a long way in improving agricultural production. Currently, one of the major constraints in production of major crops, such as cotton, wheat and mango is the inadequate supply of irrigation. To remove this constraint, we need to work on improving overall availability of water on the one hand and improving its use efficiency on the other. This project proposes to create awareness in the farming community on modern means of water conservation and using it more efficiently and effectively.

Activities to be carried out: This project can be carried out by the district government or by the Punjab Government. In either case, the implementing agency should identify a set of key messages that are to be delivered to the farmer. Request for proposals should be advertised for private sector participation in this activity. The private sector parties undertaking this project will use mass media as well as conventional tools of farmer contact to disseminate the selected messages. They will also develop a number of pilot projects to demonstrate effects of water saving techniques and practices.

Project Location: The project will be implemented throughout the district.

Approximate Cost:

Publicity material development	Rs. 1 million
Mass Media Campaign	Rs. 5 million
Farmer to farmer contact	Rs. 5 million
Demonstration plots	Rs. 3 million
Total	Rs. 14 million

3.4 Municipal Services

The importance of reliable and quality municipal services for economic growth in the district can be hardly overstated. In this section we shall examine the current state of two key municipal services: 1) provision of water and sanitation; and 2) management of solid waste. These services are provided in various parts of the district by various organizations. In Multan city, these services are provided by the City District Government/TMAs and in other urban centres these are provided by the respective Tehsil Municipal Administrations. As for the 503 villages in Multan, there is no system of collection and disposal of solid waste. Water supply has been provided in some cases through the schemes executed by the Public Health Engineering Department (PHED) of the Punjab Government. After completion these schemes were handed over to local communities for operation and maintenance. It would make an interesting analysis to critically examine the successes and failures of this experiment in Multan (and also more widely). But since our focus in this report is economic development, rather than service provision *per se*, we limit our discussion to the provision of these services in Multan city by the City District Government and TMAs.

3.4.1 Water and Sanitation

Water and sanitation services are provided in Multan city (except in cantonment and housing societies) by the Water and sanitation Agency (WASA). It was created in 1992 as part of the Multan Development Authority (MDA) with the express mandate of providing a reliable system of water supply and sanitation services.

According to a 2006 study conducted by the Urban Unit, Government of Punjab,[12] the underground water in Multan is fresh (not saline) and its quality is within the limits approved by the World Health Organisation. Depth of water is about ten meters. The study notes that the access to the shallow aquifer is at 30-40 ft depth. The shallow water is polluted with surface water and sewerage. There appears to be no monitoring of drawdown, or cones of depression, but the water table is thought to be dropping at some 0.3 m per year.

WASA is providing water supply to around 50-60% of city's population (except cantonment).[13] Its water supply network comprises 179 km main lines of 8" to 24" diameter, 18 reservoirs with a storage capacity of 2.35 million gallons, and 80 tube wells (66 are working eight hours a day; others need repair). The total pumping capacity is 279 cusecs, but due to intermittent supply 31 cusecs is being produced and supplied to the consumers.[14] The tube wells extract water from a deep aquifer located at 400 to 600 feet depth. The water is of good quality at this depth. Water from this depth is (generally) not contaminated with bacteria or viruses, nor does it have arsenic content as is the case with shallower ground water. WASA, therefore, undertakes no treatment of raw water supply. However, WASA Multan does indicate problems with contamination at some wells and is attempting to extend tube well depth. Shallow private tube wells record arsenic contamination levels from 10 to 250ppb compared to lower levels of 5 -35 ppb in deeper WASA tube wells suggesting that contamination is concentrated in shallow subsoil of the aquifer.[15] WASA has no laboratory of its own. Instead, it uses the PHED laboratory for chemical tests. Bacterial tests are carried out at Nishtar Hospital Laboratories. There is no system of regular monitoring of the quality of water at the household level.

According to WASA, it is providing sewerage facilities to around 55% of city's population (excluding people living in cantonment areas). Its wastewater collection system comprises about 900 km sewers, providing 144,000 household connections, with a pumping capacity of about 462 cusec (13m^3/second). There are five disposal stations of 462 cusecs each and three intermediate pumping stations. There has been little expansion or upgrade of this system over the last few years. According to the above-mentioned Urban Unit study, the sewers are currently surcharged, with chronic overflowing arising from combined effects of the following: 1) under capacity sewers and disposal systems, which have failed to keep pace with population growth; 2) silting of sewers resulting in choking/blocking of the network in many places (screens on drains are broken or non-existent, and gully grated chambers are not regularly cleaned); 3) inadequate control of industrial waste water (this load is increasing and is being discharged directly into towns); and 4) inefficient pump operation due to inadequate maintenance. The study also notes that there is no treatment plant. Wastewater is collected and pumped from three intermediate stations of five different disposal stations, where solids are screened. Wastewater is then made available for irrigation purposes, or disposed off directly in canals.

3.4.1.1 Key Issues and Institutional Gaps

There are a number of key issues and institutional gaps that WASA will have to address to

[12] Urban Unit 2006. Urban Water Supply and Sewerage Reform Strategy – Status Quo Report (Multan), December 2006. Government of Punjab, Lahore.
[13] Since ground water is sweet, around 76% households have their own hand/machine pumps.
[14] ibid
[15] ibid

improve its services in Multan. Some of these are identified below:

- Low coverage of piped sewerage system (55%) and low coverage of the water supply system (50-60%).
- Continuity of service delivery has to be improved at least for some zones of the city.
- Clean water needs to be provided for drinking to every household in the city. Much of the water supplied by WASA is polluted by infiltration.
- The shallow ground water, which is heavily used by households who pump water directly from the ground, is polluted with wastewater and other pollutants and there is a widespread problem of high levels of arsenic in the water.
- There is no monitoring of water quality at the household level.
- The financial situation of the organisation is critical. The water supply and sewerage services are subsidised, in spite of some improvement in recent years.
- Clear and realistic performance targets with regard to service delivery will have to be established and introduced.
- WASA needs full autonomy with regard to staffing, employment and investment planning and financing. The government's role has to be limited to that of the owner of assets and of a regulator.
- Public awareness about improvements in the system has to be created. This counts also for the avoidance of health risks, which come from the improved services. Households need to be informed about the contamination of their own water sources and the use of their sources needs to be discouraged.
- The strength of the disconnection teams needs to be improved. At present four vehicles/disconnection teams are working in the field. Eight more vehicles/disconnection teams have been hired on daily basis. Still recoveries are not being affected to the required extent because of shortage of vehicles and staff. A full time Tehsildar Recovery in WASA needs to be posted immediately. Post of Senior Special Magistrate is also vacant. A full time Senior Special Magistrate needs to be posted immediately in the interest of improving recovery of WASA dues.
- The presently available survey of consumers was conducted in 1998-99 which has become out dated. A lot of changes in the activities have taken place since then. In fact a survey is needed after every three years. But due to shortage of staff and funds, it has not been possible.

These changes are unlikely to be successfully implemented without the urban water and sewerage activities being separated out from MDA/CDG and given a much higher degree of operational, fiscal and administrative autonomy. This process will also have to be accompanied by major capacity-building and institutional strengthening efforts.

3.4.1.2 Recommendations

The Urban Unit, Government of Punjab has conducted a series of studies on the urban water supply and sanitation system in major cities of Punjab, including Multan. These studies provide a comprehensive policy framework for reform in this sector. Recommendations from the Multan study[16] are summarized below.

[16] Urban Unit 2006. Urban Water Supply and Sewerage Reform Strategy, Government of Punjab.

- WASA Multan should be made operationally, administratively and financially autonomous. It should be incorporated as an independent entity that has the autonomy to take its decisions based on specified objectives and performance agreements. Subject to overall control of public officials at a generic level, it should be able to devise appropriate policies on human resource, capacity building, contracting with other parties and resource generation. It must be completely removed from the public service rules regarding employment.

  This process will transfer all necessary powers to WASA that it requires to perform its tasks, given appropriate capacity building support. The changes to be achieved are:

  - Full responsibility for planning and investment
  - Non-intervention of public officials in day-to-day operational decisions
  - Competitive recruitment of managers from the public or private sectors
  - Reform of employment policy and liberation from public service rules
  - Actions based on business planning with service performance targets and the potential to earn bonuses.

- The collection of data is important for the effective internal management as well as regulation of the water and sanitation services. Therefore, WASA should have a system of regular data collection on its customers, commercial/business efficiency, income/expenditure and technical aspects of water supply and drainage. This data would help WASA set targets for service improvements and to monitor performance, set benchmarks of service delivery, determine fair tariffs that the market can absorb and provide incentives for good performance.

- To enable collection of appropriate technical data, WASA will have to put in significant preliminary effort, such as, the installation of bulk, zonal and some customer water meters, pressure monitors, and measuring flumes on sewers; the provision of equipment and trained personnel for water sampling and analysis and the establishment of data recording systems for principal operation and maintenance (O&M) activities plus recording of all interventions to repair broken or leaking pipelines and sewers. Finally there is a need to assemble and elaborate as appropriate, maps of the service areas and networks showing the location of all facilities and ideally information on their condition. A Global Information Based (GIS) based approach is the modern way of assembling much of this data but requires significant upfront investment in cost and time to be in a ready and useable state.

- Currently there are no comprehensive registers of assets that WASA Multan holds. Before all assets of PHED and/or MDA are transferred to WASA, a comprehensive survey should be conducted to prepare an inventory of assets. There should be a mechanism for regular updating of this inventory. The next step would be to prepare an asset management plans for long-term use, maintenance, and replacement of these assets

- WASA should prepare a short-term performance improvement plan to map out the service improvements and means of achieving full cost recovery of O&M costs within the targeted 5-year period. The improvement of the financial position can only be expected after noticeable improvements in service provision, mainly good water quality and improved sanitation, have been implemented. Furthermore, these improvements must be communicated to the customers.

- These improvements in the service delivery cannot be affected in the first instance without some up-front financial assistance from the Punjab Government or international aid agencies. Therefore, the next step is to prepare medium-term Performance Improvement

Plans based on the following: 1) full recovery of O&M costs from user charges after a maximum of five years; 2) decreasing financial assistance to WASA in support to O&M costs linked to actual collection of user charges; and 3) immediate rehabilitation program to achieve visible initial service improvement. The immediate program should also include the necessary arrangements and investments in metering and monitoring equipment in order to start up the data collection process as soon as possible.

- Efforts should be made to trial outsourcing specific functions to the local private sector under O&M service contracts. A range of services can be included in the list for possible outsourcing, but an early candidate would be to outsource O&M of water pumping plant and sewerage disposal pumping stations.
- The reform process cannot lead to an improvement of services without the creation of training programs for WASA staff. These training programs should cover a diverse range of service delivery aspects, such as, technical, commercial and financial management issues; customer relations; stakeholder consultation and communication; appraisal and evaluation of investment projects; and tariff review and approval.

3.4.2 Solid Waste Management

Solid waste management (SWM) in Multan is the responsibility of TMAs. It is estimated that a waste of about 1,000 tons is generated every day.[17] This comprises of the following: 33% vegetables; 23% wood, bones and straw; 2% paper and cardboard; 7% textiles and rags; 5% plastics and rubber; 8% shopping bags; and 22% miscellaneous.[18] It is estimated that the TMAs are able to lift only about 600 tons per day; the rest is left in the streets.

There are 231 regular employees and 1,775 work charge people (200 are women). Ideally, there should be one sanitary worker at every 500 population; hence, there is a shortage of 1,825 workers in the city. The system operates with 40 tractor trolleys, two tractors with blades, six tractors with buckets, eight dumper trucks, ten vans, three water sprinkling vehicles, 65 bull carts and 400 hand carts. There is neither an environmental engineer nor a solid waste manager to professionally plan and mange solid waste collection and disposal operations. The present annual expenditure on transportation, machinery and maintenance is Rs. 9.585 million, whereas the salary to sanitary staff is Rs 12.7 million.

In most middle class and posh localities, metallic containers/skips are used for communal storage. Waste is brought to the container through sweeping or door-to-door collection, which is then lifted for hauling to the final disposal sites. In other areas, waste collected from streets is dumped in temporary filth depots until it is lifted for dispatch to the landfill sites. In 2004-05, the TMA franchised the solid waste collection system in four union councils of the inner city to a contractor at the rate of Rs. 0.24 million per year per union council. The contractor was responsible for the collection and hauling of the waste to the filth depots around the walled city of Multan. Some part of the waste was also transported to landfill site near Shah Rukn-e-Alam Colony. The system did not work properly and failed in the first year of operations mainly because the incentive to the contractor was too low and there was perennial non-cooperation from the solid waste management staff.

There are a number of illegal waste dumping sites in and outside Multan. The only legal sanitary landfill site is along Matti-Tal road where six acres of land has been acquired with funding from the Asian development Bank. It is also common knowledge that the solid waste staff fills the

[17] Ernst Basler+Parber, Icepak (KOICA-World Bank Joint Study on Solid Waste Management in Punjab, Pakistan) estimated the daily volume of solid waste in Multan at 900 tons. Factoring in population increase since then, 1,000 tons is the estimate of Solid Waste Management Authorities in Multan.
[18] ibid

private land with the consent of the owner. The waste is normally dumped at any of the five dumping sites, found at low lying areas along the river bank. None of the dumping sites are operated in environmentally acceptable ways because of lack of awareness and technical training.

In 2004, a local NGO – Community Development Resource Centre (CDRC) – and the TMA Multan City entered into a 70/30 partnership to establish a solid waste sorting and composting plant. The TMA provided 7.68 acres of land for running the compost through community participation. TMA was responsible for providing 100 tons of municipal waste per day, whereas CDRC was required to manage the project. However, the experience has not been successful due to mutual distrust and the default of either party in fulfilling its role.

3.4.2.1 Recommendations

Based on the 2007 World Bank study to reform solid waste management in urban centers of Punjab,[19] the following recommendations are offered to transform the present system into a dynamic, efficient and effective system of solid waste collection and disposal.

- A strong, capable solid waste management organization on city level is a mandatory requirement not only for planning, monitoring and controlling of SWM activities but also for a successful involvement of the private sector. Hence, the SWM function should be assigned to an organization specially created for this purpose. This organization should be operationally, administratively and financially autonomous, and other than broad oversight by public officials, should be free to develop its own policies, procedures and priorities.
- Private sector participation in solid waste management operations needs to be increased. It is not being suggested that the public sector abandon its responsibilities altogether; rather it is proposed that a balance should be created between the respective roles of public and private sectors. This can be done by providing appropriate incentives and support to the private sector. Recent experience shows that the private sector has so far not entered this field with great interest. There are reasons such as social stigma and lack of trust by the private entrepreneur to enter in this sector. However there is a lot of potential for the private sector to benefit from the vast opportunities that are available provided that there is a level playing field and the legitimate concerns of the businesses be addressed. Still in its infancy, the private sector in waste management in Multan is trying to adapt to this area and there are several gaps which need to be filled before a smooth Private Sector Partnership is established. First, an institutional framework needs to be in place for the induction of private sector in solid waste management operations. Second, the TMAs need to build their capacity to work with and to monitor the performance of the private sector. Third, TMAs need to bring all stakeholders, especially communities, on board to ensure their participation in waste management operations. Fourth, fiscal and social incentives should be provided to the private sector to invest in this area. Finally, a reasonable time frame should be given to establish and show results.
- Community involvement in waste management operations should also be increased. Public at large is one of the key stakeholders in a solid waste management program. Therefore, community involvement from the beginning of the project would not only strengthen the private sector participation, it will also improve service delivery. Private sector participation is viewed sceptically if the public is not aware of the process. A strong support base through a campaign would educate the community about the objectives of the structural shift.

[19] Ernst Basler+Partern Ltd. 2007. Punjab Solid Waste Management Reform, The World Bank.

- At this stage, solid waste management system in Multan does not warrant high tech solutions. Huge facilities and latest equipment would call for heavy investments which the private sector may not be willing to make at least in the initial few years of its participation. Therefore, economical solutions which have low risk in investment costs and reasonable profit incentives would be the way to modernize the infrastructure in Multan.
- Effective and efficient cleaning of cities requires a shift from inefficient street sweeping to a door-to-door collection system. This will require a reorientation of the SWM staff and public education at the household level. Either directly or through a private sector entity, public awareness campaigns should be run so that households collect their waste in shopping bags, which are collected house to house every morning.
- It may not be possible to recover full costs of SWM services from the users. But an effort should be made to generate at least some revenue to meet the operational costs from operations themselves.

3.5 Communication Infrastructure

Multan has good road, rail and air connections with major cities of Pakistan, particularly Lahore and Karachi. These connections enable Multan to function as a communication hub for the nearby districts in particular and the whole of South Punjab in general. These connections need to be strengthened. In this section, we shall examine Multan's road network, airport and Multan Dry Port Trust. In each sub-section, we shall map the existing infrastructure and formulate our recommendations as they emerge from stakeholder engagement undertaken in the course of this assignment.

3.5.1 Roads

A number of agencies are responsible for construction and maintenance of different categories of roads in the district. These are:

- National Highway Authority (NHA): National highway and strategic roads
- Communication and Works (C&W) Department: Provincial roads
- Multan Development Authority: Urban roads in Multan city
- District Government: Roads in small towns and farm to market roads

Table 3.3 presents data on the volume and composition of traffic from and to Multan on the National Highway N-5. The data show that most of Multan's passenger traffic is towards Lahore, rather than southwards. Trucks comprise a substantial portion of traffic. We do not have data to find out which proportion of trucks travelling Lahore-Multan actually stays in Multan and which proportion travels on. But the data below show that at least 1126 trucks are added from Multan every day. As a later section shows, these trucks carry commercial merchandise from neighbouring districts as well.

Table 14 Volume and Composition of Traffic – N-5 (2009)

Section	Traffic 2009 Vehicles/day	Composition %			Condition
		Cars	Buses	Trucks	
Lahore –Multan	8,888	28.6	16.1	55.3	Dual Carriageway
Multan- Sukkur	7,495	9.8	9.6	80.6	Dual Carriageway

As for the roads laid and maintained by provincial C&W department, MDA or CDG, the district has a total metalled road length of 983.69 km. These roads generally have 28 ft metalled width and are designed for 32 ton standard highway vehicle. Another 600 km are farm to market

kutcha roads. As for traffic to nearby cities and town, Table 3.4 presents data on road length and condition.

Table 15 Road Linkages with Neighboring Cities and Towns

No	From	To	Distances	Condition
1	Multan	Khanewal	47.52 km	28' metalled all weather carriageway for design standard 32 ton truck train loading
2	Multan	Kotla Mahran	30.99 km	
3	Multan	Lodhran	75.10 km	
4	Multan	Jahanian	38.40 km	
5	Multan	Shujaabad	37.95 km	
6	Multan	Mailsi	82.41 km	
7	Multan	Muzaffargarh	29.19 km	
8	Multan	Kot Adu	58.38 km	
9	Multan	Mian Channu	88.14 km	
10	Multan	Shor Kot	86.59 km	
11	Multan	Kabirwala	43.12 km	
12	Multan	Vehari	47.41 km	
13	Multan	Sarai Sadu	72.58 km	
14	Multan	Khoiwala	31.31 km	
15	Multan	Jalalpur Pirawala	40.26 km	

3.5.1.1 Volume and Composition of Vehicular Traffic in Multan

The total number of vehicles in Multan stood at 320,519 in 2005. With the prevalent growth rate the total number of vehicles in Multan is now estimated at around 500,000. Motor cycles/scooters constitute 68% of the total. The second highest share is that of motor cars, jeeps and station wagons, which comprise around 14% of the total. The rest, viz. 18% are miscellaneous vehicles of all other types. The growth of registered vehicles over the past 25 years has been recorded at around 13% per annum. The growth of others and the delivery vans was recorded at almost 24% and 17% respectively. The motor cycles/scooters, and motor cars, jeeps and station wagons show 13.5% and 12% growth rate respectively.

3.5.1.2 Findings from the Urban Transport Policy Study for Five Cities of Punjab

To address the short comings of the existing urban transport system and to enhance economic growth through policy and institutional reforms, the Government of Punjab in collaboration with the World Bank initiated an Urban Sector Reform Program in five large cities of Punjab in 2008. Under this Program, a comprehensive study of five large studies including Multan was conducted by the Urban Unit, Government of Punjab. The findings from the study are summarized below:

- The existing road network and the other available transportation facilities are unable to accommodate such a diverse and large volume of traffic on roads.
- The road safety record is poor. The truck fleet is mostly made up of obsolete, under-

powered and polluting vehicles and the trucks are often grossly overloaded. The truck operating speeds on the main corridors are only 40 – 50 km/hour for the container traffic, which is half of the truck speed in Europe.

- Around 90% commercial vehicles carry more than the standard axle loads. The prime reason for overloading is the overwhelming presence of 2-axle trucks, which accounts for 70% of the overall truck fleet presently plying on roads in Pakistan.
- Over the last few decades, the newly constructed or rehabilitated roads in Punjab underwent rapid deterioration and premature failure due to poor drainage. Water logging in heavily irrigated areas has damaged quite a few roads.

3.5.1.3 Current Initiatives

Following is a brief discussion of the current initiatives to improve the condition of roads in district Multan.

National Trade Corridor Highway Investment Program

Pakistan's domestic trade flows are concentrated in one major north–south transport corridor. Any investment in improving this corridor, while aimed at making this corridor more efficient, will also have a major and broader impact on the performance of the entire transport sector and thus on the overall economy. This comprehensive approach is embodied in a special initiative called the National Trade Corridor (NTC) Improvement Program initiated in 2007 with funding from the Asian Development Bank. The initiative includes not only new road construction but also the improvement of over 3,500 km of roads, national highways, expressways, and motorways. The NTC highway investment plan has an estimated economic internal rate of return of 39% and a total average economic savings estimated at Rs. 200 billion per year. The total investment cost of the NTC highway investment plan for 2007–2014 was estimated at $ 5.36 billion.[20] The program includes improvement of N-5 national highway passing through Multan and rehabilitation of major highways connecting Multan to nearby cities, such as Lodhran, Vehari and Muzaffargarh. NTC Improvement Program will play an important role in improving the road infrastructure in the district.

National Highway Authority Ongoing Projects

National Highway Authority has the following projects in Multan and surroundings.

- Multan-Qila Saifullah highway N-70 has the proposed length of 68 km and will be completed at a cost of Rs. 1,204 million.
- Multan-Muzaffargarh (Batch-1) project has a length of 36.5 km and will be completed at a cost of Rs. 3,990 million under the National Highway Development Sector Investment Program

MDA Projects

- Northern Bypass Road (from LMQ Road to Multan Bypass – dual carriageway): MDA has designed a ring road around the city to relieve traffic problems on the inner city roads. In the fiscal year 2005-06, the government of Punjab released an amount of Rs 253.818 million for land acquisition of the project. The land acquisition has been completed and the construction of road is in progress.
- Southern Bypass Road (from LMQ Road to Bahawalpur Chowk – Dual Carriageway): The project is based on President's directive. For this portion of the ring road, the Government of

[20] NTCIP Investment Plan, National Highway Authority, Islamabad.

Punjab provided Rs 183.150 million for land acquisition. Its construction is in progress. The total cost of the project is Rs.997.090 million.

- Widening/improvement of road which starts from High Court Chowk and ends at Northern Bypass via Wali Muhammad Distributary. The work on this 6.00 Km long road is being undertaken at a cost of Rs. 346 million.
- Widening/improvement of Suraj Miani road which starts from Katchery Chowk and ends at Northern Bye Pass (length 4.60 Km). Estimated cost is Rs. 505 million.
- Widening/improvement of road which starts from LMQ Road and ends at Nawabpur Road (length 10.00 Km). Estimated cost is Rs. 764 million.

Prime Minister's Special Package for Multan

Prime Minister of Pakistan, Mr. Yousuf Raza Gilani, has announced a Rs. 10 billion five-year development package for the city of Multan which includes a Motorway (M-4), educational institutions, roads, housing and electricity load management plan for industrial and agriculture sector. He also announced expansion of Multan airport to upgrade it to international standard. Through another initiative, Multan city would be made into a national heritage city on the pattern of Fez city of Morocco. Further, Multan would be made a model health district and every Basic Health Unit (BHU) would have a doctor, required staff and medicines. Metro Cash-n-Carry store will open its branch in the city at a cost of Rs. 2 billion having special storage for Kino and mangoes. Following is a brief description of various ongoing and planned projects.

- Multan-Faisalabad Motorway (M-4). The work started in August 2009 and is expected to complete in three years. With the completion of M-4, motorway facility will connect Multan with Peshawar. As such the National Trade Corridor will have a dual connection at Multan.
- Northern by-pass will be completed at a cost of Rs 50 million, while the Southern by-pass will be completed in different phases. Southern and northern by-passes would be constructed under the ring road plan so that inter-city traffic could not overburden the city roads.
- The Head Mohammad Wala Bridge over Chenab is also envisaged whose design work has been completed by the National Highway Authority (NHA). The estimated cost is Rs. 480 million. The bridge will reduce the distance between Khushab and Multan by 40 km and will provide linkages with Mianwali and Rangpur.
- Six low cost housing schemes in Shujaabad and Jalalpur have been planned. The provincial government will provide the land and requisite funds. These housing schemes would be built in four towns of the city – Bosan, Shah Rukn-e-Alam, Mumtazabad and Shershah towns – and in Jalalpur Pirwala and Shujaabad towns. Here the district government or the provincial government would acquire the land, while the federal government would provide funds for development. The design and feasibility report will be prepared by M/s Nespak. The projects will be completed in five years.
- Work is underway on ten mega projects which include six flyovers and extension of Bosan Road. The extension of the road in Chowk Nag Shah is also under way. There is a separate development package for rehabilitation of Multan's water supply and sewerage schemes under the master plan. Further, it is planned to widen all roads in the city so that smooth traffic flow could be ensured for next decade. The work on the establishment of a women's university and a university of science and technology are also on the anvil. Five colleges for girls and two colleges for boys and a cadet college in the city will also be built. In order to impart technical and vocational training to the youth of Multan, coordination with NAVTEC is underway. The up-gradation of the Bagh Langay Khan, the Municipal Library and

refurbishment of the Qasim Bagh stadium has also been planned along with construction of a football ground and an athletics track of international standards.

3.5.1.4 Truck *Addas*

There are around 242 Truck *Addas* in Multan that transport agricultural, commercial and industrial merchandise from and to Multan.[21] These *Addas* provide service to traders and merchants of neighboring districts like Muzaffargarh and Lodhran as well. About 100 of these Addas are located inside the city to book goods for transportation. The rest are located outside the city.

The *Addas* located inside the city carry out retail business. They provide services to small scale shippers to other districts and provinces. The commodities they transport include household goods, groceries for nearby smaller towns and small volume of textile products. Mostly these *Addas* book and collect goods at their city offices; as soon as they have a truck load they will hire a truck from the *Addas* located outside the city to transport their merchandise to the destination. The fare is charged per kg and is pre-determined. Single/Double truck and trailer services and container services are located outside the city. They work for relatively larger companies and usually carry machinery, raw material for textile factories, textile products, seeds, crops, horticultural products, etc. The rates are negotiable within a range. Generally, there is no provision of insurance for the merchandise.

Around 3,000 to 4,000 trucks are loaded on these two kinds of *Addas* every day to transport agricultural commodities, fruits, pesticides, fertilizers, cotton and its by-products, oil cake, poultry feed, etc. The daily incoming traffic is much smaller – of the order of 1,800 to 2,400 trucks. They mostly carry iron and iron by-products, agricultural inputs, poultry feed inputs, auto parts, etc. for consumption in Multan and it's surrounding.

During crop harvests (April – June; October – January), the number of outgoing trucks may increase to 5,000 – 6,000 trucks per day. Carrying seasonal crops like wheat, sunflower, rice and cotton, these trucks move in all directions, though most traffic goes to larger grain markets, such as, Lahore and Faisalabad.

These *Addas* and their operations are regulated by the Regional Transport Authority (RTA) under the Goods Forwarding Act of 1938 (as amended in 1965). These regulations have outlived their utility and the changes in volume and type of goods transported during the last few decades warrant the creation of a new legal framework. Most *Addas* are not registered with RTA due to lengthy and bureaucratic registration requirements. The Act requires an applicant for registration to own a piece of land for setting up an *Adda* and at least five trucks or trailers to transport goods. The Act also requires each *Adda* to have its separate parking space and rest rooms for drivers and their helpers. Most *Adda* operators find it difficult to comply with these requirements, as mostly they operate on rented space and lease (rather than own) trucks/trailers for each consignment.

In 1985, RTA Multan launched a campaign to relocate all *Addas* outside the city. The campaign was intended to relieve pressure on city roads and to provide dedicated facilities for the purpose. Accordingly, land was acquired near the General Bus Stand to set up a General Truck Stand. Over the next few years, some 80 Truck *Addas* were shifted to the new location. Ever since the establishment of this Truck Stand, the RTA and *Adda* operators have been disputing on various issues. Consequently, regular maintenance or enforcement of regulations is not done by the RTA.

[21] In addition to these, there are around 100 Mini (Mazda) *Addas* inside Multan City to carry good within the city and to nearby towns. They serve the Multan's households and smaller markets.

In addition to creating a more enabling and pragmatic legal regime, the government needs to take measures to transform the General Truck Stand into a fully functional place for transportation of goods to and from Multan. Major requirements are provision of basic municipal services, maintenance of roads and installation of weigh-bridges. When these facilities are provided, the 162 *Addas* currently scattered around the main entry/exit points of the city will also shift to the new place making it a transport hub for the region.

3.5.2 Air Transport

Multan Airport, situated ten km away from the city centre, carries flights to Dera Ghazi Khan, Islamabad, Karachi, Lahore, Quetta, and Zhob. Chartered flights operate internationally. In 2008-2009, the passenger traffic was 90,000 which is about 2% of the total country's air passenger's traffic. The traffic is increasing by 7.7% per annum.

The airport is made up of an international and domestic departures and arrivals area. The arrival lounge can handle up to 135 passengers. It has a few snack shops with one moving conveyor belt system. The departures lounge can handle up to 300 passengers. The check-in area has many counters and can handle two narrow body aircraft at one time. There is a CIP lounge to handle premium and VIP guests travelling through the airport. The runway with aviation rating of ILS/VOR/NDB and dimensions 9900' X 100' is certified to accept all aircraft types up to Airbus A310 aircraft.

Table 16 Statistics

Passenger throughput	262,582
Cargo handled (tonnes)	1,623
Cargo handled (1000s lbs)	3,578
Aircraft movements	4,902

3.5.2.1 Up-gradation Plan

Under the PM's package, Multan Airport is also being upgraded to an international airport at an estimated cost of Rs. 4.57 billion. Through this project, the length and width of the runway would be enhanced to 11,000 feet and 150 feet respectively.

The original upgrade plan was to build a brand new airport facility at a new location away from the original airport. However, due to the unavailability of land this proposal was dropped. The present proposal involves upgrading the current airport with new terminals, taxi-ways and runways. The runway is being upgraded to Category E (Suitable for Boeing 747 aircraft). Other improvements include expansion of terminal buildings. The project consists of two phases. In the first phase, expansion of runway, taxi-way and apron will be carried out at an estimated cost of Rs 1.8 billion; while the second phase includes construction of a new terminal building and the allied facilities. The completion of the project will allow more frequent flights to international destinations as well as wide body aircraft to operate from the airport. The new facility is expected to generate more domestic and international passenger traffic, but more importantly cargo flights that will boost the economy of the South Punjab region.

In order to enhance the storage capacity for the agricultural produce, a sizeable cold storage at a cost of Rs. 85 million is under construction. With the addition of the cold storage facility, the export of agricultural goods will turn into a much profitable business and more and more growers and farmers will be inclined to sow exportable crops.

The new passenger terminal building will have an area of 24,500 Sq m with electrical & mechanical and heating, ventilating, and air conditioning works including water supply,

sewerage, signage, flight information display system, fire alarm, fire fighting, elevators, boarding bridges, conveyor belts, screening equipment, closed circuit television and public address system, landside development, car park for 550 cars, internal roads, drain, footpath, external water supply lines, sewerage lines, electrical poles and cabling, check post, gates, landscaping and horticulture.

Construction work on the extension project of Multan International Airport is going on in full swing. The Chinese construction company Xinjiang-Beixin is working speedily to widen the runway and to extend it up to 11,000 feet with the help of latest machinery. It is expected that the first phase of the extension project would be completed with Rs 1.72 billion by August 201.

3.5.3 Multan Dry Port Trust

Initially, a single Railway Dry Port existed in the district Multan which starkly fell short of brimming commercialism necessitating transport and storage facilities with respect to foreign trade. Due to congestion and non-availability of handling facilities at Railway Dry Port, the traders and industrialists had to face insurmountable predicaments and had no option except to resort to Karachi Port for custom clearance of their exports/imports. The country had the experience of a couple of dry ports already which were established in the industrial cities like Sialkot and Faisalabad. These two provided good examples for setting up Dry ports in other big cities as well. As a result, in December 1994 Multan Dry port Trust was formed by 20 leading businessmen of the district. Today, a 20-member board of directors runs this trust. The dry port facilitates exporters and importers, provides custom clearing services and transportation of goods both up-country and down-country, covering all major cities.

The Dry Port was initially established in a place rented from a cotton factory. Within a few years of operations, the Trust was able to purchase land at Sher Shah Road Bypass for setting up offices and warehouses. Multan Dry Port has its main setup at Multan but also maintains a collection point with custom desk in Muzaffargarh. Currently it has five warehouses of 90 x 45 feet. 22 transport companies are currently registered with the Trust. Over the years, it has grown into an inland intermodal terminal directly connected by road that operates as a centre for the trans-shipment of cargo to destinations. It also includes facilities for storage and consolidation of goods, maintenance for cargo carriers and customs clearance services. It relieves competition for storage and customs space at the seaport itself. Multan Dry Port is planning to use railway cargo system instead of road transportation in order to provide cheaper means of transportation to exporters and importers.

Multan Dry Port Trust handles imports and exports of various items. The export items are textile products, grey cloth, cotton yarn, leather goods, raw cotton and rice, etc. On an average, 700 to 800 containers are despatched every month. The import items are auto spare parts, PVC, chemicals, cotton yarn waste, paper waste scrap, raw cotton, leather goods, vehicles, etc. The average monthly receipt ranges between 150 - 200 containers. The cargo traffic is estimated to value Rs. 3.816 billion for imports and Rs. 4.718 billion for exports.

Multan Dry Port Trust acts as custodian of all imports and exports. For all exports Dry Port requires valid order like LC, booking for shipping, packing list, invoices, export docs, shipping bills and custom examination etc. For all imports Dry Port requires shipping clearance, transit permits etc. Multan Dry Port provides free of cost storage facility to the exporters up to 15 days before shipping. For all exports Multan Dry Port takes export items along with relevant above mentioned documents from the exporter and after having custom clearance the containers are being moved through transport companies to the concerned shipping lines at Karachi Sea Port. Once he/she is able to obtain custom clearance at the Dry Port, the exporter’s job ends and he/she gets notified by the Dry Port when its container is shipped from Karachi. Multan Dry Port takes responsibility for transportation of goods from Multan to Karachi Shipping Lines through its

agents at Karachi. In case of imports, the Trust receives above mentioned relevant documents from importers and gets the containers through their clearing agents in Karachi.

The value of the Dry Port for business in Multan and nearby areas will further increase by the following:

- Due to lack of modern technology and basic facilities at the Dry Port, the importers, exporters and custom clearing agents are facing many difficulties while clearing their goods for shipment from Karachi. For example, the absence of modern cranes and lifters slows down the loading and unloading process. Further, there is a lack of heavy machinery to handle 20 feet high containers. Such machinery is essential to promote trade activities. Obsolete and rusted cranes and second-hand machinery at the dry port needs to be replaced with modern machinery and equipment.
- The railway-sidings are needed to interlink the dry port with Shershah railway station.
- There is no cold storage facility at the Port. This discourages export of horticultural products directly through the facility at Multan. If a cold storage facility is established at Multan Dry Port, it will allow farmers and exporters to export their products more conveniently than going all the way to Karachi for the purpose.
- The custom clearance procedures are unnecessarily lengthy. There is clearly a need to simplify business processes. Use of information technology to quickly store, process and retrieve information should be encouraged to facilitate local business.
- Customs Department keeps no record of the laborers and loaders and as a result, costly items were misplaced during handling on many instances. To prevent the incidents of theft, there should be a complete record of all the people working at the dry port and the customs department should issue official identity cards to workers.
- Since the Dry Port is a Trust, it is running on no-profit, no-loss basis. It should be provided income tax rebate and provision of duty free machinery for handling of heavy containers at Multan Dry Port.

4. Manufacturing, Trade and Commerce

4.1 Introduction

Manufacturing, Trade and Commerce make up 3/4th of Pakistan's GDP[22]. These sectors play a similar economic contribution in the district economy. Multan has a diverse manufacturing base which significantly contributes to the national exports, investments, employment and industrial output. The structure of manufacturing and commercial establishments of Multan consists of many Large Scale Manufacturing (LSM) units, a large number of small and medium enterprises (SMEs) and Micro enterprises. Most of the SMEs and Micro Enterprises have the outfit of informal sector. Large Scale Manufacturing units include one fertilizer plant, 20 textiles spinning mills, 29 weaving mills, 13 vegetable ghee mills,12 woolen spinning and weaving mills, 9 solvent extraction plants, two tanneries, 7 poultry feed mills and few other sector units.[23] Medium size manufacturing includes 112 ginning and pressing factories, 144 oil mills, 42 flour mills, three fruit juices units, three beverage units, looms weaving units, textiles processing, readymade garments, home textile and made ups, hosiery units and host of other units.

Trade and Commerce sectors of Multan are quite diverse and cater to the needs of district population for transport and communication, education, health care, financial services, retail, wholesale, restaurants, hotels and host of other commercial services.

This chapter examines dynamics of the district economy in some detail and outlines a three pronged economic development strategy. Next part introduces the economic profile of the economy, various government and private sector organizations related to economic performance, enterprise development, infrastructure, labor and employment. Subsequent parts reflect upon business environment, small and medium enterprises, priority sectors and their constraints and evolving of economic development strategies along with a list of proposed projects for rapid economic development of the district.

4.2 Overview of Manufacturing, Trade and Commerce Activity in the District

4.2.1 Industrial Activities

Major industrial and manufacturing activities include Beverages, Cotton Ginning, Pharmaceuticals, Fertilizers, Fibre Glass Industry, Flour Mills, Rice Mills, Food Industry, Fruit Juices, Power and Hand Looms, Motor/ Pump/ Turbines, Oil Mills, Pesticides/Insecticides, Poly Propylene Bags, Poultry Feed, Readymade Garments, Tannery, Textile Processing, Textile Spinning, Textile weaving, motor tyres/tubes, fibre glass products, hospital furniture, collapsible tubes, cosmetics, household appliances, cutlery and utensils.[24]

As per Punjab Development statistics 2009, Multan has 613 registered industrial units and 3,400 cottage industries. Only 34 registered industries employed over 100 persons whereas other registered industries employed less than 100 persons (base line data refers to year 2004). Average monthly wage in manufacturing industry is Rs. 7,250 as per Punjab development Statistics 2009.[25]

[22] Pakistan Economic Survey 2009-2010
[23] Directory of Industrial Establishments Punjab, 2006
[24] Directory of Industrial Establishment, Punjab 2006
[25] Punjab Development Statistics 2009

4.2.2 Trade Associations

There are at least 11 business associations in Multan districts. Leading trade and industry associations include Multan Chamber of Commerce and Industries, Pakistan Cotton ginners Association, Pakistan Handloom and Traditional textile manufacturers and exporters association, All Pakistan Power looms association, Multan Mango Growers Association etc. These associations represent various streams of industrial, commercial and agricultural sectors as common platform for policy advocacy, representations and collective forum for sharing the information and deliberating their views.

4.2.3 Punjab Small Industries Corporation (PSIC) Multan

There is no “small industrial estate” in Multan but its Regional Office manages three small industrial estates in the region namely Khanewal, Mian Channu and Sahiwal. However, it offers various industry support services for Multan district.

Punjab Small Industries Corporation has four major policy mandates: 1) Consultancy and Advisory to small and cottage industries; 2) Estate Development; 3) Cluster development (Common Facility Centers); and 4) Financial assistance. PSIC has initiated two major projects of Common Facility Centers at Multan. Mango Pulp Project is a joint Venture with Small and Medium Enterprises Authority (SMEDA) involving an investment of Rs. 140 million in plants and machinery. PSIC contributed land and cold storage for the project. The second cluster development is dedicated for Light Engineering Multan located at Multan Industrial Estate Multan. This cluster is an effort to fill the gap as South Punjab does not have foundry units which can support the light engineering industry. The project is being managed as public private partnership. The third cluster is under study for the development of hand looms and home textiles with an investment of Rs. 40 million. This cluster is planned to offer facilities for dyeing, laboratory testing, designing and display centre besides other related services.

Punjab Small Industries Corporation offers a Soft Loan Credit Scheme to provide credit to Small Industrial Sector. The following are eligible for obtaining the loaning facility: Services Industries; Export Oriented Industries; Import substitution industries; Information Technology Projects; Agro based/Agro-support industries; Food Processing; Handicrafts; and Women Enterprises.

The maximum loan limit is up to Rs. 3 million and minimum Rs. 0.20 million with debt equity ratio 60:40 for new units and 50:50 for exiting projects. The mark up rate for Multan is charged at 7% per annum for BMR / expansion purpose whereas 12% mark up charged for working capital loans.

In order to promote the traditional crafts in Punjab the PSIC also offers a Soft Loan Scheme for loans up to Rs. 40,000/- at mark up rate of 7% per annum with repayment period of 3 years including a grace period of 4 months to individuals / units with fixed investment up to Rs. 200,000. 50% of target beneficiaries are women.

4.2.4 Exports, Imports and related infrastructure

Multan has a significant share in national exports and imports. Trade Development Authority of Pakistan (TDAP) has its regional office in Multan. Most exports and imports are routed through Karachi but a sizable part is shipped through Multan Dry Port as well. Main export items include cotton yarns, fabrics, textiles made ups, kitchen linen, home textiles, leather and leather goods, mangoes and other horticulture products. The import items include auto spare parts, PVC, chemicals, cotton yarn waste, paper waste scrap, raw cotton, leather goods, vehicles, etc.

4.3 Imports and Exports of the Region

Multan is hub of industrial activities in South Punjab. It has the largest industrial and commercial activities in the region as well. Export and import data for Multan is not available. However,

State Bank of Pakistan (SBP) Regional office Multan maintains the exports and imports undertaken from the region. The data for exports and imports routed from Karachi by regional exporters and importers is recorded at relevant ports and airports. SBP Multan region includes ten districts of the region including Khanewal, Lodhran, Sahiwal, Muzafargarh, DG Khan and others. As Multan is the largest industrial city of the region, it is safe to assume that bulk of export and import volumes originated or destined with Multan Dry Port and Airport pertained to Multan district. Hence, following export and import data for Multan region is presented to analyze the international trade dynamics of Multan district.

Export items of Multan include Cotton Yarn, Textile Made-ups, Hosiery, Cotton Fabrics, Bed Sheets, Upholstery, Woolen Carpets, Finished Leather & Lather Made ups and Fresh Fruits etc. Imports items include industrial goods, Industrial Machinery / House household sewing machines & parts, CKD Kits for Tractors, Auto parts, Air Conditioner parts etc. The PKR value of Export and Imports routed through commercial banks is given below.

Table 4.1: Exports and imports by large banks in the SBP Multan Region (2009-10) (million Rs.)

Name of Bank	Imports	Exports
National Bank	2,379.53	2,830.33
MCB Bank	4,033.01	4,870.26
Habib Bank	7,562.54	7,080.70
United Bank	13,238.60	8,708.40
Allied Bank	4,932.73	4,411.49
Bank of Punjab	3,266.99	887.86
Bank Al-Habib	4,348.82	1,437.63
Royal Bank of Scotland	1,319.00	79.66
Bank Al-Falah	6,492.04	2,705.67
Total	47,573.31	33,012.03

Source: SBP, Multan

4.4 Trade

Trade and services sector is a thriving sector in Multan. Trade and services sector includes whole sale, retailing, transport, financial services, educations, health services, hotel and restaurants and host of other commercial services. Most of the establishments are small and micro level enterprises. It is estimated that most of these enterprises typically employ 1-5 employees and are hardly registered with labor department. Most of these organizations do not follow the labor rules for shops and establishments and dictate own terms of wages and working environment. Bulk of employment is created by this sector which is an informal sector by its very definition.

4.5 Financial Sector

All leading commercial and financial institutions, insurance companies, SME banks and Micro Finance institutions are operating in Multan. State Bank of Pakistan has its regional office in Multan. As per State Banks of Pakistan (SBP), 33 banks operate in Multan with 193 branches, 16 Islamic branches and eight sub branches.

Due to the nature of diverse business landscape of Multan district, lending is done to all major sectors. But it is estimated that much of the lending is taken up by the large and organized medium size industrial organizations. Another major lending segment is commodity financing for

cotton, wheat, rice, oil seed and other agricultural commodities. Following sectors are reported most active for bank lending: Fertilizer; Textile / Ginning; Trading; Four & Rice Mills; Agriculture.[26]

SBP Multan Region includes ten districts other than Multan; like Khanewal, Lodhran, Sahiwal, Vehari, Muzaffargarh, DG Khan, etc. Multan being the regional hub of the areas shares bulk of financial indicators mentioned in the following paragraphs.

It was reported that total lending in the SBP region including Multan in 2009 stood as follows:

Table 17 Sector wise Summary Break-up of Loans Outstanding in the SBP Region

Sr. No.	Sector	Six Major Banks	Other Banks	Total	Country Total	% age of Country total
1	Agriculture	11.596	6.01203	17.608	144,289	12.20
2	Industry					
	a) Corporate	22.464	17.01637	49.2396	1,343,243	3.67
	b) SMEs	26.776	4.3324	53.5516	382,904	13.99
3	Consumer	4.699	3.257457	31.4746	354,378	8.88
4	Services	0.340	0.23156	27.1156	---	----
5	Others	1.262	0.91155	28.0376	254,029	11.04
	Total:-	67.137	31.761367	98.8984	2,478,843	3.99

Source: SBP, Regional Office Multan

Figures in billions, as on June 30, 2009

State Bank of Pakistan extends concessional finances for exports to the exporters through commercial banks as Export Refinance. Following amounts of Export Refinance were outstanding as per following:

Table 18 Export refinance Year-wise amount Outstanding (Million Rs.)

Year	Amount	Country Total *	% age
2002	384.76	46,000	0.83
2003	625.85	76,730	0.81
2004	787.30	102,520	0.77
2005	1067.50	106,470	1.00
2006	979.63	131,425	0.75
2007	758.0	96,513	0.79
2008	415.27		
2009	760.05		

Source: SBP (BSC) Bank Multan, *MFD SBP

Only four sectors are major beneficiary of export refinance. Following table reveals that hosiery good topped the portfolio followed by cotton made ups, leather garments and ethanol.

Table 19 Commodity wise Break-p of Export Refinance as on 30-06-2009

Sr.	Commodity	Amount (Rs.)

[26] Own survey of Commercial Banks

1.	Hosiery Goods	225,000,000
2.	Cotton Made ups	140,250,000
3.	Leather Garments	84,804683
4.	Ethanol	161,300,000
Total		611,354,683

Source: Export Refinance Unit SBP (BSC) Bank Multan

4.6 Enterprise Development

Enterprise Development is a vital indicator of industrial and commercial activities leading to growth or decline in investment, jobs creation and value addition. The district economy like national economy comprise of formal and informal sectors. No reliable figures are available for the informal sector. However, enterprise development figures pertaining to formal sector are presented below.

District Officer, Enterprise and Investment Promotion (DO E&IP) reported that following has been the partnership firms' registration during last three years: 324 in 2007-08; 383 in 2008-09; and 231 in 2009-10 (up till 31st May 2010).

SECP record reflects that Multan district has 956 companies listed as private limited companies. It is understood that a significant number of these companies are established as a mandatory requirement for Hajj and Umrah services. However rest of the companies are for other commercial and other services. These are cumulative registrations with Companies Registration Office (CRO) Multan and include dormant companies as well. However CRO, Multan reported 661 companies as dead over and above the active registrations.

Table 20 Number of Companies Incorporated with SECP Multan Region (Jan 2005 – June 2010)

Type of Company	Number Incorporated
Public listed companies	0
Public unlisted companies	4
Private companies	935
Single member companies	8
Associations under Section 42	5
Companies under Section 43	0
Trade organizations	3
Public unlimited companies	0
Private unlimited companies	0
Foreign companies	1
Companies under Section 503(2)	0
Total	956

Source: Companies Registration Office, SCEP, Multan

Year-wise incorporation data show that the registration of companies has slowed down recently. Only 45 and 39 companies were registered in 2009 and 2010 respectively against 105 and 128 companies registered in 2007 and 2008 respectively.

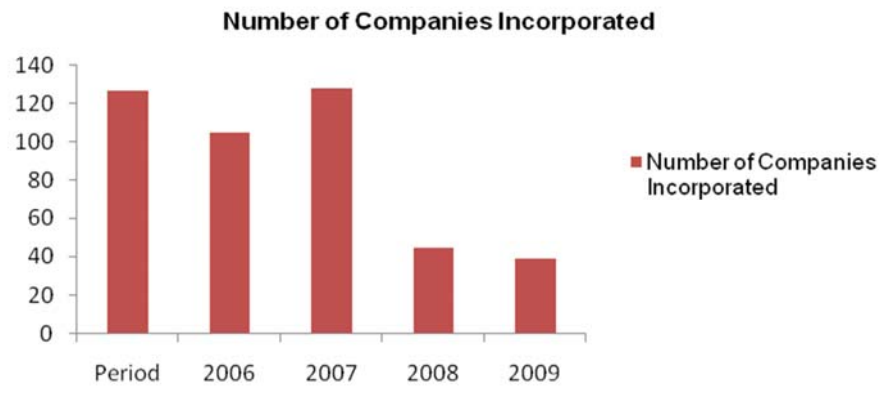


Figure 21 List of Incorporated Companies

Source: Companies Registration Office, SCEP, Multan

As per the Punjab Employees Social Security Institution record, there are 2,400 registered industrial establishments in Multan with a total number of 37,000 workers registered with the Social Security Institution.

Another source of data on industrial establishments and number of workers registered therein is the Department of Labor and Human Resource, Government of Punjab. The following table presents data from the Department's Multan office. However, It is important to note that textile weaving looms units are cottage industry level, hence large number of units should not be taken as a large economic sector. Contribution of this sector is significant but not overriding to other sectors represented less in number.

Table 21 Establishments Registered with the Labor Department

Type of Establishment	No. of Units	No. of Workers
Textile Processing	19	7826
Textile Spinning	12	6434
Textile Weaving	17	1087
Tanneries	4	95
Soap Detergent	6	80
Rice Mills	2	22
Cotton Ginning	51	1427
Flour Mills	17	222
Brick Kilns	186	7450
Miscellaneous	99	5456
Total	413	30102

Source: Department of Labor, Multan

These statistics reveals stagnation in enterprise development as Firms registration has almost been around 300 per annum during last three years whereas companies' registration with SECP Multan has nosedived to less than 1/3rd of previous years' new enterprise development. It would be a central task for the economic development strategy to kick-start the enterprise development so that investment, non-form jobs and economic growth could flourish in the district.

4.7 Business Environment

The key elements of successful private sector development strategies include ease of doing business, improved competitiveness and investment friendly policy framework. The interest of private sector to expand their businesses depends upon the profitability. Hence, it is of vital interest for Multan district to develop and implement a policy framework and incentives which could help to improve the business enabling environment and inspire confidence of private sector.

Business enabling environment is influenced by various regulatory, infrastructure and economic factors. These include ease of doing business, cost of doing business; power supply, provision of other utilities, affordable and efficient infrastructure, Cost of industrial and commercial land and access and cost of finances

4.7.1 Ease of Doing Business

Ease of doing business is a vital element of enabling business environment. World Bank compared the ease of doing business in 13 Pakistani cities in 2009. Multan was one of the 4 highest rated. The following table reveals the difficulties, time taken to start a business and the cost of doing so:

Table 22 Time and Cost Taken to Start a Business

City	Time (Days)	Cost (Percent of per capita Income)
Faisalabad	17	12
Rawalpindi	17	24
Multan	19	23
Sheikhupura	19	24
Lahore	20	12
Sialkot	20	25
Gujranwala	22	24
South Asia Average	28.1	27

Source: Ease of Doing Business in Pakistan 2010, World Bank

4.8 Major Constraints to Enterprise Development in the District

The field work for this study brings forward the following as major constraints on doing business in Multan district:

- **Unreliable Supply of Power and Other Utilities:** Availability of power and other utilities at affordable prices are essential for industrial and commercial development. Multan, like other parts of Pakistan, has suffered heavily due to severe power shortage and frequent load shedding. Availability of gas during December and January has also been inconsistent. Cost of electricity and gas has been raised many times since 2009. Electricity tariff has been revised upward by 70% since March 2009 as per PEPCO. This has raised the proportion of electricity and gas cost in overall business operations.

  The waiting period for a new connection has considerably increased over the years due to persistent short supply of power. Investment Climate Assessment II by World Bank has revealed that “All Pakistan” waiting time has deteriorated considerably from the previous survey conducted in 2002, when it was 31.8 days as compared to current “all Pakistan” figure of 91.8 days and Punjab as 55,5 days. In the absence of district specific figures, these

Figures may be assumed for the district as Multan as well having the same source of electricity distribution system.

- **Inconsistency of policies and macroeconomic instability:** The growth of manufacturing, trade and commerce is closely linked with consistent government policies and macroeconomic stability. Manufacturing project involves long term capital commitment and one to two years gestation period from planning to operations. Economic policies are the founding assumption in the project feasibility. Any uncalled for change in the policy can jeopardize the whole viability of the project.

  Taxation and incentives are two major components of these policies. Taxation regimes have experienced occasional sudden changes affecting the manufacturing and commerce sectors. Recent examples of 1 to 2% increase of General Sales Tax in Federal Budget 2010-2011 as consequence of failure to develop consensus on introduction of Value Added Tax demonstrate how additional burden may pile up for a policy shift. Annual or periodic change of tariffs on imports of machinery and raw materials may at times adversely affect the cost of doing business.

  Macroeconomic stability is another vital policy requirement for sustainable business. Change in monetary policy due to macroeconomic policies of the government and State Bank of Pakistan (SBP) usually brings burden instead of relief to the businesses. For example, SBP has followed tight monitory policy causing increase in lending rates over the years. Latest rate hike of 50 basis points in July 2010 has increased the burden of already high mark up cost for the industry and commerce. On the contrary, SBP has been reported inactive on the rising banking spread for the borrowers compared to prime lending rates. Banks have been reported more aggressive for SMEs where banking spread has been found as high as 650 basis points.

  Depreciation of Pak Rupee has been another uncertain element of cost for businesses. Pak Rupee was quoted around Rs.61 in end 2006 but starting to depreciate to over Rs.80 by early 2009. It as experienced another fall of Rs. 5 during 2009-2010 i.e. over 6% depreciation. Depreciation not only creates uncertainty to ascertain cost of machinery and raw material for businesses but also ignited spiral of price hike due to close linkage of economy on imports.

- **High Cost of Land and Infrastructure:** Availability of affordable and efficient infrastructure is an important consideration for an industrial and commercial concern. Increase in land prices by two to three times between 2003 and 2008 has emerged as an impediment to industrialisation and commercial growth. Increase of land directly influence the cost of doing business as it raises the capital cost of new project or expansion of current project, rent of business premises, increased rent of storage and ware housing, increase cost of living attributed to employees compensation. Many countries around the world have thus dedicated special industrial and commercial zones at affordable prices for industrial and commercial concerns. Current level of high land prices has already affected the cost of doing business in Multan.

  Development of proposed industrial estate and clusters for cottage industries can fill the gap of fully developed infrastructure for potential investors. Lately, many fast developed industrial nations have promoted a new concept of infrastructure. Infrastructure development authority develops the industrial infrastructure (roads, provision of utilities, common facilities area, housing colonies etc), undertakes construction of modular production structure of offices for variety of uses and sizes with production halls, warehouses, storages, etc. for a turnkey offering on lease to the investors. Besides providing fully developed industrial infrastructure of industrial plots, the Authority offers a range of constructed production halls,

warehouses and offices as well. The concept of providing industrial and commercial infrastructure on lease with the structure which is modular and compatible to the needs of variety of businesses has successfully being followed in many places, e.g. Jable Ali, Dubai, Sharja Free Zone, Industrial Parks in India, Technology parks in many Asian countries. Availability of such infrastructure takes out the worry of investors to tie up huge funds in fixed infrastructure and offer saving of time and capital so as investor can immediately start the operations.

In view of constrained financial depth of most of industrial and commercial establishments in Multan, this concept offers an alternate where investors can use the required spaces against competitive rents.

Businesses need competitive prices of land for offices, storage and factories to stay competitive. Higher land prices causes high rentals cost for businesses and employees causing increase in cost of doing business. Land required for expansion or new project can have prohibitive impact on viability due to high cost. Pakistan and Multan has experienced multiple price hikes since 2003.

Land price for residential purpose in main city area in Multan is as high as Rs. 2 to 2.5 lakh per marla. It is exorbitant for commercial purpose (an average size shop of say 10X20 ft or so was quoted over Rupees one million on main commercial areas). Land prices for an industrial set up are equally high even five kilometres outside the city. Latest estimate reveals that average and acceptable location on Multan-Muzaffargarh road is being quoted from Rs.2.5 to Rs 5.0 million per acre whereas it is being quoted as Rs. 1.5 to Rs. 2.5 million on small link roads about five KM from the main city.

Such a high land price for manufacturing has discouraged the industrial activities which have to operate in longer term perspective and bear the market risks as well. It was reported that trading and investment in real estate has generally offered better returns at much less or no risk. This has prompted a trend of investing into real estate as a preferred mode of investment rather than investing into manufacturing.

High cost of land has burdened the viability of traders and commercial establishments who usually operate in main city centers where prices of land and rent are found at maximum levels. No wonder, most of traders and commercial enterprises in main city centres restrict to the bare minimum spaces in a bid to control their cost instead of expanding for natural business growth.

- **Access to finances and high Interest Rates:** Bank financing is an integral part of commercial and industrial activities. Banks are privately owned and operate under State Bank of Pakistan supervision. Banks loans are largely governed by Prudential Regulations which govern the lending procedures and defines the market access for businesses. Lending risk and security of loan are two fundamental principles of the banks. Banking history, bankable accounts of an enterprise, sectoral priorities, risk profile of borrower and earning capability are few operation binds for lending by the banks. The structure and mode of most of business in Multan does not make them a preferred choice for many banks and business enterprises face different levels of constraints for financial access.

  On top of all these guiding principles of the banks, arbitrary mark up rates and trend of rising prime lending rates have added the burden of borrowing making the cost of business higher. Currently, large borrowers can have borrowing at 150 to 350 basis point on KIBOR, SMEs at 300 to 650 basis points whereas Micro Financing from 29 to 36%.

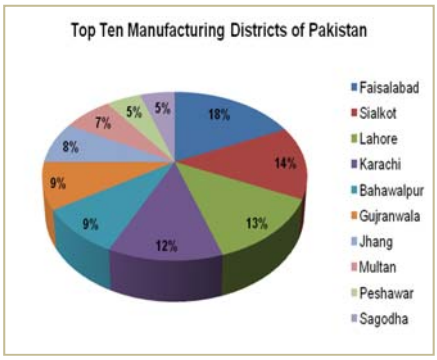
4.9 Small and Medium Enterprises (SMEs)

SMEs are considered as one of the most important force behind economic development, employment generation and poverty reduction. SMEs jointly contribute approximately 30% to GDP; employ 80% of non agricultural labor force, 25% to total exports and 35% to manufacturing value addition to Pakistan economy.[27]

In line with the dominance of SME on the national level, SMEs dominate the industrial and commercial sectors of the district as well. In the district economy of Multan, Small and Medium Enterprises (SMEs) play a major role in investment, employment and value addition due to their largest share in commercial establishments.

The National SME Policy 2007 defines SMEs as businesses with an employment size up to 250, paid up capital of PKR 25 million and an annual turnover of PKR 250 million. State Bank of Pakistan also adopts the same definition of Small and Medium Size Enterprises.

The Survey of Commercial Establishments 2005, conducted by the Federal Bureau of Statistics (FBS) offers useful insight of SMEs sector on its style and structure. Due to the similarity of Multan district economy to other major commercial cities, it is reasonable to assume relevance of results of this survey for Multan. The survey reveals that 95.21% of economic establishments have an employment size of 1 – 5 employees, usually termed as micro or cottage industries. As per the census hardly 1% economic establishments have more than 250 employees, meaning thereby, that 99% of business establishments in the country are SMEs.



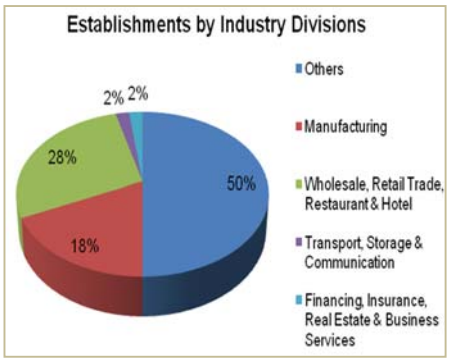


Figure 22 SMEs in Pakistan

Source: Survey of Commercial Establishments 2005, FBS

The census reveals that 28% of economic activities are concentrated in wholesale, retail trade, hotels and restaurant sectors. Manufacturing accounts for 18% of total establishment. The same survey highlighted that legal status and mode of business which reflected the approach and style of the business. In Pakistan around 97% of economic establishments fall in the

[27] Pakistan economic Survey 2009-2010

category of sole proprietorship while only 2.1% are partnership firms and a meager 0.08% is private limited corporations.

4.9.1 Availability of Advisory and Information Services for SMEs

Structure and mode of SMEs brings various constraints and inherent vulnerability for smooth and sustainability of SMEs. The size and structure of majority of SMEs is so small that they can hardly afford to engage sufficient pool of human resources, technical support, marketing and management skills either in house or engage on fee basis for sustainability and growth of their businesses. This necessitates the government to offer the desired support through enabling environment and support organizations. Pakistan like many other nations has a dedicated organization-SMEDA- for this need in addition District Office Enterprise and Investment Promotion (E&IP) and many other provincial and federal governments.

Small and Medium Enterprises Development Authority (SMEDA) has a Regional Business Centre at Multan which serves Multan as well. The regional office has strength of 3 persons with frequent visits of technical and managerial staff from Head Office, Lahore. SMEDA conducts and manages various activities for the promotion of SMEs. The record of SMEDA reveals that it provided guidance to over 900 SMEs during 2009 through its help desk services at own office, Multan Chamber of Commerce and Industry (MCCI) and All Pakistan Bed sheets and Upholstery Manufacturers Association (APBUMA) at Multan.

The SMEs facilitated at Multan and Multan through its Regional Business Centre during 2009 by SMEDA reflects a wide array of information / services required by typical SMEs of the area. The graph below provides the details of information sought by the SMEs of the area as per SMEDA record.

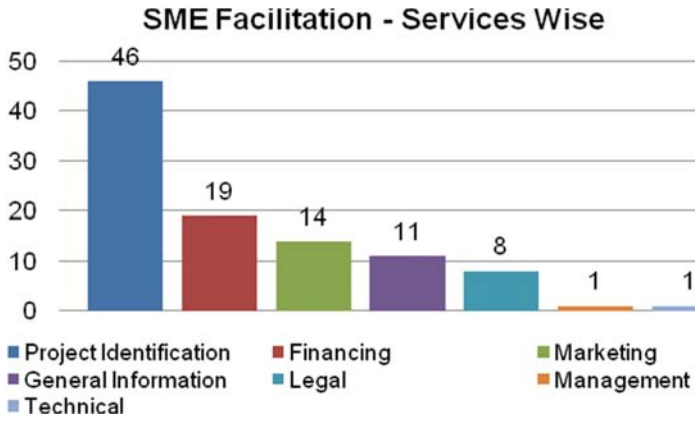


Figure 23 Services Sought By SMEs At Multan And Multan From SMEDA

Source: Regional Business Centre, Multan, SMEDA, 2010

The graph reveals that 46% of SMEs approached SMEDA to seek help for Project identification. Another 19% sought assistance to procure financing followed by 14% for marketing, 11% for general information, 8% for legal and 1% each for management and technical support.

Few other programs have also been initiated for the promotion, development and growth of SMEs in Multan, mainly through SMEDA and Punjab Small Industries Corporation (PSIC) with the support of MCCI, Multan Industrial Estate, APBUMA, leather sector, Mango Growers Association, etc. Details of the few programs are as under:

- Agro Food Processing Facilities, Multan

- Master plan for SME development with the help of Multan Chamber of Commerce (MCCI) and Industries (In total 22 projects were identified for various economic sectors with the help of various government and non-government organizations)
- Light Engineering Common Facility Centre at Multan Industrial Estate with the support of SMEDA, PSIC and MCCI

An initiative of "Aik Hunar, Aik Nagar" (AHAN) was launched through SMEDA in 2006 for rural modernization on the basis of acclaimed Asian experience of One Village One Product.[28] AHAN is focussing to lend technical, marketing and advisory support to the traditional arts and crafts of selected areas. Multan is included in its program for development.

The areas office of AHAN is housed in Regional Business Centre, SMEDA Multan. It extends its services and manages various programs in Multan like SMEDA through regular visits, helpdesk and special programs. AHAN selected following clusters for further development through training and capacity building in Multan district since it began its operations:

- Blue Pottery
- Silverware
- Hand Embroidery (Phulkari)
- Camel's Skin

Following development programs are underway to develop these clusters:

- Product Profiling
- Horizontal and Vertical Networking
- Capacity building of Draughtsmen
- Product and Design Development
- Marketing (Participation in trade fairs, etc.)
- Provision of Kilns to Artisans
- Training Programs for Capacity Building

4.9.2 Sector Constraints

Despite the importance of SMEs to the employment and economic activities, SMEs face numerous constraints. Extensive meetings with various stakeholders and literature reviews reveal that SMEs have the following major constraints:

- SMEs have a limited access to financial services. They operate on a narrow capital base. The enterprises who intend to expand have limited options for financing. SMEs access to formal credit from commercial banks and leasing has been insignificant over the years. In 2006, out of total credit off take of Rs.2400.8 billion for private sector, SMEs share was 408.3 billion or just 17% of total amount29. The situation did not improve in subsequent years. SME sector finance occupied second place in terms of total finance from formal sector (10 percent) after Corporate Finance. At the end of June 2009, total outstanding loans to the SME sector stood at Rs345.1 billion compared to Rs393.6 billion in June

[28] AHAN Official web site- http://www.ahan.org.pk/- The OVOP and similar programs have been implemented with some modifications in other parts of Japan and other APO member countries such as Pakistan, Bangladesh, Republic of China, India, Indonesia, Islamic Republic of Iran, Sri Lanka, Republic of Korea, Lao PDR, Malaysia, Mongolia, Vietnam and Nepal.
[29] SME Sector, SMEDA

200830. It was reported during the field work for this study that main bottlenecks include the availability of bank worthy collateral as security, insufficient suitable banking products for SME needs and lack of awareness on part of SMEs to make efforts and prepare bankable accounts for positive access to the banks.

- SME are mainly dependent on traditional market channels dominated by middle men or whole sellers. Usually SMEs do not have sufficient resources and risk appetite to spend human and financial resources to develop market linkage to other potential markets and are constrained to be contented with available traditional local market. Market linkage has been reported a weaker area of SMEs operations.
- Lack of Trained Human Resource and Weak Management Skills: factors of production include Land, capital, machinery and labor. SMEs need equally skilled human resources to turn their operation into profits. The quality of human resource availability is a major issue as reported that level of technical skills of most of technical staff with SMEs is not as superior as of their counterparts in Lahore, Gujranwala, and Sialkot.[31]
- Lack of sufficient sectoral training is another constraint as skills in main technologies main provided by various institutions but sectoral skills building in say dairy, meat processing, Gems and Jewellery, dairy, plastics etc are not easily available.
- Frequent Power Shortages: country is gripped with severe power shortages since early 2007. SMEs generally cannot afford to have own generators and hence loose productivity.
- Lack of Cottage and Small Industrial Estates: Multan has few traditional informal clusters for embroidery and silver jewellery. Common facility centers, cottage and small estates for these clusters can help improve designing, human resource training and availability of processing facilities and market linkages.
- Lack of Awareness and Intellectual Property protection: General lack of awareness and non-observance of property protection is a constraint to brand development, innovation and frequent and quick copying discourages competition.

4.10 Priority Industrial Sectors for Multan

All industrial and commercial sectors have vital contribution towards district economy. An integrated economic growth can only be achieved if all sectors have friendly and efficient regulatory work and enabling environment. Due to the scope defined, we hereby discuss few sectors in the following as priority industrial sectors due to their potential of investment, employment, value addition, balanced economic growth and being natural link of existing supply chain of agriculture and industry.

Textiles spinning and weaving sectors are by far the largest industrial segments of Large Scale Manufacturing (LSM) in Multan but due to their matured level of competitiveness and enterprise development, the same is not being discussed for the specific purpose of this scope of work. Similarly, oil seeds processing and pesticides manufacturing are unique and significant to Multan economy but both are not being discussed due to fair level of competitiveness and vibrant private sector engagement in both these sectors.

Horticulture is another unique and Multan specific industry. Mango, orchards, guava and many other fruits are grown and marketed locally and sold to other domestic and international markets. Similarly, vegetables sector is also very potential economic activity in Multan. But fruits and vegetables sectors are being addresses by various government and non government

[30] State Bank of Pakistan Annual Report 2009, Credit Access SMEs
[31] Two leading industrialists of Multan

organizations as well as by USAID, CSF and SMEDA hence the same is not being discussed separately in this chapter.

4.10.1 Ginning Sector

Multan district has 72 working factories as per record of Pakistan Cotton Ginners Association (PCGA) with 426 saw gins and 76 baling press installed. Number of factories has reduced due to decreasing cotton crop in the district despite higher numbers reflected in various government records. Further, Multan district has surrendered a large area to new districts carved out of Multan namely Khanewal and Lodhran. An equal number of oil mills are also housed in operating factories along with stand alone mills as well.

As per record of PCGA as on May 1, 2010, Multan district harvested 399,246 bales in crop year 2009-2010 compared to 442,165 bales in crop year 2008-9 which is 9.7% less than last year.

Following Government Departments/Regulations govern the Ginning Factories; PCSA, Agriculture Department (issue license), EOB (old age benefit), Cotton Control Act (registration), Income Tax, Professional Tax, Excise, Labor Department, Punjab Employees Social Security Institution, Market Committee.

4.10.1.1 Constraints

- Various regulations on classification, grading and contamination have so far proved ineffective and mostly not implemented at all.
- A major constraint relates to the training of ginning entrepreneurs as most of them enter this field without formal technical and entrepreneurial training and find limited training options later on as well.
- Continuation of obsolete ginning technology without much up gradation. Some up gradation has been done by few individuals at Multan partly with the help of Agricultural Machinery Research Institute and other programs of technology improvements. But process of up gradation needs to be institutionalized and made an ongoing process for perpetual improvement.
- Yield is 5-6% low as compared to world leading producers. Higher Trash contents, high floating fibers and foreign fibers contamination makes the cotton inferior compared with many of leading global cotton producers.
- The issues related to maintenance, new technology introduction and technology up gradation are overly dependent on non professional technicians. Their role becomes even more precarious due to abundance of non technical entrepreneurs who blindly rely on these technicians. Almost all of them are trained by their own master trainers who never had formal training in modern discipline of mechanical, electrical and electronics and industrial engineering.

4.10.2 Hand and Power Looms Sector

This sector consists of the following two segments:

- Power looms are a growing sector and are clustered in Multan city. It is estimated that 40,000 power looms are installed in Multan city. It is estimated that a unit of 24 power looms helps to employ about 120 persons. Economy of scale is very small. Most of units are 12-16 looms, whereas 24-36 looms unit is considered as large. Power looms are mainly scattered in residential areas rather than locating them in proper industrial cluster.
- Hand looms sector used to be a major employing sector in the past but now facing gradual decline. Hand looms sector is a cottage industry and are installed at homes of

owners/operators. Whole family is engaged in variety of production jobs. It is reported that total number of entrepreneurs may be 100 to 120. Currently, hand looms are clustered in Multan city only. Maximum size of unit in Multan is about 40 hand looms unit. Average unit size is +/- 6 looms whereas unit size of 10 or more hand looms is considered large. This scale of economy is very small and poses serious capacity constraint.

4.10.2.1 Sector constraints

- Hand Looms sector's scale of economy is very small. Large and medium size export orders cannot be satisfactorily performed with such small capacity.
- Traditional low value added product range of hand looms sector does not offer descent livelihood to workers which is reportedly alienating good human resource from this field.
- Due to lack of cluster area, power looms are scattered in residential areas facing numerous problems of backward and forward linkages and shared technical support.
- Frequent power outage and rising cost of electricity is a major hurdle in smooth operations and cost of doing business.
- Lack of technical training of operational managers and technicians is causing low productivity as most of the workers and operational managers usually have traditional on the job training. No formal efforts is done either by the enterprises or workers by themselves to learn latest technology and best practices.
- Power looms sector is stuck with low value added product mix of traditional qualities due to inefficient technology and business processes.
- Access to finances and cost of high mark up is a serious problem for competitiveness and further investment into this field.

4.10.3 Meat Processing Sector

Multan has one of the highest populations of cattle heads in the region. Livestock is a source of earning through sale of milk or selling live animal for meat purpose. Permission to export live animal has created a strong demand for live animals, hence, livestock trading is a crucial source of earning for small farmers and leadless farmers.

Marketing system is flawed with distorted pricing mechanism. Prices of live animals are dictated by demand and supply whereas retail price of meat is rigidly regulated by the government. Scale of operations of meat processors is too small to have sustainable growth. Infrastructure is poorly organized for housing animals, slaughtering and transportation to shops. This can cause break out of epidemic like mad cow disease, foot and mouth disease due to poor observance of healthcare and veterinary care norms.

As per Punjab Development Statistics, 2,172,600 animals were slaughtered in recognized / un-recognized slaughter houses in the district, which is a reasonable estimate of the availability of hides and skins in the region as well. The availability of slaughter house by-products is estimated as follows: Blood 8,181 M. Ton; Bones 24,347 M. Ton; and Tallow 10,572 M. Ton.

4.10.3.1 Sector Constraints

- There is no wholesale market which offers the meat processors the place and choice to have quantity and quality of meat of their requirement.
- Health care and hygiene is largely ignored as supervisory body has a ceremonious role to enforce standards of cleanliness and hygiene with a veterinary doctor to have taken supervision and stamping the slaughtered animals for mutton only.

- Non availability of facilities for temporary housing of animal herds besides the slaughter house and provision of veterinary care.
- Strict price control policy by the Government and rising prices on supply side has caused many malpractices to retain viability by the sellers. This has severely deteriorated the quality of meat being sold. Prices of live animals are dictated by demand and supply whereas retail prices of meat are rigidly regulated by the government. Pricing mechanism need a fresh look to integrate it with demand and supply forces of market.
- Scale of operations is too small to have sustainable growth of meat processors. No wonder, meat processors have traditionally been family business of few individuals instead of transforming into medium or large scale enterprises.
- This sector has continued with orthodox business model so far with individual butchers handling the procurement, slaughtering and sales to the consumers. The trade of meat processing has been mechanized around the world with larger scale of economy, export potential and selling in local markets like any other food item brand. In Pakistan, few major entrepreneurs in poultry sector have already pioneered to define new sales channels, explore segmentation, offer a wide product range, offering the consumers choice of buying at their convenient timings and assurance of better hygiene. Meat processing sector needs to abandon obsolete style of business process and embark upon mechanized meat processing and contemporary marketing style. Current style of processing and sales is inefficient and unsustainable.

4.10.4 Leather Sector and Its Composition

Leather sector in Multan district is clustered in Multan city. It has three main segments: 1) organized tannery units; 2) Small scale traditional tannery unit known as Bag Tanneries; and 3) Leather garments and leather shoes including traditional *khussa* products.

Every sub sector has its unique business processes and business development services. There are two large modern tanning factories, three wet blue tanneries, about 30 Bag tanneries , about 10 leather garment units and 10 exporters of footwear with the production support of about 70 small shoe manufacturing units.

Large tanneries process finished leather and mainly export their produce. None of them is into product extension of leather garments or footwear. Wet blue tanneries, another sub sector, process and sell their produce either to sponsor tanneries in other cities like Karachi, Sialkot and Kasur or to the open market. These companies operate with basic and obsolete technology and add least value to the raw hides. Bag tanneries are cottage industries in their scale of operations. Their processing method is traditional which does not include usage of modern chemicals.

Leather garment units in Multan are on decline. Footwear segment in Multan has domestic and export product range. Export oriented units manufacture traditional CHAPPAL for Middle East market. Designs are simple and traditional which does not require very high craftsmanship. These units are scattered in residential areas, managed by the owner with the help of skilled and unskilled workers, designers and very few accessories.

4.10.4.1 Sector Constraints

- Tanneries in residential areas have severed problem to dispose off affluent water as waste water is drained untreated into main sewerage. As most of the tanneries units are located in residential areas, they do not have any industrial waste drain available. Untreated water drainage causes environmental degradation as well.

- Tanneries in Multan are losing their export business to other major production centres like Karachi, Lahore, Sialkot and Kasur due to higher cost of business, smaller scale of economies and less attraction of foreign buyers due to “off the route” for the visiting buyers.
- Primitive production methods and business processes are hallmarks of Bag Tanneries and Khussa manufacturers leading to poor quality, stagnant designing and product stability. No effort has ever been undertaken at any level for up gradation of production processes of cottage Bag industry and designing of *Khussa* product range being the cottage industry.
- Shoe manufacturers of Multan operate on small economy of scale. Reportedly, exports are declining due to poor quality, lack of aggressive marketing and innovative designing. Due to their small scale, these units cannot afford to undertake marketing and design improvements on their own without support of some relevant
- Bag tanneries are facing a dilemma of perception that finished leather has annoying smell. If this problem is taken care by research and development, their product is fairly acceptable and can comply with export standards as well.
- Leather garments sector is also on a decline due to the issues of marketing and other similar factors as of large tanneries of the city.
- Lack of branding and marketing footwear segment in export markets and traditional KHUSSA in domestic and exports markets is causing loss of an opportunity to develop Made in Multan uniqueness.

4.10.5 Dairy sector

Multan district has vast milk production base. Milk procurement chain for urban areas through local vendors and national dairy companies is already well entrenched throughout the rural areas. Masses of rural areas are fairly accustomed with milk production economy. Proper help on milk production through improved breeding, fodder, veterinary care and herd management can multiply the existing milk supply to new highs.

Milk collection outreach, availability of chilling centers and maximum coverage of milk collection companies to the farmers can offer a new quantum of economic gains to rural masses. National dairy sector has oligopoly market balance. Nearest milk plants are located in Kabirwala and Sahiwal. There is good possibility of promoting commercial dairy farming in rural areas which can provide much needed employment and earnings to the needy poor of rural areas. Close proximity of Kabirwala offers an attractive opportunity for quick disposal of milk production of the area.

Currently Nestle MilkPak and Engro Foods are two major operators in the market. Nestle Milkpak has its milk processing in a nearby town of Kabirwala (District Khanewal) which is reported as one of the biggest in Asia. Engro has its plant in Sahiwal.

Nestle has two major collection centres namely Dunyapur and Jalalpur covering major part of Multan District. Nestle’s Milk Procurement Department revealed that approximately 400 tons per day milk is collected at Dunyapur center in Flush season of winter (November to March) whereas about 180 tons per day is collected during Lean season. Currently Jalapur Collection (located in Multan District) centre had a daily collection of 41.5 tons per day during July 2010. Ex price at milk collection was reported as Rs.33 per litre at 14% total solids. However, traders of milk in rural areas are reported to procure milk from farmers at about Rs. 27 per litre.

4.10.5.1 Sector Constraints

- Milk collection channels need enhanced coverage so as the areas which are currently not being covered by leading dairy companies and local wholesaler should also be connected with market channels.

- Frequent manipulation of the buying parameter of Fats and SNF by milk collection companies and middlemen for their favour at the cost of farmers.
- There is no milk processing plant in the area which could provide impetus to enhance milk coverage and production.
- Unavailability of chilling facilities in most rural areas restricts the capability of farmers to sell their milk on regular basis.
- There is no system of setting pasteurization and other quality standards.

4.10.6 SME and Micro Enterprise Development

Industrial and commercial landscape and projected scenario indicate that sufficient job creations in the district would remain a challenge for government and private sector. Growing poverty and income inequalities are a threat to social fabric as well. Similar challenges have been addressed through development of SMEs and Micro enterprises development in many countries in the world. Same is relevant for Pakistan and more so for Multan district.

Most of the industry in Multan, with few exceptions, falls under the category of SMEs as explained earlier. Number of commercial and industrial establishments is hardly over one thousand despite population of over three million. Creation of new enterprises is slowing down. It is utmost necessary to improve the business environment in a way that SMEs and micro enterprise development should be ignited with full force at public and private level. It is the only way forward to create required non farm jobs to face the menace of unemployment or disguised unemployment in the district. With concerted efforts, quantum expansion in per capita industrial and commercial establishments in Multan district can be achieved for the economic growth of the area.

4.10.6.1 Sector constraints

- It was reported that there was an entrepreneurship deficit in the district. Either due to agrarian background or due to cultural traits, it was reported that people generally prefer to peruse job career instead of opting for business. Even the graduates of Institute of Management Sciences, Bahauddin Zakaria University expressed job career as their first priority instead of entrepreneurship.[32]
- The industrial and commerce community is very small. There are not many examples of glorious business successes to motivate others to follow the suit. Larger pool of entrepreneurs can have better visibility to attract more investors to increase the pace of enterprise development.
- The industrial base is very narrow and does not offer a wide choice of investment. Majority of industrial projects are ultimately linked with agriculture like ginning, oil mills, wheat, rice, etc.
- City lacks robust industrial and commercial activities which could attract other regional industrial and commercial giants, foreign visitors, expat community. Business activities appear on the back seat leading to low interest in enterprise development as a way of life of civil society.

4.11 Economic Development and Strategy

Discussions on the economic profile, leading industrial and commercial sectors and business environment offer the context of current economic situation of Multan district. It is evident that

[32] Institute of Management Sciences, Bahauddin Zakaria University, Multan

Multan district has a mix of economic strengths, weaknesses and opportunities. The economic challenges as emerged during the research process are summarized as follows:

1. Enterprises Development, i.e. creation of new businesses
2. Improving Business Competitiveness
3. Identifying and supporting agents of economic change for the promotion of entrepreneurship and business culture
4. Promoting investment for regular creation of non-farm jobs
5. Up scaling and value addition of key economic sectors

4.11.1 The Way Forward

The challenge of economic development is to address the above mentioned constraints and pave the way for enhanced investment, creation of non farmed jobs, improve business competitiveness and promote entrepreneurship for sustainable growth.

Many of the constraints pertaining to regulatory frame works of provincial and federal governments (e.g. power shortages, anomalies in taxation etc.) are affecting Multan district as much as other districts of Punjab. Recommendations to these areas are not highlighted as the Multan district alone has limitations to influence the provincial and federal policies to alter the issues of regulatory framework. Hence, the recommendations are focused for the economic areas which can positively influence and augment the economy of Multan District with minimal reliance on such regulatory issues resolution.

While discussing the district specific constraints and recommendations, it would be useful to learn how the federal economic regime views some of the constraints pertaining to the nation equally affecting the Multan district as well. The energy crisis which intensified during last year was acknowledged as a major constraint causing deceleration in the national GDP. As a result it is estimated that a loss of approximately 2.0-2.5% of GDP occurred in 2009 and 2010 on account of energy supplies constraint.[33] The Multan district was equally affected by the persistent energy crisis like other areas of the nation causing loss of local GDP.

The economic managers of the country also acknowledged that total energy consumption declined by 5.2% in 2009 versus 2008 causing a drop in the national manufacturing output. Electricity used in industrial sector fell by 6.5% while gas consumption recorded 2.6% declined. Cumulatively since 2006 -07, Electricity consumption by the industrial sector has declined by 8.2%.34

The assessment of long term constraints by the economic managers acknowledged the fact that a set of complex, interrelated and longer term structural constraints, overall growth continues to operate. The longer term constraints include a declining share of manufacturing in the economy, as a percentage of GDP, in new fixed investment and in total employment (share of manufacturing in fixed investment dropped from 23% in 2000 to 16.2% in 2010), a decline in size and scale of manufacturing sector and expansion of informal sector (the share of informal labor in the economy has increased from 72.8% in 2007-08 to 73.3% in 2008 and 2009)35. It is reasonable to assume the application of same observations to Multan as well due to resemblance of its economic structure with the national economy.

[33] Pakistan Economic Survey 2009-2010
[34] Pakistan Economic Survey 2009-2010
[35] Pakistan Economic Survey 2009-2010

The private sector generates around 90% of the Punjab's output of goods and services and is the dominant actor in the economy. Thus, the province must move aggressively to enhance the capabilities of the private sector. A study on Private Sector Development Strategy for Punjab, thus, emphasizes support to strengthen private sector through policies that make product and factor markets more flexible, lower cost of production and distribution, includes efficiency through increased competition and move the structure of the major sectors in the direction of higher value added products.[36]

The impediment with the rapid growth in size and productivity of Punjab's private sector arise from the issue of both "hardware" (meaning physical requirements) and "software" (meaning the working of institutions, questions of governance, policies, cultural factors etc). The hardware issues are relatively easy to diagnose; for example, it is quite clear that for the immediate future most pressing issue is the power supply. The software issues are much harder to analyze and to act upon, because they often reflect deep rooted influences of history, habits and values. Yet addressing these issues is fundamental to the success of this strategy.[37]

[36] Private Sector Development Strategy for the Punjab, DFID Final Draft June 2010
[37] Private Sector Development Strategy for the Punjab, DFID Final Draft June 2010

Situation Analysis

- District Economic Profile
- Business Environment and Competitiveness; Ease of Doing Business, Cost of Doing Business
- SMEs and Micro-Enterprise development; Role, Constraints and Recommendations
- Analysis of Key Economic Sectors; Ginning, Meat Processing, Milk Procurement, Traditional Crafts, Horticulture, SMEs and Micro-Enterprises

Economic Challenges

- Promote Manufacturing, Trade and Commercial Activities
- Promote Creation of New Businesses / Enterprises Development
- Improve Business Competitiveness
- Promoting Entrepreneurship and Business Culture
- Promote Investment for Creation of Non-Form Jobs
- Up scaling and Value Addition of Key Economic Sectors`

A Three Pronged Economic Development Strategy

- Promoting Business Competitiveness through (i)Rationalizing Cost of Doing Business, (ii) Infrastructure Development and (iii)Cottage Industry Clusters Development
- Promoting New Enterprise Development; Addressing Entrepreneurship Deficit, New Enterprises Development and Identification & Strengthening of Agents of Economic Change
- Key Sectors Up-scaling and Value Addition; Ginning Institute, Meat Processing, Market Access for Milk Producers, Bahawalpur Crafts, SMEs Development, Business Incubation Centers and Tourism

Figure 24 Process Flow of District Economic Development Strategies - Manufacturing, Trade and Commerce

The challenge of evolving economic development strategies for Multan District needs to address “hardware” issues as much as “Software” issues if a sustainable difference is to be achieved. These strategies should necessarily be imbedded with the strengths and opportunities of the district. The economic development strategies should also account for the weaknesses of the district economy.

A larger role of private sector and development of private sector capability and capacity would be decisive policy thrust for future economic development. These strategies can become a foundation of economic growth with the regulatory support of the government and private sector led investment and institutional capacity build up. The core objectives of these economic development strategies include growth and investment, poverty alleviation, quantum jump and creating of non formed jobs, promote value addition and prepare the district as “a preferred choice” for the potential investors in near future.

A three pronged strategy is, thus, recommended to address the economic challenges of Multan district:

1. Promote business competitiveness
2. Promote new enterprises development and business culture
3. Upscale key sectors and focus on value addition within the district

4.11.2 Recommendations

- Provide support for the creation of new enterprises and for expanding the pool of entrepreneurs. A program based on advising and “Business Incubation” should be formulated with the support of DO (E&IP), banks and the Chamber of Commerce and Industry to expand the existing pool of entrepreneurs. Business Incubation includes advising the new entrepreneurs, supporting them to access technical and financial support from relevant organizations, making infrastructure available for a limited time period to start their enterprises and help in market linkages at nominal charges until they can take off on their own.
- Develop financial products suitable for SMEs with the help of SBP, SME Bank, Khushhali Bank, representative of large commercial banks, SMEDA, PSIC and DO (E&IP) to address the constraints of access to finances by SMEs; more specifically the problem of collaterals faced by SMEs.
- SMEs are usually handicapped in marketing and R&D due to their restricted size and resources. It is recommended to develop market linkages and extend R&D support through Business Development Service Providers (BDSP) as private – public partnerships. Availability of BDS has been identified as a key success factor to address the Entrepreneurship Deficit and improving chances of enterprise success with the availability of BDS to SMEs.
- Revise the curriculum of Technical and Vocational Training Authority (TEVTA) and Punjab Vocational Training Council (PVTC). The revision process to be led by Multan Chambers, professional associations, SMEDA and PSIC. DO (E&IP) to be the focal person to align the curriculum to need based training of the required human resource for SMEs.

- Carry out a detailed training need assessment for SMEs; initiate capacity building programs to improve management and technical skills of existing SME entrepreneurs.
- Develop small clusters, which offer space and basic facilities to new SMEs to house their operations and offices in a fully operative facility. These clusters would provide turnkey infra structure facilities on lease to potential investors. Cluster for silver jewellery and clusters for traditional embroider can attract the suppliers, technical workers and buyers alike at respective cluster with much ease. These cluster would-be different in style and structure from a Small Industrial Estate which usually provide developed land only whereas these clusters would have constructed structure of production halls and other facilities like a turnkey for ease of use and start up on rental basis.
- Chamber of Commerce and Industry represent the organized and formal sectors of business. Smaller and micro businesses are not well represented by the District Chamber. A separate Trade Body should be developed to highlight the problems of sector based SMEs and cottage enterprises like a Trade Association to interact with regulatory authorities and other stakeholders for the promotion of their sector. This sector Trade Association (e.g. silver jewellery, embroidery, Rohi crafts etc.) should act as sector promotion councils at district level to promote and develop their own sector similar to sector development companies established at national level for furniture, marble, gems and jewellery.
- Commence the development of the proposed industrial estate under Punjab Industrial Estates for Multan forthwith. The prices of industrial plots in the estate should be kept low to attract new investment.
- Develop clusters for the promotion of Multan arts and crafts of silver jewellery and traditional embroidery. The proposed cluster would offer opportunities to relocate many of the artisans and traders to avail the benefits of cluster locations.
- Develop common facility centres for product designing, training, capacity building, processing and market linkages which can open new horizons for the up gradation, value addition and branding of Multan silver jewellery and embroidery for domestic and export markets.
- The SME bank should resume its lending in the Multan district immediately.
- Build the capacity of the Multan Chamber of Commerce and Industry and other trade associations to enable these organizations perform their support functions for local business.
- Improve linkages of the academic institutions like Bahauddin Zakaria University Multan TEVTA and PVTC with the local manufacturing and commerce through the Trade Associations, DO;E&IP and SMEDA to develop a nexus of change agents.

4.12 Projects Proposed For Rapid And Sustainable Economic Development

Following projects are proposed based on sector reviews, potential for investment, economic growth and job creation with immediate impact on district economy. Most of the projects and initiatives in the past have been more focused on physical infrastructure and less focused on business processes improvement and creation of new economic opportunities. Hence, a series of projects are being proposed as follows (further details and cost estimates shall be provided with complete sector report):

4.12.1 Institute of Cotton Ginning and Management

Purpose:

- Entrepreneurial Development of cotton ginners
- Development of operational managers through training and capacity building
- Up gradation of ginning technology to improve yield, quality and reduce contamination through mechanized processes, evaluating feasibility of introducing roller ginning technology. Prepare the trade for mechanized picking through development of machines and processes.
- Train and capacity building of existing technicians who mostly do not have formal training and technical education
- Help the ginning industry to move forward in value chain by introducing small refinery units to process seed oil for bulk and consumer packing in the area
- Research and development to make cotton economy more value driven and address to minimize distortions in supply chain management of raw cotton.

Rationale and Criteria for Selection:

Cotton is the largest cash crop for the district. It has broad base importance for the farmers as well as cotton ginning sector which is engaged in its processing and trading. At present economies of scale are limited and sector if restricted for cotton processing only with obsolete technology. Value addition through improved ginning process technology and extension in value chain can enhance investment, create more jobs and generate many new trading opportunities.

Activities to Be Carried Out:

- Training and capacity building of existing and new entrepreneurs of the ginning sector
- Management and development of existing and new human resource for the sector
- Research and development on existing technology to improve productivity, quality, reduce electricity consumption, improve business processes, streamline material handling processes and foster automation
- Research and adaptation of new technologies for technology up gradation of ginning sector
- Help developing engineering backward linkages of local qualified and trained technicians
- Develop mini seed oil refining projects and offer technical services for launch phase
- Develop a business process centre of excellence for ginning sector against the backdrop of all initiatives driven towards seeds development and management

Implementation Approach: A new tripartite entity based on public- private- development agency be established as nonprofit develop institute. It should have broad based board of directors with own charter of business. It should have professional CEO selected on merit for a fixed term. Institute should be encouraged to have international linkages and arrangements for knowledge and technology transfer.

Initially it can be established a with seed capital contributed by all parties. It should have an endowment fund and self revenue generation plan to be self sustainable to have independent financial status.

Project location: Its head office should be located at Multan from where it can serve the entire ginning sector.

Approximate Cost:

Capital investment – land near the city area:	Rs. 32 million
Building around 60,000 SQF:	Rs. 60 million
Equipment, fixtures, support system etc:	Rs. 50 million
Three year operational cost	
@ RS. 3million/month	Rs. 108 million
Trainings, consultants and other costs;	Rs. 20 million
Total estimated cost without land:	Rs.238 million

4.12.2 Meat processing

Purpose: to develop a facility and capability to process the beef and mutton meat at district level for national domestic and export market.

Rationale**:**

- To develop a local facility as an upward market link to process meat at local level to redefine the existing orthodox marketing of selling meat in through traditional butchers instead of a brand.
- To ensure value addition be undertaking by meat processing at local level instead of selling live animals.
- To create a new product of exports for the district economy with vast growth possibility of Halal Meat in export markets
- Attract investment in the district and develop a new industrial activity
- Create job opportunities for local skilled and non skilled workers
- To support more organized and commercial cattle farming leading a market driven growth in livestock.

Benefits from the Proposed Project:

- A new industrial activity and trading opportunities for district economy
- Technology transfer
- Investment
- Job creation
- Market linkage for the farmers
- A new export product category

Activities to Be Carried Out:

- Establish a modern slaughter house and meat processing facility of descent economy of scale
- Establish a marketing channel for local national and international market
- Promote commercial cattle farming

Implementation Approach: A non profit company should be established with a broad based board of directors. Company should be managed by a professional CEO with the help of a team of professionals.

Project Location: Project should be based around Multan city for close proximity to the farmers, market access and ease of attracting the professional management.

Approximate Cost: It is expected that this project would be a unique and first of its own kind in Pakistan; it would require careful planning and engagement of foreign experts during its preparation and initial production phase.

Cost of land, 20 acres @ 4 million per acre:	Rs. 80 millions
Building, including cold storage:	Rs. 120 millions
Machinery, equipment, standby power generators:	Rs. 350 millions
Other Fixtures and support infrastructure:	Rs .20 millions
Trail period losses/ development cost	Rs. 25 millions
Working capital:	Rs. 120 millions
Total cost of project capital without land price	Rs. 635 millions

(Cost of project can *significantly vary with different business models and processes.)*

4.12.3 Milk Procurement Infrastructure

Purpose: To support ongoing efforts of private sector to outreach to maximum farmers with milk production capacity and provide them an opportunity of better livelihood. To promote commercial dairy farming for small farmers.

Rationale of project: Multan district has ample capacity of milk production. Easy access to urban areas and milk collection channels are attractive opportunity to develop outreach to those farmers who do not have access to existing channels of milk collection.

Benefits of Proposed Projects:

- To outreach to those areas where milk produced cannot find market access.
- To develop milk collection infrastructure for those far flung areas which are not currently the priority coverage area for national dairy companies.
- To promote a sustainable economic opportunity to poor masses of rural areas with stable milk collection arrangements
- Milk production involves larger women participation. This project would empower more women in rural areas through sustainable means of living and economic opportunity.

Activities to be carried out:

- Survey for mapping ignored or left out milk producing areas from the current milk procurement chain of local and national dairy companies
- Assessment of additional milk availability for extended milk procurement arrangements
- Need assessment of number of chilling centers, capacity, transport and electricity
- Develop business plan to identify the capital needs, infrastructure, working arrangement etc to develop a sustainable set up
- Engage a private or nonprofit implementation partner
- Awareness campaigns to farmers for breed improvement, fodder, veterinary care and marketing channel availability

Implementation approach:

A non profit organization should be engaged as implementing partner with clear accountability and deliverable plans. NRSP can be one such partner who is already engaged in numerous rural projects.

Project location: Multan district

Approximate cost of Project:

Estimated cost of 50 chilling stations:	Rs. 50 Millions
Development activities cost:	Rs. 30 Millions
Fixtures, Vehicles, delivery mechanism cost:	Rs. 45 Millions
Three years operating cost	Rs. 54 millions
Approximate cost of project:	Rs. 179 Millions

4.12.4 SME and Micro Enterprise Development Initiative

Purpose: To promote and develop entrepreneurial culture in the district for SMEs development and Micro Enterprise development. To address the severe “entrepreneurship deficit” in the district and develop the district as a centre for non-farm jobs and trade creation.

Rationale: A recent study of DFID and government of Punjab titled as Private Sector Development Strategy for the Punjab has concluded that many districts of Punjab suffer from sever “entrepreneurial deficit”. Low level of enterprises development so far and dismal number of industrial establishment in Multan confirms the conclusion of this report. It is proposed that SMEs and Micro Enterprises development should be addressed through this unique initiative to promote investment and create job opportunities.

Benefits from the Proposed Project:

- Promotion of entrepreneurial culture
- Help SMEs enterprise development enabling them to play a central role in economic development
- Help the ongoing efforts of micro enterprises development to promote self employment
- Help to spur wide ranging economic activities in whole of rural and urban areas of the district
- Empower women to become economically more engaged and productive

Activities to be carried out:

- Help develop a broad based initiative with the help of SMEDA, Punjab Government, Multan Chamber of Commerce and Industry, Bahauddin Zakaria University, SME Bank, Micro finance banks, NRSP and other active stake holders.
- Prepare a working plan for the initiative to have need assessment, identify specific sectors for interventions, identify the types of interventions and scope of interventions.
- Establish a business incubation centre to help establish new entrepreneurs to establish their enterprises.
- Provide training, advisory, consulting and coaching to new entrepreneurs
- Provide BDS to such entrepreneurs through an agreed arrangement
- Promote entrepreneurship as a way of life and tool of meaningful employment for self and others

Implementations Approach:

Help organizing a joint initiative with the help of other key stake holders like SMEDA, TDAP, NRSP, Govt. of Punjab, BZ University, AHAN, TEVTA, PVTC,SME Banks, Micro banks etc. for broad based program with reach to urban and rural areas. SMEDA may be a suitable choice for as implementation partner and focal point.

Project location: Multan

Approximate cost of project: Total program cost including consultants, trainers, management and infrastructure is expected around Rs. 250 million for a three year program.

4.12.5 Transformation of E&IP into a business promotion department

Purpose: A comprehensive program is proposed to transform E&IP Department into a vibrant business development, promotion and data bank for the district economy.

Rationale: Develop capacity to promote progressive business policies and provide a learning environment for improved comprehension of business promotion needs and use full economic potential of the district.

Benefits from the Proposed Project: The project would enable Department of E&IP to develop capacity of:

- Comprehensive information database for investment opportunities in a district
- Understanding the market mechanism, marketing channels, supply chain management etc for improved understanding of the businesses.
- Develop capability to collect and maintain vital economic data
- Develop capability to advise existing and potential investors for investment promotion
- Prepare pre-feasibilities and offer advisory to SMEs for district specific opportunities

Activities to be carried out: Following activities are proposed:

- Situation analysis of existing staff and facilities
- Need assessment for desired capacity and capability
- Devise training programs for different tiers of staff
- Develop pool of core specialists to support the department on specialised industry issues, technology, public policy compliance

Implementations Approach: Existing department of E&IP to take lead and charge with initial the help of transformation partners. It proposed that SMEDA, State Bank of Pakistan, Punjab Board of Investment and Trade and a private sector capacity building organization should be engaged as collaborating organization.

Project location: Multan

Approximate cost of project: Need assessment, training and capacity building, development of data bank, investment pre-feasibilities etc. Estimated amount for one year is expected Rs.50 million

4.12.6 Up-gradation of Traditional Cottage Textile Industry of Multan

Purpose of Project: Multan traditional cottage textile includes hand and power looms, dyeing and finishing and textiles made ups. All Pakistan Bed sheets and Upholstery Manufacturers Association (APBUMA) estimates the capacity of the sector as 40,000 hand and power looms, about 400,000 workers and exports from July 2009-March 2010 as USD 55 Millions. The

purpose is to upgrade the sector capacity and capability through technology up gradation, training human resources, providing support to upscale designing capacity though a Cluster Development.

Rationale: The sector relies on obsolete technology, very small scale of economy and is spread in the residential areas without proper infrastructure. Its product range has very good potential for value addition like India did as Branding Madras check as an ethnic brand. It is expected that cluster development would enable to relocate most of the sector in proper infrastructure where product designing and technology support would benefit the sector to achieve up scaling and value addition.

Benefits from the Projects:

- Cluster Development for a cottage industry which is losing its growth and value addition due to fragmented placement in the city and operating with very poor infrastructure.
- Product designing would be improved through common facility center of designing for innovative designing and diversify the product range for a wide market appeal.
- the obsolete looms technology needs technological up-gradation. It is estimated by APBUMA that 30 to 40% productivity can be enhanced through adoption and up-gradation of better technologies and business processes.
- Cluster can offer a better market access for 40,000 looms sector for improved marketing, raw material handling and workers mobility

Activities to Be Carried Out:

- Develop a infrastructure for a Cluster to offer replacement for majority of power and hand looms and processing enterprises to a more efficient infrastructure. Successful relocation of leather enterprises to Multan Industrial Estate has already been completed under similar initiatives.
- Develop Common Facility Centers for designing, processing and looms technology improvement.
- Develop Training centre for entrepreneurs and workers training to promote best practices and enhance their productivity.
- Provide a Display Centre for the products produced and marketed by the cottage industry.

Implementation Approach: Ministry of Textiles, PSIC, SMEDA, APBUMA and Bahaudin Zakaria Textiles College can be the crucial implementation partners for the feasibility preparation, development of physical infrastructure and its operations and management.

Location: Multan

Approximate Cost of Project:

Preparation of feasibility of project;	Rs. 5 Millions
Land (expected to be contributed by Govt.)	
Infrastructure development- Roads, drainage	
Common facility Centers, Offices etc	Rs.350 Millions
Three years operation cost	Rs. 54 Millions
Training , Advisory, Consulting etc.	Rs. 30 Millions
Total Cost of Project without cost of Land	Rs.439 Millions

4.12.7 Leather Sector Development Centre

Purpose: Organized Tannery units, Bag tanneries, traditional Shoe manufacturers, garment manufacturers and export shoes manufacturers need technical support to improve leather processing skills and product development skills to regain their product differentiation and competitiveness. The Leather Sector Development Centre would provide the technical skills in leather processing, improving business processes, designing and marketing to the stake holders for the revival of their competitiveness.

Rationale of the Project: Multan was a thriving centre of leather processing and leather products in the past but the sector has lost its competitiveness for variety of reasons. The Leather Development Centre is aimed to help the organized and unorganized industry to regain their viability through technological and business processes improvement.

Benefits from the Project:

- Upgrade the production processes of organized tanneries and Bag tanneries as there is not leather development facility at Multan like Karachi and Lahore.
- Help export shoe manufacturers to improve their designing and production scale to offer customers better design possibilities, improve turnaround time and cater for larger orders as well.
- Help garment manufacturers by offering product development services and training to their workers for better efficiency and reduction of wastages which is crucial factor in leather sector.
- Traditional *Khussa* manufacturers would benefit from design support to upgrade their design with contemporary trends and improve the product stability and comfort.

Activities to be carry out:

- To establish a fully equipped Leather development Sector for organized and unorganized cottage leather industry.
- Provide necessary Business Development Services(BDS) to the sector enterprises to improve their designing capabilities, production processes and product development.
- Help the sector to adopt best practices of the industry to improve competitiveness.

Implementation Approach: Local chapter of Pakistan Tanners Association, Bag Tannery Association, TDAP and SMEDA would be the implementation partners.

Project location: Multan

Approximate Cost;

Preparation of feasibility and business plan	Rs. 5 millions
Three years operations cost	Rs. 54 Millions
Rent for the infrastructure - Three years	Rs. 3.6 Millions
Development and lab. Facilities etc.	Rs. 20 Millions
Advisory services, consulting etc. for three years	Rs. 20 Millions
Total Project Cost	Rs. 102.6 Millions

5. Changing the Agricultural Landscape

5.1 Introduction

Considering the centrality of agriculture to Multan's economy, this Chapter outlines an agenda to change the agricultural landscape of the district. The strategy presented in the following sections takes a holistic approach and proposes interventions in a range of agricultural sub-sectors, including major crops, horticultural products and livestock. However, three key sectors – cotton, wheat and mango – are examined in greater detail, due to their economic contribution to Multan, share in employment and growth potential. The strategy focuses not only on increasing agricultural productivity but also on value addition throughout the value chain. Hence, interventions to improve harvesting/picking, grading, packing, dry/cold storage, transportation and marketing comprise an essential part of the strategy and its proposed operational arrangements.

The Chapter is divided into four parts. The first part describes the agricultural landscape of the district and presents basic data on major and minor crops and livestock. The second part identifies key constraints to agricultural development in general and productivity development of the above-mentioned threes sub-sectors in particular. The third part contains the proposed strategy to remove these constraints and improve agricultural performance in the sub-sectors, and also more broadly. The last part contains a number of proposals to operationalise the strategy formulated in the earlier section.

These proposals comprise the investment portfolio for district and provincial governments, the private sector and international aid agencies. In most cases, these three actors – governments, private business and aid agencies – will have to pool up resources to create synergies and make social/economic investment feasible. Although, the proposals contained herein are part of a coherent whole, and they would produce the best outcomes when implemented in a holistic manner, they have been formulated as separate projects to allow government and/or aid agencies to prioritise their investment according to the resources they are able to commit during any period of time.

The importance of investing substantial resource in agricultural research and development (R&D), building of infrastructure, developing storage facilities and creating an enabling legal and infrastructure regime cannot be overemphasized for economic development in Multan. As has been variously noted (for example in the World Development Report, 2008), GDP growth originating in agriculture is about four times more effective in reducing poverty than GDP growth originating outside the sector. The agricultural and rural sectors have historically suffered from neglect and underinvestment in Multan. Despite their substantial contribution to both the provincial and the national economy, the rural masses of this area have a relatively low per capita income, and suffer from under-employment. The eventual result is poverty. The rural poor largely comprise small farmers, tenants, and the landless laborers. Multan ranked as the ninth highest district on incidence of poverty, with 38.4% living below the poverty line in 2004-05. On the Index of Multiple Deprivations, however, the district fared better as 20th highest in Punjab's 34 districts[38]. As spelled out in the Government's PRSP, agriculture development is considered critically important to meet the MTDF poverty reduction targets. Considering *agriculture's unique poverty-reducing power,* we propose that this sector must be placed at the centre of the

[38] Social Development in Pakistan: Devolution and Human Development – Annual Review 2006-07.

development agenda for the district.

5.2 District Agriculture Profile

District Multan comprises of four Tehsils, nine *Markaz*, 126 Union Councils – 51 urban and 75 rural - and 503 villages with an area of 935,867 acres. The cultivated area is 788,586 acres and 91,722 acres are not available for cultivation. Out of the uncultivated area, an area of 51,148 acres is un-cultivable waste, 3,070 acres is water logged area and a small area of 1,341 acres is under forest cover. According to Agriculture Census 2000, average farm size in the district is 8.3 acres. The total number of farms in the district is 103,101 of which nine are government farms and 103,092 are privately owned farms. There are two types of canals i.e. perennial and non-perennial and 77.8% area is irrigated by canal water while 19.3% of the area being irrigated by tube wells.

5.2.1 *Kharif* and *Rabi* Crops

The district is blessed with good soil, climatic conditions, sweet ground water and perennial canals, premier R & D institutions, a central location and other supportive agronomic/production/marketing facilities. Consequently, per acre yield of such crops as cotton, wheat, vegetables and fruits, particularly mango, is relatively competitive.

Major *Kharif* crop of the district include cotton, sugarcane, rice followed by *moong, sesamum* and a variety of vegetables and fruits particularly mangoes. Multan is a significant player in the production of cotton and the largest district in terms of land use and production of mangos. Other crops, vegetables and fruits grown in *Kharif* are shown in the table below.

Table 23 Kharif Crops (2008-09)

Crop	Cultivated Area (acres)	Production (tonnes)	Yield Per Acre (maunds)
Cotton (bales)	467,000	760,000	20.93
Mangos	78,000	401,762	138
Rice	31,000	22,460	19.41
Jowar	15,000	3,600	7.44
Maize	8,700	63000	0.72
Sugarcane	6,000	107,000	476
Pomegranate	1,365	3,821	2.8
Chillies	1,180	829	0.7
Okra	750	3,415	121.99
Moong	723	161	5.97
Guava	376	1,291	3.43
Sesamum	281	64	6.1
Bitter Gourd	150	672	120.03
Tinda	120	560	125.03
Mash	22	5	6.09
Other Kharif vegetables	4,590	26,730	156
Other Fruits	3,080	23,702	7.69

Source: Government of Punjab 2010, Crop Reporting Service, Agriculture Department, Lahore.

As can be seen, cotton is the major *kharif* crop in the district. Its cultivated area is larger than all other *kharif* crops combined. Cotton production is also slightly larger than the national average (viz. approximately 18 *maunds* per acre), though it is much less than the world average or what other developing countries have been able to achieve under similar conditions of production. This is discussed in detail in a later section. But the potential for improvement in cotton sub-sector (quantitatively and qualitatively), and its potential impact on district economy is far too obvious to be ignored. The next two major *kharif* crops are mango and rice.

Major *Rabi* crops include wheat, sunflower, a variety of pulses, vegetables such as onions, tomato, cauliflower, carrot, turnips and the like as well as fruits like citrus, guava and other locally popular varieties of fruits (Table 5.2).

Table 24 Rabi Crops (2008-09)

Crop	Cultivated Area (acres)	Production (Tonnes)	Yield Per Acre (Maunds)
Wheat	461,000	434,000	25.2
Sunflower	69,049	59,225	22.98
Citrus	14,540	55,815	102.85
Maize (spring)	4,500	7,054	15.67
Onion	4,250	13,760	86.74
Other Rabi Vegs	3,360	23,169	184
Potato	2,896	19222	177.83
Matter & other Rabi Pulses	1675	466	7.7
Guava	1,190	4,442	100
Matter	1,045	3,588	3.42
Carrot	680	5,533	218
Cauliflower	615	5,830	253.98
Turnip	340	3,071	242
Canola	330	176	13.88
Garlic	285	1,011	3.54
Tobacco	270	111	0.41
Tomato	265	1,592	6
Coriander	93	24	0.25
Rabi Fodder	82	1,098	361.81
Other Rabi Fruits	15,015	57,003	3.79

Source: Government of Punjab 2010, Crop Reporting Service, Agriculture Department, Lahore

As can be seen in the Table above, wheat is the major Rabi crop. It is generally cultivated in rotation with cotton, which is a good cropping pattern for pest control and maintaining soil fertility. It is also a healthy combination of food and cash crops, so important for farmers in particular and provincial/national food security in general. Farmers have also started cultivating sunflower in rotation with cotton, which has created many problems. A detailed discussion is outside the scope of this document; suffice it to say that cotton/sunflower rotation provides a breeding ground for economically important pests/diseases. For example, infestation of cotton leaf curl virus is more severe in sunflower plantation areas than elsewhere. Another change in recent years is a switch to citrus, which is now the third major Rabi crop in the district. Citrus is a

new addition to Multan's agricultural landscape, but its relatively short period to reach fruition, longer shelf life and export potential has led many farmers to replace their mango orchards with citrus orchards.

5.2.2 Livestock Production

In terms of livestock production, the district figures high in terms of cattle production followed by goat, buffalo, and sheep in the province. The district does not have many camels, horses, mules or donkeys while it is about average in poultry production with 729,903 birds or ranked 16th in the province. The following table captures major animal production in the context of their numbers in the province and nationally.

Table 25 Livestock in Multan (million)

Animal	Pakistan	Punjab	Multan
Cattle	29.56	14.41	0.498
Buffaloes	27.33	17.74	0.416
Sheep	26.49	6.36	0.08
Goats	53.79	19.83	0.594

Source: Government of Punjab 2006. Livestock Census 2006

In comparative terms, the district is ranked 9th in cattle, 20th in buffalo, 23rd in sheep and 14th in goat population in Punjab. There is per annum increase of 7.3% in the population of cattle (also buffalos) and 26% increase in the population of goats in the district. The district is reputed for its local breeds of livestock including Sahiwal cow and Nili Ravi buffalo which are acclimatized to the extreme hot weather of the district, and good in terms of high milk and meat yield. The Beetal (Layalpur Bakri) and Diara Din Panah goats and Thalli sheep are also good local breeds. The district is endowed with ample green (natural) fodder to feed the animals and water resources for livestock breeding.

The livestock sector in Multan suffers from a number of constraints. Although Department of Livestock is supposed to provide standardized medicines and awareness to livestock breeders, and take other preventive measures in compliance with national and international standards, it is highly constrained in terms of capacity and resources. While there are breeding facilities and services in the private sector, the organized livestock breeding is limited at best and most of the breeding takes place at household level. Finally, the sector suffers from inadequacies of animal markets. The livestock markets (mandi) are just open grounds lacking proper animal sheds, feeding arrangements, clean watering ponds, loading/unloading bays, lighting, washrooms, etc. Reportedly, there are two animal markets – one for the large and the other one for small ruminants – while there is a need, at a minimum, for one market at each tehsil level.

Livestock has considerable potential for improvement in terms of meat and dairy production. Considering the large number of cattle, buffaloes and goats in Multan, it can have a significant impact on district's economy, especially livelihood of people in rural areas. To do this, we shall have to strengthen the capacity of the district livestock department (especially the artificial insemination services), and to improve livestock marketing.

5.3 Generic Constraints to Agricultural Development in the District

The district's agriculture sector – yield per acre, overall productivity and successful marketing of commodities - suffers from a variety of constraints. Some of these are generic in nature affecting all crops while others are specific to a particular crop. Those that are generic in nature are discussed first while those that are crop specific have been identified and discussed as part of coverage of that sub-sector in the next section of this report.

5.3.1 Capacity Gaps in District Agriculture Office

Agriculture establishment in the district is headed by the EDO. Among other oversight and implementation functions, the incumbent has the coordination and supervisory responsibilities of district level offices of Extension, On Farm Water Management (OFMW), Livestock, Fisheries and Forest. While the Extension is represented at each Union Council level, this is not the case for other services. Similarly, some of the diagnostic labs are available at the division, district and in rare cases at the tehsil level. For example, there is only one pesticide, one fertilizer and one water testing lab in the entire district. Consequently, farmers have to run from pillar to post for various services of agriculture office.

The extension office is responsible for the following: achievement of area and production targets of crops; implementation of crop production strategy including agronomy and plant protection; preparation of detailed training schedules of all trainers and dissemination of production technology; identification, preparation and implementation of projects approved by higher authorities; implementation of agriculture laws; and ensuring availability and quality of agriculture inputs. All these are important activities from farmers' perspective, but the district agricultural establishment is severely constrained to provide these services on a number of counts.

The most common mode of contact between agriculture officials and farmers is field based training sessions for farmers before each crop season. The type and number of training sessions are scheduled for different crops. It is the Field Assistant who publicizes the schedule of training, makes logistic arrangements and invites area farmers. The training session is by and large conducted by the area's agriculture officer. The district office does not have enough staff to hold these training sessions in sufficient numbers. In addition, the extension team provides individual advice to 'progressive' farmers – i.e. farmers who are keen to seek new knowledge and technology, and who would like to experiment. It is hoped that over time other farmers from the area would also benefit through the 'demonstration effect'. This may happen in many cases, but more commonly the advice gets distorted or loses its specificity in the process.

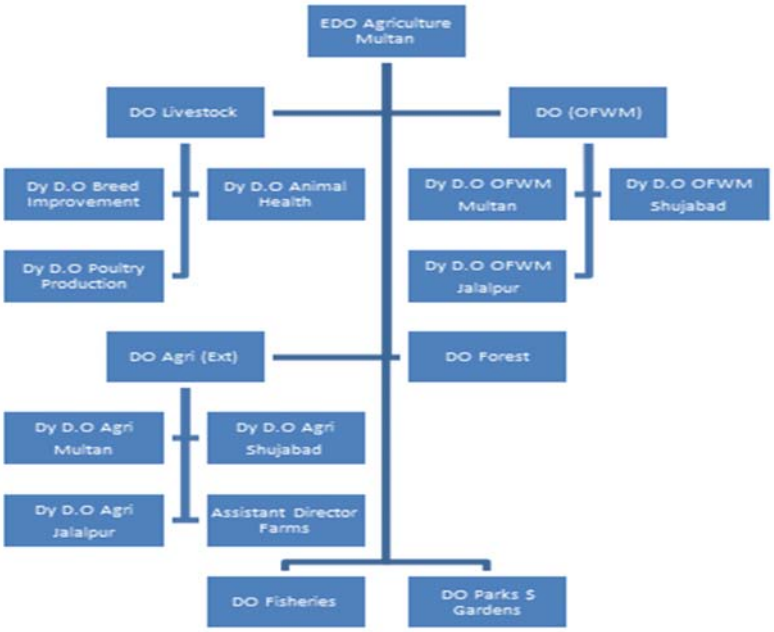


Figure 25 Organogram – District Agricultural Establishment

There is only post of Agriculture Office (AO) per *Markaz* in the district, though a few additional posts were also sanctioned under the (World Bank supported) Training and Visit Program.

Currently, there are only 11 posts of AOs in the district. As the total number of farms in the district is estimated at 103,101,[39] each AO is supposed to provide extension services on a diverse range of major/minor crops (53 different crops are cultivated in the district) and horticultural products (see Table 5.1 and Table 5.2) to more than 9000 farmers in each crop season. Similarly, there is only one Field Assistant for each Union Council with about seven villages and 12,000 acres of cultivated area to cover. In Multan, because of non-availability of qualified staff or a government imposed ban on recruitment, it is rare that all field positions remain filled. Currently, there are three Agriculture Officers and nine Field Assistants positions that are vacant. Even if all were filled, there are just too many Union Councils and villages assigned to each Officer. It appears that Agriculture Extension is under- staffed and over-stretched. No wonder it is unable to provide adequate coverage and fulfil its responsibility.

The non provision of motorcycles is another big impediment for employed agriculture officials to perform their duties. The Department facilitates employees in buying motorcycles on an interest free loan basis for use in the performance of their official duties. They are, of course, reimbursed for kilometres driven on official duty but what a way to provide coverage to clients spread over a large area. We have also learned that newly appointed Field Assistants (on contract basis) do not have any means at all to perform their duties.

Figure 26 Irrelevance of Extension to Cotton Cultivation

The advertisement that appeared in the Express daily on May 9, 2010 is indeed telling as to how irrelevant the public sector extension is to cotton cultivation. As discussed in a later section, many famers in Multan now sow their cotton crop in March/April to avoid attack of cotton leaf curl virus. And yet it is in May that the Government is advising the farmer on when and which varieties to cultivate. For Multan and other core districts, the varieties being promoted are CIM 634, CIM 446, CIM 496 and CIM 499, none of which has been a popular variety in the recent past. It makes no effort to promote the Bt varieties that are popular with the farmer and that have been recently approved by the Punjab Government.

It is not only the number of staff but also its technical capacity that matters. While minimum qualification for an Agriculture Officer is BSc (Honors), all officials assigned in the district possess M.Sc. degrees. While these officials have years of experience, they did not go through any refresher training program in years. Every cropping season, they are expected to participate in less than day long training but, because of shortage of staff and other reasons, many are unable even to do that. Similarly, Field Assistants in the district, with years of experience on the job, also do not get to receive any in-service training to improve their knowledge and skills. These employees who join the service with a high school certificate and two years diploma in agriculture thus are not adequately equipped to solve today's problems of farmers in his area.

[39] Agricultural Census 2000. Government of Punjab.

In addition to increasing number of Agriculture Officers and Field Assistant to ensure the adequacy of coverage and the provision of transportation resources for field duty, there is definite need to improve the technical capacity of the Extension personnel. Finally, there is a dire need to institute an incentive system to reward employees based on performance and for being responsive to the needs of their clients.

5.3.2 Lack of Supportive Legal and Institutional Framework

One critical impediment affecting agriculture production in general and significant crops of the area such as cotton, wheat, mango and livestock in particular, is the legal and institutional regime. Critical issues include inadequacies of existing laws affecting operation of agricultural produce markets, provision of important inputs like certified seed, quality fertilizer and pesticides, the centralization of authority to regulate, control, inspect and finally challenges associated with the enforcement of laws on the books.

A key area of reform is the Agricultural Produce Markets Act of 1939, which holds back the development of alternative markets and channels that link farmers to markets, particularly high-end markets. The public sector markets handle more than 90% of produce through an inefficient system controlled by middlemen. This makes the system supply driven. Far reaching economic distortions arise from such single channel for fruits and vegetables. Need of wholesaler and retailer, including requirements for access, space and infrastructure requirements are neglected. It is required that the marketing of agricultural produce be liberalized and greater space for the private sector be created to improve efficiency and produce greater value. This will require amendments to the Agricultural Produce Marketing Act of 1939 (discussed in detail later).

While agriculture has always been a provincial subject but seed certification and certain other regulatory functions were assumed by the federal government as a temporary measure under the Seed Act of 1976. Hence, the Federal Seed Certification and Registration Department (FSC&RD) was created in 1976 with the mandate to approve and register new varieties, carry out seed certification, and regulate seed provision. However, the federal government's discharge of these functions continues unabated until now including approval of new varieties of seed. The federal government assigned one inspector at each division level to perform its inspection function, which is far too inadequate to inspect and certify seed production at hundreds of farms by numerous seed companies. No wonder, farmers are unable to get good-quality, certified seed from the market, especially of varieties they want to cultivate. These regulatory functions need to be transferred to provincial governments where these rightfully belong. In order for the provincial government to effectively discharge this function, it needs to assign additional personnel and focus on its technical and institutional capacity building needs. It will have to create the FSC&RD equivalent at the provincial level, and adequate staff at the district level that can effectively regulate seed provision.

Two key pieces of legislation that need to be pursued are the draft Seed Act Amendment Bill and the draft Plant Breeders Rights (PBR) Bill. The former enables private sector participation in seed provision in the formal sector, and the latter creates proprietary rights in plant varieties. Put together, they create the legal framework within which private sector can invest in development of new plant varieties and commercialize them in the formal sector. These amendments are pending with the Federal Government since a number of years.

Similarly, under the pesticides law, while 40% of poison content is tested but the carrier xylene – a type of liquid into which poison is mixed – is not because of lack of any such requirement. The quality of xylene used has a significant impact on life of the pesticide as the low quality hastens the expiration of the pesticide long before the expiry date mentioned on the package. Because most of the pesticides are imported, companies' products need to be tested at source and those that are guilty need to be punished. The authority for inspection for pesticides primarily rests

with the Plant Protection Department at the Centre and it is hard for the local officials to pin down a local trader for adulteration.

Since control of poisonous objects was on the concurrent list (now abolished), the federal government legislated for quality control of pesticide. This responsibility has now been shifted to provinces after the abolition of concurrent list through the 18th amendment. The necessary capacity needs to be created at the provincial and district levels to discharge these new responsibilities.

Another area that is likely to benefit from legal and institutional reforms is the marketing of animals. Animal markets are poorly regulated where livestock is sold based on “look and feel” and not by weight and thus depriving the seller from fetching a fair price. The second issue is the pathetic condition of the markets where animals are sold – lacking basic facilities for both animals and buyers/sellers.

Finally, agriculture development will get a big boost if the district government is charged with the lead role for planning for the provision of all local services. This will truly lead to "bottom-up" planning in Pakistan.

5.3.3 Limited Farmer Access to Agricultural Services

It is a challenging task for the area farmers, particularly small farmers and tenants, to access and benefit from a variety of services offered by the government. These services are spread at a variety of locations – some of these are available at the district, some at the provincial and there are still some that are available only at the central level. It is time to consider bringing these services to their doorstep. Based on the field work conducted for this report, the ideal place for service availability appears to be at a *Markaz* level in the form of an ‘Agriculture House’ with services of extension and most other agriculture service providers under one roof for the convenience of farmers.

Farmers’ access to functional labs is a big challenge. There is a need to have one seed testing/diagnostic lab at each district level; need quality testing (cereal technology) lab, especially one for wheat, at each division level. Similarly, in Multan, there is only one each pesticide, fertilizer and water testing lab in the district. To make these services accessible to farmers at large, these will have to be created at the *Markaz* or at least tehsil level.

5.3.4 Poor Crop Reporting Services

Inaccurate and inadequate information on production of various crops not only constrains effective policy planning, it also adversely affects farmers’ production decisions. To remove this constraint, crop reporting services at the provincial and federal levels need to be redesigned to make full use of modern tools that technology has placed at our disposal. The current system of field based reporting by government officials is not only time consuming and wasteful, it is also inaccurate. In comparison, GIS based crop reporting can provide accurate data in real time. To show the path and demonstrate the benefits of using such modern tools, District Government Multan can develop and finance a pilot project for GIS based crop reporting for one tehsil or union council. The reports generated and the analysis based thereupon can be showcased to the Provincial and Federal Governments, which can then scale up the operation.

5.3.5 Inadequate Agricultural Storage

The importance of a reliable agricultural produce storage regime for the farmer cannot be overemphasized. Without such a regime, the farmer is left vulnerable to the vagaries of weather, vicissitudes of market and the greed of middlemen. There are two major types of storages in the district that are providing services in the market. The first category is dry storage for wheat, rice, etc. The second category is cold storages for perishable items, such as, fruits and vegetables.

In the first category storage facilities are available with government departments (mainly the Food Department, Government of Punjab), semi-government organizations (mainly Pakistan Agricultural Storage & Supplies Corporation (PASSCO)) and the private sector. The second category storage is available only in the private sector. Both kinds of storage facilities are highly inadequate in Multan, which comprises a serious constraint on agricultural development.

5.3.5.1 Dry Storage

In Multan, large scale agricultural storage facilities exist with the Food Department, PASSCO and the private sector. The Food Department has a total storage capacity of 84,500 tons in Multan. This capacity comprises of built up godowns (44,500 tons) and steel silos (40,000 tons). The very poor condition of Food Department's silos renders them unsuitable for agricultural storage; hence the effective Food Department storage capacity in Multan is about 44,500 tons. This capacity is being utilized exclusively for storing the wheat procured by the Department. Since the volume of wheat procured is much larger (227,000 tons for 2010-11), rest of wheat crop is stored in facilities rented from the private sector or in open places without any protection from rain, pests and small rodents.

The silos in Multan were established in 1971 by a private company Ms. Agricultural Services (Pvt.) Ltd. for the storage of seed at a total cost of Rs. 11,188,196/-. In all there were four large (6,000 ton) and six small (3,000 ton) silos established on more than 84 *kanal*, having a total storage capacity of 42,000 tons. In 1974 these silos were nationalized and handed over to the Punjab Food Department, which had no other use for the silos except to store wheat. Henceforth, the silos were used by the Government of Punjab, which wanted to increase its wheat storage capacity to meet domestic consumption throughout the year. There was hardly any technical support or budgetary allocation from the Punjab Government for maintenance of these silos. It was, therefore, natural for their condition to deteriorate over the years due to poor maintenance and natural aging. Some repair was carried out in 1984-85 by the Food Department, and again in 1991 by PASSCO, which reduced the total storage capacity to 40,000 tons, but allowed their use for somewhat longer. But pollution from nearby factories and poor maintenance worsened their condition quickly. The last year when they were used for wheat storage was 2002-03.

These Silos are situated adjacent to the Pak Arab Fertilizer Factory on Multan-Khanewal Road. Presently, three silos are completely damaged as they have large holes in the boundary walls that cannot be repaired easily. Remaining seven silos are partially damaged. In 2006, PASSCO (which has been authorized by the Punjab Government to carry out all repairs of the Food Department storage facilities) estimated that it would cost approximately Rs. 3,15,18,000/- to repair these silos. No repair budget has been allocated and it is unlikely that they would be repaired at all.

The Food Department can sell these silos and construct godowns on the same land to create a storage capacity of around 15,000 tons, or it can sell the silos and the land, and relocate its storage to relatively inexpensive areas. The silos are currently located in industrial/residential area, and the land sale would fetch significant amount. A better alternative, however, would be to use the sale proceeds to support development of agricultural storage capacity in the private sector. Such private sector storage facilities can be used by farmers to store their produce until they get a good price, or by the private sector to store commodities that it procures from farmers.

Another type of storage facility available with the Food Department is storage bins. There are 84 of them built in concrete with a total storage capacity of 35 tons. These bins are also too damaged to use since 2002. PASSCO estimated the repairs to cost Rs. 700,000/-. No repair has been carried out so far.

The second major public sector storage capacity in Multan exists with PASSCO, which has a liaison office in Multan. PASSCO has 24 godowns in Multan for agricultural storage. These are clustered in two locations, viz. the Multan Industrial Estate and Lar (Multan-Bahawalpur Road). Total storage capacity of these godowns in 2,200 tons. Currently, these are being used for rice storage. Some portion is given on rent to private sector.

The private sector also has agricultural storage facilities, mainly in the form of godowns and houses in various places throughout the district. But this capacity is used by *arrhatees* (the middlemen) to store their own agricultural produce that they might have purchased from farmers, rather than offering it to farmers for short/medium term storage.

The above discussion brings out the inadequacy of agricultural storage facilities in the district. As the public sector storage capacity is unable to meet even the wheat storage need of the government itself, effectively there is no storage facility for the farmer. He can either store his wheat, rice or maize on his own, or sell it to the local middleman at whatever price the latter is offering. Often, it is a Hobson's choice, given the storage costs and farmer's precarious cash flow.

There exists an urgent need for the Punjab Government to support the development of adequate private sector storage capacity in the district, primarily as a facility that could be rented to the farmer but also as a facility to be used by *arrhatees*. The Government should also support the development of storage capacity at the farm level so that the farmer can hold produce for an extended period of time without incurring economic loss.

5.3.5.2 Cold Storage

There are 18 cold stores in Multan (three are currently closed), which provide storage facilities for a variety of fruits and vegetables. These cold stores are situated on Budhla Road, Bahawalpur Bypass, Bahawalpur Road and Muzaffargarh Road. Their average capacity is 45,000 – 50,000 tons. The standard size of a room in a cold store is 50x80x40 feet and it can store 10,000 jute bags of vegetables or 40,000 crates of fruits at the maximum. Usually these stores have partitions with racks to store wooden crates and jute bags of vegetables (hence the capacity is usually measured in crates and bags, rather than in volume). Some of them are large enough to store 150,000 crates, but some can accommodate as little as 24,000 crates. It takes about Rs. 15-20 million to establish a medium size cold store. If insulation is used in walls and roofs, the set up cost can rise to Rs. 25-30 million, but the operational cost would come down by almost 20%.

Mostly they store seasonal fruits and vegetables of Multan (almost 50% eatable potato and 50% potato seed) and also some fruits like apple and pomegranate, etc. brought from Baluchistan by local traders. Occasionally, these cold stores store eggs, mango pulp, banana, etc. These stores follow similar pattern and procedures. Commodities are brought by local traders or local producers for keeping it in the cold store. Local producers/farmers usually bring potato seed to be stored for the next crop. Commodities are kept for different time periods, but seldom for longer than six months. Different crops have different arrival schedules. Usually new crop comes in March (potato) and September (apple and pomegranate). These commodities require around 2 – 4 degree centigrade to be maintained. These cold storages just provide storage services. Inward and outwards transportation is the liability of the trader/farmer.

Major problem faced by the cold storage providers is irregular supply of electricity. Frequent power failures cause crop damage, which has to be compensated by the cold store operator. So the cold storage provider has to either provide refrigeration through alternate means that are expensive, or he risks losing business. Another issue is that invariably the cold stores are commodity non-specific, which means they do not have arrangements to maintain humidity,

temperature, etc. according to individual requirements of commodities. The stores do not have chambers to store different products under different conditions.

Two observations from the field lead us to conclude that Multan needs more cold storage facilities: 1) usually stores run on full capacity; and 2) four new stores are under construction. The government needs to facilitate the establishment of cold storage facilities, to the least by providing electricity. The government also needs to support private sector in converting existing cold stores into 'control-atmosphere' commodity types.

5.3.6 Inefficient Supply-Driven Agriculture Markets[40]

The current agriculture market system is governed by the Agricultural Produce Marketing Act of 1939. It provides for formation of Market Committees and authorizes collection of fees for self-financing market management operations. Under this Act, marketing of most fresh agricultural produce is effectively controlled within the *mandi* system. Produce is physically brought into *mandis* for sale by Licensed Commission Agents (CAs) through auctions. The CA is expected to operate as a disinterested agent that will not directly participate in commercial transactions. He should facilitate transactions through the process of auctions, but is not to become a dealer or wholesaler on the side. Practice, however, has not followed the prescribed roles envisioned in the laws.

Under the current arrangement, two aspects are crucial: First a general concern is to ensure that all possible products are "regulated" within reach of the *mandis*. CAs share this interest in common, for which coordinated action backed by Market Committees and Government is required. The clearest indication of the limitations created by the current legislation is the need for exemption required for big retailers (like Metro[41]) to undertake wholesale activities. Initiatives of this kind outside the control of Market Committees would be virtually impossible without such special dispensation. Second, the CA does not have an absolute monopoly, as he is in competition with other CAs. His incentive is to increase his position in the market as a percentage of total volume. This would be done by first obtaining products in the field and village, and then consigning products to vendors to his wholesalers. Advance payment for produce and consignment to vendors are ways to gain position in the market. Therefore to be successful, they become the primary financial agents of the market.

Thereby, the market system becomes inward looking and fully supply-driven. Competition is limited to capturing greater volumes of produce for collection of commissions. Buyers or clients - from wholesalers, distributors, retailers to consumer - receive little attention. CAs are allotted virtually the entire space in public markets, yet they do not physically handle produce. Wholesaler is left to the streets and open spaces with no infrastructure provided. Much of the activity takes place along the road and in front of the *mandi*, rather than within the market boundaries.

The orientation of the current policy framework is on control of agricultural marketing by Provincial Government through the *mandis*. The system has led to emphasis on collection of commissions and of fees for self-financing the operation of marketplaces. The auction, prescribed in the current system as the only method for carrying out commercial transactions, provides a false perception of transparency. Although useful in some markets, such as livestock or grain futures, fruits and vegetables should not rely solely on this means of transaction. The auction implies that the grower first produces, and only after harvest and shipment to market, comes into contact with the buyer - another example of the supply-driven approach. Produce is

[40] The information for this sub-section has been taken from 'Agricultural Marketing Policy Framework'; USAID (Pakistan).
[41] The exemption excludes operations of Metro from "inspection," but an agreed-upon fee is paid to the Market Committee.

handled as homogeneous commodities, rather than as products differentiated by special quality standards to gain higher value with buyers serving different market segments or niches. Under the current marketing system, health and safety standards for food products are given low priority. This system needs to be changed to increase producer-consumer interface and to provide greater choices to the farmer for his/her agricultural produce. Reform of the existing agricultural marketing system would require a thorough reform of the legal framework within which the current *mandi* system operates.

5.4 Constraints to Agricultural Production in Selected Sectors

Having examined cross-sectoral constraints to agricultural production in Multan, we now move to a discussion of constraints specific to our selected sub-sectors.

5.4.1 Description of Sub-Sectors and Rationale for their Selection

The criteria for selection of sub-sectors in agriculture included the following: size and share of the district/provincial economy; land use; potential for increased productivity, quality, share in value added, GDP and export; number of people impacted and employment potential; significance to food security; competitive and comparative advantage based on the availability of supportive institutions, resources and facilities.

In the early stage of project planning, USAID took a hard look at the agriculture sector in the district by conducting a series of sector assessments. Besides cotton and wheat, USAID identified mango, vegetable and livestock as potential sectors for project focus.

5.4.2 Constraints on Cotton Production

Cotton is critical to Pakistan's economy. It is cultivated on an area of 3.19 million hectares42. Approximately 77-78 percent of all Pakistan cotton is produced in Punjab and remaining 22-23 percent in other provinces[43]. On global basis, Pakistan is the fourth largest cotton producing country of the world, after China, USA and India. Pakistan's share of total world cotton production in 2004-05 stood at 9.47 percent. Pakistan is the sixth largest importer of cotton, third largest consumer, consuming ten percent of the world production. It is the third largest yarn producer with nine percent, second largest yarn exporter with 26 percent, third largest cloth producer with seven percent and is also the third largest cloth exporter with 14 percent of the world cotton production.[44] World yield comparison indicates that Pakistan stands at the 16th position in cotton production primarily because of non-availability of genetically resistant varieties and pest attack.[45]

A look at Table 5.4 (below) shows that it is also critical to Multan's economy.

Table 26 Cotton's Contribution to Multan's Economy

Cotton (2007-08)	Pakistan	Punjab	Multan
Area in acres cultivated (000)	8,000	5,992	467
Rank in land use Punjab			8
Production (Bales 000)	11,655	9,062	760
Rank in cotton production in Punjab			5

Source: Crop Reporting Service, Agriculture Department, Government of Punjab.

[42] Agricultural Statistics of Pakistan 2005
[43] PES 2005
[44] International Cotton Advisory Committee 2008. Cotton production statistics.
[45] Cotton Production, Marketing and Export 2006, Directorate of Agriculture - Economics & Marketing – Punjab

According to figures available for 2007-08, Multan is the eighth largest district in land use (467,000 acres) and fifth largest in cotton production (760,000 bales) as well as per acre yield in *maunds* in the country. Multan has good soils, perennial canals, sweet sub-soil water, is home to federal government's Central Cotton Research Station and Punjab's Cotton Research Station, and yet it is 5th in the district ranking. Our intermediary target is to make it the 1st in Pakistan and ultimately increase its productivity at least to the world average level.

The district suffers a considerable loss of earnings caused by a number of factors, including poor seed quality, the use of mixed seed grades and varieties and improper picking methods. These are compounded by substandard post-production methods including contamination during picking and ginning and poor quality ginning operations.

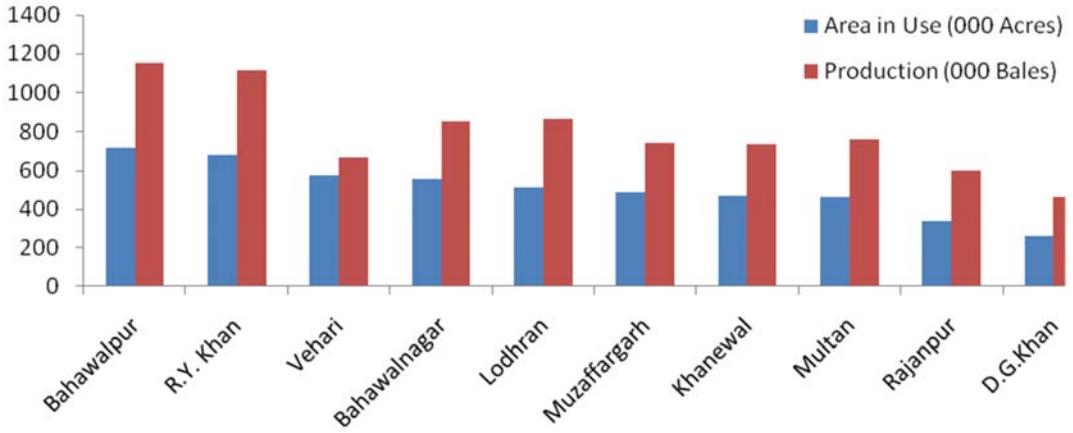


Figure 27 Comparison of Land Use and Production of Cotton – Punjab (2007-08)

5.4.2.1 Diseases and Pests, the Extension Crisis, and Issues in Seed Provision

Cotton production in Multan, like elsewhere in Pakistan, faces many constraints. Three major constraints include diseases and pests, lack of extension services, and water scarcity. CLCV, mealy bug and various bollworms have been major pests/disease during the last few years. CLCV is currently the biggest constraint on cotton production in Multan. It causes plant leaves to curl and stop growing. CLCV is estimated to cause an economic loss of about 250,000 – 380,000 bales per year. Mealy bug has been a major problem during 2005-08, when it caused an estimated yield loss of two million bales. Prior to the introduction of genetically modified insect resistant cotton (commonly known as Bt cotton), bollworms were estimated to cause a loss of 1-2 million bales a year.

In order to improve comparatively low yield, selection of field with high content of loam followed by proper bed preparation are important factors. The timing of planting, irrigation efficiency, and fertilizer/pest/weed management could be additional contributing factors in improving yield. As much care as this crop needs, this area's farmers – perhaps like their counterparts elsewhere – are not getting the professional help and technical guidance they need during planting and various phases leading to its harvesting.

Extension services are provided to farmers in Multan by a mix of public and private sectors. As discussed in the earlier section, the district maintains a network of extension workers, but the service provided is inadequate qualitatively and quantitatively. The private sector also provides extension services, but this service is often limited to the use of pesticides and herbicides. This is because of limited private sector participation in cotton seed provision. If private sector's participation in the market was larger and more institutionalized, it would also provide extension advice on agronomic issues in cotton production.

The large-scale cultivation of BT cotton in the informal sector since 2004-05 has practically rendered the public sector extension services irrelevant for cotton production in Pakistan. Since none of the Bt varieties had until recently been approved by the Government, the Federal and Provincial Governments had consistently discouraged its cultivation, rather than providing the appropriate advice to farmers so that the latter could harness the full potential of new technology incorporated in local varieties by Pakistani breeders. This gap could not be filled by the private sector, as the seed companies providing Bt seed had neither the means nor the incentive to provide extension advice to improve farmers' agronomy as long as their seed was sold in brown bags at unauthorized retail outlets. In the absence of advice from the public or private sector, the farmer was left to trial and error.

Over the years, Pakistani cotton breeders have bred varieties that respond well to inputs like fertilizers and water. But the availability of irrigation has been steadily declining in Multan due to agricultural intensification, silting of canals and channels, and decline in river flows. The ground water is brackish in some places, and in others the water levels are falling by the year making tube well irrigation unfeasible.

The availability and use of good quality seed with at least 75 to 80% germination and disease resistant varieties is a major challenge in improving the yield and quality of cotton. Considering the country and area's dependence on this crop, it is critical to invest money, time and effort on research and development of improved varieties.

Availability of adequate supply of fertilizer and quality pesticides are other input constraints that affect small farmers. They buy these inputs from suppliers on credit and thus end up using poor quality inputs. There is no issue of supply and demand here but only the lack of flexibility to bargain for good inputs from all available sources because of non-availability of cash and/or credit at reasonable terms.

Poor cotton picking and handling practices is another major constraint. A high degree contamination occurs during transportation from farm level to ginnery, which lowers the value of the product. While producers are often paid lower prices due to the amounts of impurities (5-10%), group collection and transportation constrains individual incentives to reduce these losses. Another variable constraint is the outdated equipment used by much of the ginning industry, which worsens output quality.

5.4.2.2 Inadequate Support from Cotton R&D Institutes

Multan is home to two premier cotton research outfits, namely, the Central Cotton Research Institute (CCRI) and the Cotton Research Station (CRS). The former is part of the Federal Government and has the mandate to conduct research on all aspects of cotton production. The latter is part of the Punjab Government's cotton research system. Both have consistently failed the farmer in providing good quality varieties that are tolerant to various pests and diseases, perform well under heat or water stress and meet fiber characteristics as required by the textile industry. A brief discussion of both research outfits follows.

CCRI: The Institute is managed by the Pakistan Central Cotton Committee (PCCC) and was in the forefront of development of new cotton varieties until the last decade. PCCC is a quasi-government organization controlled by the Federal Government in the Ministry of Food and Agriculture. It is funded through a tax on the textile industry @ Rs. 20 per bale of 170 kg consumed or exported, in addition to any projects its component institutes/stations may have under the Public Sector Development Program of the Government of Pakistan.

There is a broad consensus among breeders, farmers, textile industry and the Government that CCRI should improve its performance. In 2006, the then Prime Minister advised MINFA to develop a proposal for PCCC's restructuring to make it a more efficient, viable and independent organization. A high-level committee considered various proposals for restructure, one of which

proposed to increase the aforementioned tax on the Textile Industry by 100%. The textile industry, on the other hand, proposed that PCCC should be governed by an industry-led, 31-member, broad-based Board. This proposal was not acceptable to MINFA as it proposed a reduction in its sphere of influence and patronage. For its part, the industry was not willing to be taxed without a share in the governance. So the restructuring could not take place and CCRI continues to function without any direct accountability to stakeholders.

From Multan's agricultural development perspective, it is important to re-initiate the process to restructure CCRI and the governance framework in which it carried out its R&D. Only by transforming CCCRI into a farmer and industry-responsive institute, can we expect it to establish the pipeline of varieties that help the farmer harness full potential of his labor. It goes without saying the benefits would extend to farmers in the neighboring districts as well.

CRS: CRS Multan is an important component of Punjab's cotton research system. Like CCRI of the Federal Government, it is mandates to comprehensively work for increasing cotton production in Punjab. But its performance has been less than satisfactory in the recent years. Consequently, farmers have neither been able to get appropriate advice on agronomy, nor they have received new varieties that suit agro-climatic conditions in the district and that are tolerant to pests and diseases prevalent in the district/region. Largely, this is due to two reasons: 1) lack of investment in cotton R&D; and 2) rigid governance framework in which R&D is carried out. In order to provide the farmer with new varieties and to improve the agronomy of cotton production, the government must address both these issues.

In 2007, the Government of Punjab established a company named Cotton Research and Development Company (CRDC) to manage cotton R&D in Punjab. The objective was to attract private sector investment and to place cotton R&D under a stakeholder accountability framework. A 13-member Board was created to provide policy guidance and oversight. It was planned that the entire public sector cotton R&D in Punjab, including CRS Multan, would be placed under CRDC's management and control. Unfortunately, the new Punjab Government sworn in after the 2008 elections was less than enthusiastic about the idea. The new government did not release funds necessary to run the Company in 2008-09. Consequently, the Company became dormant; it now exists only on paper.

The proposal to transfer CRS to the newly established CRDC was a step in the right direction. With proper support from the Punjab Government, it could provide the institutional infrastructure for market-oriented cotton R&D in CRS and other cotton institutes.

5.4.2.3 Non-availability of Bt varieties in the Formal Sector

A major constraint on cotton production in recent years has been the non-availability of Bt varieties in the formal sector. Bt cotton first reached the farmers' fields in Multan in 2004 through the informal sector. In 2009, it was estimated to occupy about 80% of cotton area in the district.[46] Despite such large scale cultivation, it was not approved by the government for commercial cultivation. Consequently, various Bt varieties developed by private seed companies or public sector institutes were commercialized in the informal sector.

These Bt varieties provided optimal protection against bollworms and performed well in terms of yield and fibre characteristics. Yet, their large scale adoption could not increase cotton yield in the district because of seed provision in the informal sector. The seed was provided in brown bags without any seal or logo, and in the absence of any mechanism for quality control. Consequently, the farmer could not harness the full potential of Bt cotton.

Realizing that the poor performance of local Bt varieties was a function of seed provision in the informal sector, the Punjab Government finally approved eight Bt varieties for commercial

[46] District Office (Agriculture), Multan

cultivation in Punjab. This has paved the way for seed companies to market their Bt varieties through the formal sector under their own name and logo. In due course, this is hoped to improve quality of seed provision. The district agriculture offices in Multan can help this process by providing appropriate extension advice to the farmer and regulating seed provision.

The next step for the Provincial and Federal Governments is to link the Pakistani cotton market to the technology pipeline that offers novel biotechnology solutions to some of the most pressing problems in cotton production globally. This can be done through developing meaningful partnerships with leading technology providers in the global market, such as Monsanto, Bayer, Syngenta and Dow. Of these, Monsanto is the global technology leader and has a history of developing and commercializing various biotech solutions for cotton cultivation. It is keen to partner with the Government of Pakistan to introduce its technology in Pakistan. Monsanto signed a Letter of Intent with the Federal Government in 2008 for commercialization of its first and second generation Bt products and other technologies. Since then, MINFA and Monsanto are negotiating to settle the terms of an agreement. There is no fundamental difference between the two sides, but the gap between the technology fees MINFA is willing to pay and what is demanded by Monsanto needs to be bridged.

5.4.3 Constraints on Wheat Production

Pakistan is the ninth largest wheat producer with its share of 3.47% of world's total output. Punjab contributed 78 -80% of the total production in the country. The wheat percentage share of value added is 37.46. It is Pakistan's largest grain crop, and contributes 14.4 percent to the value-added in agriculture and 3.0 percent to GDP[47]. Wheat is the most important staple food; 75-80 percent of households' food budget is spent on wheat alone.

According to figures available for 2008-09, Multan is the14th largest district both in land use (461,000 Acres) and 16th in wheat production (433,000 Tons) in Punjab. It is the largest Rabi crop with 75% of cropped area. Over the years, the cultivation area of wheat has remained stable, though the total production has fluctuated in a narrow range.

Table 27 Wheat's Contribution to Multan's Economy (2007-08)

Wheat (2007-08)	Pakistan	Punjab	Multan
Area in acres cultivated (000)		15,820	461
Rank in land use Punjab			14
Production (tons 000)	24,000	15,607	433
Rank production in Punjab			16

Source: Crop Reporting Service, Department of Agriculture, Government of Punjab

[47] National Economic Survey 2009. Ministry of Finance, Government of Pakistan.

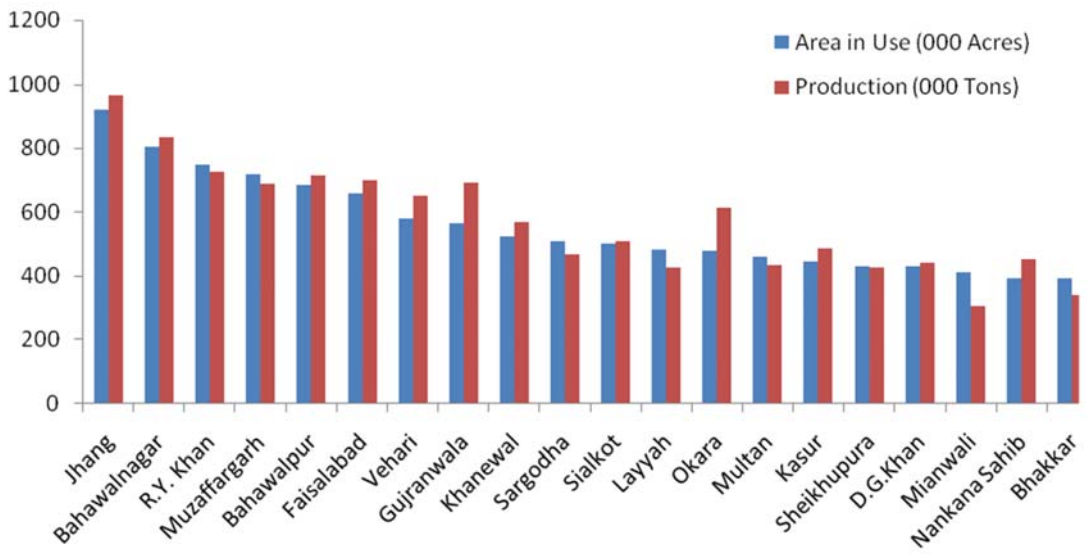


Figure 28 Comparison of Land Use and Production of Wheat – Punjab (2007-08)

Together with cotton, wheat forms the cropping package used by most producers in the region. The production system is input-intensive, with even the smallest-scale producers typically using fertilizer and insecticide. Most farmers buy inputs on credit. The wheat sub-sector is dynamic, involving many different actors. As with cotton, input suppliers heavily market their products to producers. The majority of wheat produced within the region is subsequently purchased and processed into flour at several major mills. The flour produced is largely shipped elsewhere in Pakistan for consumption and further value addition – a variety of bakery items for consumption by higher end of the market.

Wheat is used both for household consumption (up to 90% for small farmers) and for sale. It is also a major source of seasonal employment, primarily for landless men. Wheat stalk, remaining after harvest, is used as a feed input for cattle. Formal financial institutions offer a range of loan products. Credit for wheat crop is also offered by commission agents based at grain markets.

Vertical expansion of wheat depends upon the availability of high yield quality seed, water use efficiency inclusive of quantum and timing of rainfall, and balanced use of fertilizer. Other initiatives that could help include the availability of credit, availability of implements and other inputs at reasonable cost and increased support price.

In addition to the constraints discussed in earlier sections, wheat sector faces two issues. The first important issue is its marketing. The Punjab Government announced a procurement price of Rs. 950 per maund, and established 17 procurement centers in Multan. However, the crop was mostly sold in the range of Rs. 820-850 in Multan during procurement season 2010. The procurement arrangements made by the Food Department were clearly inadequate. The first problem was the procurement of jute bags, which were not available in sufficient quantity in the district in April-May this year. Government policy of buying only eight bags per acre was irrational, as most farmers had produced twice as much per acre. Transportation of produce was another problem; farmers had to employ trolleys and had to keep them engaged until their turn came. The cost of loading/unloading further added to their cost. Moreover, the Food Department held the weight of the jute bag as 4 kg, which is 1.5 times larger than the actual weight of 2.5 kg. When farmers' wheat was weighed, the weight of jute bags was deducted @ 4 kg per bag. The inability of the farmer, particularly small ones and tenants, to sell all of their

production soon after harvest leaves them vulnerable to the tactics of middlemen and sustain loss by selling the produce at less than the publicly fixed support price.

The second issue is that of storage. The government does not have modern warehousing capacity to store wheat it procures. As discussed earlier, for procurement season 2010 the Food Department had total storage capacity of 44,500 metric tons, which was fully utilized with previous year's stock. The Department planned to procure about 227,000 metric tons this year for which there was no space and must be stored in the open with no protection from incidence of rain and other variations in weather. In the event adverse weather conditions such as rain, temporary arrangements are made to protect this critical commodity and lifeline of Pakistan. Similarly, there are no modern wheat storage facilities even in the private sector. The lack of storage facilities at the farm level and in the private sector as well as in the public sector is a serious constraint to the growth and development of this important sub-sector.

5.4.4. Constraints on Mango Production

A large area of the district – 78,000 acres – is dedicated to the production of mangoes yielding 402,000 tons. It ranks number one in land use and second in production of mangos in the province. It employs 30% of the labor force in the district and contributes 25% to the agro-based economy with huge potential for value addition and export. With proper care, innovations and other interventions, the productivity and quality of the fruit can be enhanced resulting in increased yield, income and export

Table 28 Mangoes' Contribution to Multan's Economy (2007-08)

Mangos	Pakistan	Punjab	Multan
Area in acres grown (000)		277	78
Rank in land use Punjab			1
Production (Tons 000)	1,751	1,373	402
Rank production in Punjab			2

Source: Crop Reporting Service, Department of Agriculture, Government of Punjab.

Table 5.6 and Figure 5.5 show that total mango production in Pakistan in 2007-08 was 1,751,000 tons, of which Multan produced 23%. In comparison, RY Khan, which had a slightly smaller area under mango orchards produced a larger volume. District agriculture officials and mango growers believe that with a little bit of support from the Agriculture Department, the district can realize its full potential and become the top mango producing district in Pakistan.

There are a number of constraints on mango production in the district. In recent years, the biggest threat has been the sudden death of mango trees caused by blocking of plant's food veins. But it can be prevented if diagnosed and treated at an early stage (at least 2-3 days before onset). Another problem is fruit fly, which is especially significant from export perspective. The farmer needs to be educated on these and other production issues. This would require strengthening of the extension service in public and private sectors.

A Multan specific issue of mango farms is growing urbanization. Over the years, the city has expanded to occupy many mango orchards in the vicinity that were famous for their produce. The trend of clearing mango orchards for establishing housing colonies continues unabated. If this trend continues, Multan may lose its prominent position in mango production in Punjab.

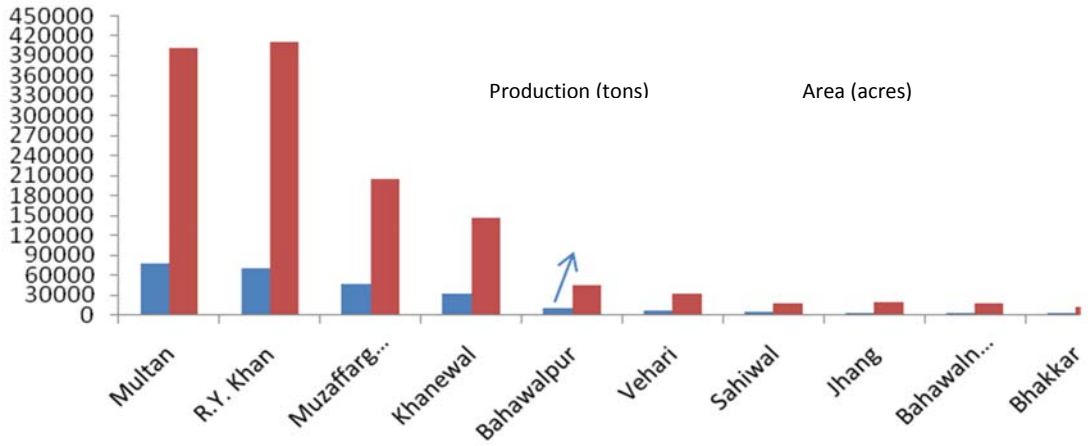


Figure 29 Comparison of Land Use and Production of Mango – Punjab (2007-08)

Source: Crop Reporting Service, Department of Agriculture, Government of Punjab.

Major problems hindering export of mango are poor quality, lack of proper handling, shortage of storage capacity and processing. Harvest losses account for about 20 to 40 per cent of total production. To enhance export, quality standards should be maintained for fresh mango, and proper grading and packaging arrangements should be established. The mango for export should be free of diseases and resistant to deterioration caused by heat. The farmers should take Global Gap Certification for their orchards that will help them to export mango to the European markets.

Many mango farmers in Multan are not educated enough to be able to access market information directly from the market. Then the facilities are not within vicinity, or access. For example, *Sindhri* is the most exported mango, also dispatched by sea and has more shelf life. It is much demanded in Iran and is dispatched through Quetta. But the grower is unaware of these mechanics due to which he loses. *Chaunsa* is exported from Punjab, but has less shelf life, and cannot be exported by sea. But there are ways to increase its shelf life for which education and facilities are required. Once obtained maturity, mango has only 15 days to stay at tree; one has to pick and sell it otherwise it goes waste. In the absence of adequate storage facilities, the farmer has to sell his produce quickly after it has matured. Consequently, most farmers sell their orchards every year to middle men, who then take over the picking and marketing. Since they have little interest with the tree at that stage, many contractors adopt practices that adversely affect the mango tree.

Post harvest handling of mango needs improvement. For example packing in crates costs Rs. 30 per crate which is received from the buyer; and after the mangoes have been unpacked the same crate is sold only at Rs. 3, which causes a Rs. 27 loss to the buyer. Out of total, in general 60% of mangoes have ‘A’ grade quality, 15% ‘B’ and remaining ‘C’ or ‘D’ grade mangoes become by-product and are used for pulp. If they are shifted directly to pulp plant, it saves transportation and packing, and also releases pressure from the market. But this is seldom the case; often mango has to travel a large distance to reach the pulp plant. A lot of wastage takes place in this process. There should be farm level sorting arrangements. Mangoes should be sorted before they are packed. The ones suited only for pulp making should be despatched directly to the pulp plants.

The Pakistan Horticulture Development and Export Company (PHDEC) has made a strategy to improve mango cosmetic look through de-sap technology that would result improvement in production besides implementation of Global GAP in Punjab and Sindh for exports to Germany, France and England. The Company will help to establish business links with importers and to generate demand in China, Germany and USA. The strategy also includes exhibiting Pakistani

mangoes in International exhibitions such as Asia Fruit Logistic, held in Hong Kong and sending trade delegations to UAE, USA, China, Germany and Jordan. It has been planned that 3,000 acre mango orchards will be Global GAP certified in Punjab, 2000 in Sindh, awareness seminars on these challenges would be arranged. The adoption of Global GAP standards has indicated that indigenous commodity specific standards for either local or export marketing should be initiated. Initially the Pak-GAP standards will be developed in consultations with relevant organizations and certification bodies[48].

USAID also commissioned the preparation of a strategy paper to improve export of Pakistani mangoes to high-end destinations in Europe and North America.[49] The paper suggested a number of activities that could potentially improve Pakistani mango's access to these markets. It proposed that the initial activities should focus on establishing additional export markets by linking potential importers/buyers with producers/exporters capable of supplying the desired fresh or value-added mango product. This should be followed by a multitude of training, technical assistance, infrastructure procurement, and human resource capacity building activities. These activities should target overcoming existing constraints in the mango supply chain. The major problem identified in this paper is the high degree of variability in the shape, size and quality of mangoes produced by Pakistani farmers. Since the importers demand standardised products, the inability of Pakistani exporters to provide consistent quality become s a major challenge that undermines access to export markets.

The strategy paper provides a number of recommendations to create awareness in mango farmers and extension agents about the quality and food safety requirements of high-end markets. It recommends a capacity building program to educate mango farmers on appropriate irrigation practices, appropriate pruning techniques and post-harvest handling practices particularly related to sorting and packing, and the importance of maintaining optimal temperature in the post-harvest period.[50]

5.4.5 Constraints on Livestock Production

Based on the livestock statistics for Multan district given in an earlier section (Table 5.3), it is easy to conclude that cattle, buffaloes and goats hold considerable potential for growth in livestock production for milk and meat. This potential exists in terms of increasing overall production, as well as value addition at various stages of the value chain. With appropriate support mechanisms in place, Multan can hope to improve its share of the provincial and national market in meat and dairy products.

The importance of investment in livestock promotion for poverty reduction in particular and for economic development in the district in general cannot be overstated. Livestock production is an important activity in rural Multan, involving around 65% of district's labor force. Often, the acquisition of animals is seen by the poor as a route out of poverty. Ownership of livestock is described by many as one of the key indicators that separate the poor from the very poor.

In view of the importance of livestock in the economy as well as in the life of a common man, the Government should focus on increasing milk, meat and poultry production to meet rising domestic demand of ever increasing population and produce exportable surplus as well. The efforts and planning for the purpose will precisely create job opportunities, which would have a multiplier effect on district's and provincial economy.

5.4.5.1 Dairy Production

[48] Source: Ismat Sabir, Business and Finance Review, 4 May 2009
[49] Picha, D. 2009. Mango Value Chain Development Strategy Final Report, Chemonics International Inc., unpublished.
[50] ibid

According to the data provided by the District Officer (Livestock) Multan, there are approximately half a million cattle, about four hundred thousand buffaloes and about six hundred thousand goats in Multan district. In comparative terms, the district is ranked 9th in cattle, 20th in buffalo and 14th in goat population in Punjab. In terms of milk production, it is ranked 13th in Punjab. With appropriate investment in breed improvement, access to artificial insemination facilities, access to professional veterinary care, maintenance of cool chain and marketing, the district can improve its contribution to milk production in the province.

Dairy farming is practiced extensively by both landed farmers and the landless in Multan. Income from milk is particularly important for the latter group, as it provides a much larger percentage of household income. The dairy system is dependent primarily upon the commercialization of milk from herds of between one and three animals, though some peri-urban herds do also exist specifically to serve urban markets. Female household members typically manage the herd, assuming full control when males are away working. Nearly all milk sold is produced from buffalo (53%), and cattle (47%). Though priced differently based on fat content, milk from both ruminants is mixed and sold together.

The marketing chain for dairy products involves a diverse set of actors. Small-scale producers at village level, who consume about 1/3rd of daily production, retail the remainder to local collectors (i.e. *Gawallas* and *Dhodhis*) and to the agents of milk processing firms. Competition among these players is primarily service- (as opposed to price) based. *Gawallas* and *Dhodhis* transport the milk by motorcycle to sell in urban markets and on to the processing firms. No large-scale dairy processing plants operate in the district. Three major firms – Nestle, Haleeb and Olpert – dominate the organized dairy market in Multan. These firms have their plants in Kabirwala, Bhai Pheru and Sukkur respectively. Milk is first collected at local collection centers, then transported in specialized containers to their chilling centers, and finally to their processing plants in above-mentioned locations. It is estimated that 20% milk is lost during this long journey. This loss could be easily averted if processing was done locally. Thus, setting up a milk processing plant in the district becomes an important component of economic development strategy. In addition to processing large quality of milk produced in the district, the plant should be able to attract and process milk from adjacent districts such as Lodhran, Khanewal, Vehari and Muzaffargarh. Such an investment is likely to provide a big boost to dairy development boosting the district's economy.

Other constraints in the sub-sector primarily involve the small scale of dairy operations, which increase extension and collection costs. There is high level of product spoilage during transportation. Another major constraint is regulatory; the Pure Food Ordinance of 1960 imposes ridiculously low fine for milk adulteration that serves as disincentive for development of commercial dairy. Absence of farmer cooperatives to pool in resource and share marketing networks and information, is also a major constraint.

5.4.5.2 Beef Industry

In many respects, the beef industry is for producers an offshoot of the dairy industry rather than a full-fledged industry in its own right. The great majority of meat production originates from dairy-oriented farmers, who sell young weaned steers and spent cows. There is no formal fattening system in existence, characterized by specialized producers purchasing younger animals and rapidly ensuring weight gain. Small-scale operators value the regular income which dairy cows provide; raising males for beef is a longer-term investment.

Most herds in the region are small, consisting of just a few female dairy cows. These herds provide the majority of the meat that enters the market. Animals which are not slaughtered at village level enter the local cattle markets. A small proportion of the sellers at these markets bring their own animals; the rest (approximately 90%) are established cattle traders who buy

animals in bulk at village level. An estimated 70% of large ruminants at these markets are bought by butchers from larger centers to be transported and slaughtered there; 10% and 20% respectively are purchased by local butchers and area farmers.

Among the major constraints are: an inappropriate legal and institutional regime; lack of meat processing facilities in the district; inadequate infrastructure in cattle markets; inadequate extension service; and lack of investment in breed improvement programs. A brief discussion of these constraints follows.

The Animal Slaughter Act of 1963 requires that all meat must be slaughtered in the municipality where it will be consumed, which restricts the development of value addition activities within the district and of economies of scale and efficiency. Processing cattle and buffalo which are now being shipped as live animals to larger markets – a promising area for value addition – is prevented by this Act. Another problem is that current meat processing is entirely done by butchers; there are no commercial slaughterhouses that can process packaged meat and prepare specialized cuts for growing high value niche markets in larger urban centres. The cattle markets lack even basic infrastructure. These markets are maintained by the respective TMAs, which auction the rights to charge a fee on all transactions in the market. Despite charging such fees, the contractors do not provide any facilities at all to livestock owners and to prospective buyers. There are no cattle sheds, no adequate arrangements for feeding the livestock or for holding them overnight should the need arise. Consequently, the sellers are under pressure to dispose off their stock as soon as they can. This considerably comprises their bargaining position and leads them to accept prices lower than they could obtain in a properly functioning, well maintained marketplace. Further, in the absence of a system to weigh the animal in the market, mostly animals are bought 'on the look'. This offers little incentive to maximize animal growth or specialize in the sale of young animals rather than older spent dairy cows.

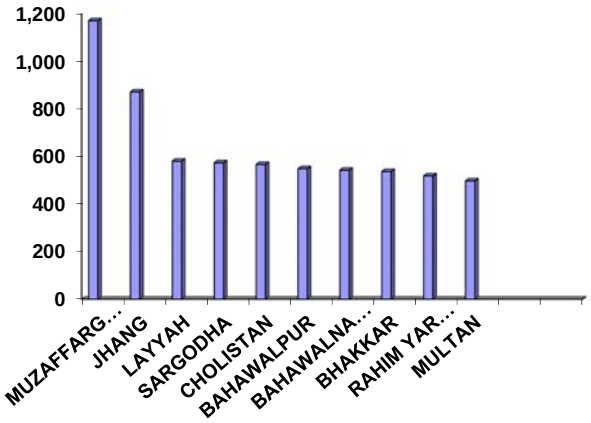


Figure 30 Multan's unenviable position in cattle production (000) – (2007-08)

5.5 Recommendations

The previous sections have identified a number of generic and sector-specific constraints on agricultural production in the district. The proposed strategy for agricultural development in Multan comprises steps and measures to remove these constraints. Following strategic interventions are recommended.

1. Reform the legal and institutional infrastructure

- Amend the Agricultural Produce Markets Act of 1939 to enable private sector participation in establishing and managing agricultural markets. This will significantly improve farmer-

consumer interface, will provide choices to farmers and will enable transactions in a more competitive environment.

- Amend the Seed Act of 1976 to enable private sector participation in seed provision in the formal sector, and to also extend regulatory oversight to private sector seed operations.
- Develop regulatory capacity at the provincial level. Variety approval and registration, seed testing and certification, and overall regulation of the seed business in all crops is a provincial privilege. Hence, the Punjab Seed Certification and Variety Registration Authority should be established as an independent regulatory organization.
- Develop seed certification facilities at district level; at least one seed inspector to be dedicated for the district.
- Enact Plant Breeders' Rights. This will create proprietary rights in new plant varieties, which will pave the way for private sector investment in agricultural R&D in general and development of new varieties in particular.
- Amend Rules made under the Plant Quarantine Act of 1923 to allow for large scale import of cotton seed by the private sector at any port of entry.
- Amend the Pesticide Control Act for testing of xylene as well as the poison content.
- Amend the Slaughter Control Act to ensure the free functioning of the market. The revised law should set standards and facilitate the establishment of slaughterhouses in the private sector. Also remove market distorting provisions, such as the one banning slaughtering of beef and lamb on Wednesdays.
- Amend the Cruelty to Animals Act to set standards and to approve techniques that would ensure that all slaughtering techniques used are humane. The absence of such provisions not only imposes undue cruelty on animals, but also makes it difficult to export meat that has not been slaughtered in accordance with international practices.
- Revise the Cattle Market Rules to remove market control through price caps. Such caps not only distort values, but also raise quality concerns. In general, remove all caps on meat and milk prices.

2. Enact legislation for milk and meat quality control. A significant quantity of the milk produced in the district is adulterated and is not fit for human consumption. This law is required to develop standards on the quality of the milk (including pasteurization standards) and meat, and to provide a framework that will ensure the monitoring of this quality.

3. Build the capacity of the District Agriculture Office

- Fill all vacant positions in the district with qualified professionals; rationalize work load by creating more positions at the union council level; provide motor cycles and POL budget for all Agriculture Officers and Field Assistants in the district.
- Develop specialized cadres of extension workers for different crop groups (cotton-wheat-sunflower; mango-citrus, etc.).
- Conduct a target and resource gap analysis to develop a realistic work plan for each official in the district.
- Develop effective linkages with R&D institutes and agricultural universities for a regular flow of information on crop production from the lab to the field.

- Develop a capacity building strategy and a capacity building plan for district agriculture office; training on use of information technology tools to be an important component in all training programs.
- Use information technology for creating data bases of farmers, crops and livestock.
- Provide performance based incentives to officials who meet targets and provide effective extension advice to farmers.

4. Outsource extension provision on a pilot basis in one tehsil

- Focus extension effort on key crops (cotton, wheat, sunflower, mangoes and citrus).
- Develop a set of key messages that are to be delivered to farmers; develop terms of reference and invite private sector companies to bid for provision of extension advice to a pre-determined proportion of farmers in selected crops.
- Reformulate the role of district agricultural establishment to the extent of pilot tehsil as manager of contracts, rather than a service provider.
- Document lessons learnt for possible replication in other tehsils of Multan and subsequently in other districts.

5. Improve farmers' access to various services

- Establish water and soil testing laboratories at tehsil level.
- Offer quality diagnostic services to farmers on cost-recovery basis.
- Establish a Provincial Reference Fertilizer and Pesticide Testing Laboratory at Lahore to test disputed fertilizer and pesticide samples; this laboratory can also evaluate fertilizers, pesticides, enzymes and other growth regulators for the purpose of registration.

6. Improve crop reporting services

- Use modern tools of information technology to maintain crop data in the district.
- Use GIS for accurate and real time crop reporting on pilot basis in one tehsil.

7. Promote water use efficiency

- Encourage the use of high-efficiency irrigation systems (e.g. drip and sprinkler). 60% of the cost to install drip irrigation is currently supported. Extend this scheme to the entire district.
- Strengthen the district On-Farm Water Management office.
- Integrate advice on water use efficiency with core extension activities.

8. Improve agricultural storage facilities

- Support private sector development of storage facilities, including cold storage facilities.
- Develop model pack houses, farm cooling systems and portables reefers to facilitate the growers to maintain the quality of their produce. Provide training to growers on picking techniques, storage and post-harvest treatment. This will save about 20-40% of produce, which is currently wasted due to lack of proper infrastructure and post-harvest care.
- Encourage ADBP and commercial banks to provide soft credit to farmers intending to store their crops for short to medium term at a private sector storage facility (including cold stores); use stored crop as the collateral; the credit can be recovered at the time of sale. This will be a tri-partite arrangement among the bank, the farmer and the storage provider.

- Support conversion of existing commodity non-specific cold stores into 'control-atmosphere' commodity-specific types.
- Study 'futures trading system' and support private sector warehousing facilities to enable 'futures trading' of wheat, maize, rice, etc.; support Engro (Pvt.) Ltd. or another major commodity trader to develop warehousing facility in Multan.
- Encourage the Food Department to sell its silos on Multan-Khanewal Road and its offices in the city and relocate to a peri-urban area.
- Support the private sector in developing adequate agricultural storage facilities. These facilities can be used on payment of rent by farmers for storing their produce, or by *arrhatees* who have procured commodities from farmers.

9. Promote use of biotechnology to improve crops

- Support private seed companies in producing and marketing their Bt cotton varieties.
- Use government microbiology labs to support private sector breeding activities; provide seed testing services for genetic purity, for existence of new traits (such as insect resistance and herbicide tolerance) and for expression level of proteins (such as the one produced by Cry 1Ac gene from Bt).
- Rigorously enforce quality standards in genetically modified Bt cotton seed provision.
- Establish effective partnership with Monsanto for introduction of double-gene Bollgard II cotton in Punjab. This will help the farmer in bollworm control, and will build the capacity of our seed industry.
- Explore avenues for introduction of herbicide tolerance technology through the formal sector. This will help the farmer overcome the weed problem. Genetically modified herbicide tolerant crops allow use of broad-spectrum soft herbicide (such as glyphosate) at vegetative and reproductive stages to control weeds without damaging the crop (which has been genetically modified to be tolerant to the herbicide).

10. Invest in agricultural research and development

- Strengthen the crop research institutes at the Ayub Agricultural Research Institute (Faisalabad). Fill vacant posts and create new posts to patiently carry out crop improvement activities through breeding and selection.
- Establish a system of performance based incentives to encourage innovation; develop a system of royalty sharing between breeder, institute and seed providers on commercialized crop varieties.
- Implement governance reform in research institutes to give them operational, fiscal and administrative autonomy; they should be responsible to key stakeholders, rather than bureaucrats in the Agriculture Department.

11. Improve governance in cotton research institutes

- Reform CCRI governance by providing the textile industry greater role in determining research priorities and in overall supervision of research activities; institutionalize stakeholder engagement by making them a part of the CCRI governance structure.
- Reactivate Cotton Research and Development Company (CRDC); bring all provincial cotton R&D (including CRS Multan) under its umbrella and give it operational freedom to set its own research agenda in accordance with farmer preferences and needs.

12. Create awareness among small farmers about newer production techniques for fruits and vegetables

- The district agriculture office should enlist technical assistance from the Punjab Agricultural Marketing Company (PAMCO) to develop projects for creating awareness on Global GAP (Good Agriculture Practices), better production techniques including efficient fertiliser application and water management, pruning, and plant care.
- Develop training manuals for crop production and work on disseminating the information and 'preaching by demonstration'. Establish more model farms and farmer learning schools to impart training on growing practices on the pattern of the one farm already established in Multan.
- Develop effective linkages between PAMCO and small farmers for appropriate farming and harvesting practices that support high-end domestic and export markets.

13. Provide training on post-harvest handling of mango

- Fill the knowledge gap both at the producer and the agriculture extension agent level. Key areas of focus should be: appropriate irrigation practices, adequate tree nutrition, appropriate tree pruning and harvesting methods, adequate post-harvest care particularly sorting, grading and packing, and management of optimal temperature.
- Conduct workshops and short courses, organize exposure visits, produce training manuals and handbooks, and benchmark best practices.
- Organize an international workshop in Multan to link representative of leading mango importing companies in the EU and North America with progressive farmers and exporters in the area.
- Create awareness about Global Good Agricultural Practices (GAP) certification. Produce handbooks and guides to facilitate GAP certification of a large number of farmers in Multan. Organize training programs specifically designed to meet GAP requirements.

14. Develop ISO 17025 certified laboratories

- Support the existing laboratory infrastructure (public and private) to become ISO 17025 certified. This will enable the private sector to meet international sanitary and phyto-sanitary (SPS) measures on microbial contamination and pesticide residue analysis. Active monitoring and surveillance must also be provided to ensure that processes are being followed at the grower and processor level.

15. Build the capacity of District Livestock Office

- Fill vacant posts and create new posts to rationalise work load.
- Provide veterinary care facilities at the union council level.
- Develop a system of regular training of staff, especially for the extension and artificial insemination staff.
- Develop a database of livestock farms.
- Establish a Livestock Development Centre in the district to provide animal health services, advisory services for livestock owners and provide business facilitation services.
- Develop an animal disease reporting and epidemiology system in the district.

16. Create awareness among livestock and dairy farmers about production techniques

- Emphasize practical training in the existing livestock training programs.

- Privatise extension services on pilot basis in one *Markaz* or tehsil.

17. Encourage private sector participation in breed improvement

- Support development of artificial insemination facilities in the private sector
- Allow private sector access to semen collection centre in Bahadarabad.

5.6 Specific Proposals for Investment

The following specific projects are proposed as part of the investment portfolio for the district. These projects will operationalize the strategic recommendations formulated in the earlier section. They are offered as ideas, which can be taken up by the district government, by provincial or federal government, or by international aid agencies. Tentative budget is also indicated in each case, though more specific cost calculations will be required at the design stage.

5.6.1 Capacity Building of the District Agriculture Office

Purpose: To strengthen the capacity of district agriculture office and to improve their service delivery to the area farmers.

Rationale and/or Criteria for Selection: There is a wide spread complaint about the performance of the department and for good reasons. Many positions remain unfilled and field staff remains oblivious to needs of the area farmers. There is no concept of service and dedication to work. It is no wonder that in a meeting with tenant and small farmers, the unanimous recommendation of the group was “to dismantle the department”!

Benefits from the Proposed Project: With proper technical assistance and service to the farming community, farmers yield will go up resulting in significant increase in production and, in turn, income generation, economic growth of the area encouraging investments in agriculture, uplifting economy and reducing poverty in the area.

Activities to be carried out:

- Fill all current vacant positions without delay;
- Assign two Field Assistants at each Union Council instead of one now;
- Ensure the provision of motorcycles to field staff and other resources;
- Hold training sessions for all extension staff, at a minimum, twice a year – prior to the start of *Kharif* and *Rabi* cropping seasons;
- Introduce an incentive system for field employees for providing on-demand services and enhancing the yield and productivity of area farmers;
- Improve farmers’ access to agricultural services by consolidating them, to the extent possible, at one location at each tehsil level.

Implementation Approach:

- Enter into an agreement (MOU) with counterparts in government that spells out parties obligations, conditions precedent and covenants ensuring sustainability of operations long after the completion of the project;
- Designation of entity, team leader, key personnel, and support staff;
- Assessment of needs – identification of human and material resources;
- Promulgation and notification of essential operating procedures;
- Provision of material resources from project funds.

Proposed Location: Throughout the district from their headquarter seat in Multan all the way down to each union council level.

Approximate Cost: Recommend that the project should reach an understanding with the government about sharing costs where the government picks up the tab for all human resources to be employed and for the project to pay for technical assistance, one time capital and selected operational costs. A provisional cost estimate of $500,000 is broken down as follows:

Two senior person local TA team for one year		$100,000
Training Costs	Skill Up-gradation of agriculture officials	$100,000
	Crop Specific Field Demonstrations	$100,000
	Transportation and other Equipment	$200,000

Within the overall estimated amount, it is understood that actual costs may vary depending upon the nature, number and duration of proposed activities.

5.6.2 Outsourcing Extension Service Provision to the Private Sector on Pilot Basis

Purpose: To provide an alternative to the provision of agriculture extension service by the private sector on a pilot basis in one tehsil of the district for a period of two years.

Rationale and/or Criteria for Selection: Farmers of the area have complained about the utility and effectiveness of the government provided extension services. Despite of fairly a vast network of employees – at least one Field Assistant – at each Union Council, there is a wide spread dissatisfaction of the quality of services received. This initiative is being proposed to see if the private sector can deliver demand driven quality service to the farmer at a reasonable price.

Benefits from the Proposed Project: It is hard to calculate potential benefits from an initiative like this one. However, more than the magnitude of potential benefits, this initiative can possibly transform how these services are delivered to farmers forever and revolutionize how such other public services are delivered to public in the country in future.

Activities to be carried out:

- Development of a set of key messages to be delivered to farmers;
- Orientation of private sector extension provider to existing organizational structure, operations, the area, public outreach to educate target beneficiaries and other start-up activities;
- Submission of work plan, setting-up of benchmarks and indicators to monitor and evaluate contractor's performance; and
- Delivery of extension services.

Implementation Approach: The agriculture department should select 4-5 key crops each year and invite bids from the private sector for provision of extension services. The Request for Proposals will specify the outputs and will include indicators for monitoring purposes. The existing extension staff will be encouraged to participate by forming companies and bid. It should be possible for people to identify areas (e.g. a few union councils) where they can provide services. Let the successful bidders organize their teams and provide extension advice. The role of the government would be limited to preparing (and putting in place) monitoring frameworks, define key messages, invite and evaluate bids, commission work, train private employees, and evaluate performance. The TA team will assist the officials in tendering process, management, monitoring and evaluation of contract performance.

Proposed Location: One tehsil of the district is to be jointly selected by the TA team and the Office of the EDO for Agriculture.

Approximate Cost: Because the successful contractor for extension services will be selected based on competitive bidding process, it is hard to come up with a firm cost estimate. Nevertheless, the $250,000 is based on the following:

Personnel Costs – Management, Technical, Field	$100,000
Transportation Costs	$50,000
Field Presence Set-up Expense	$25,000
Field Demonstration Activities	$50,000
Overhead Expenses	$25,000

5.6.3 Establishing a Comprehensive Program for Cotton R&D

Purpose: To improve the yield and quality of cotton by improving the quality of seed.

Rationale and/or Criteria for Selection: Significance of the sector to the economy of the country, the province and the area. The greatest need of the time in this sector is investment in research and development to come up with improved seed that is high yielding, produces quality fibre, disease resistant and stress tolerant.

Benefits from the Proposed Project**:** Improvement in per acre yield and cotton fiber quality will reduce manufacturing costs and result in economic growth by fetching higher export earnings and improving profit margins for manufacturers, traders and all the way down to farmers.

Activities to be carried out:

Support the establishment of a new Institute in the private sector for cotton R&D by provision of technical/financial assistance;

The Institute will manage an R & D fund to award small grants to individual researchers, public/private academic and research institutions;

- Establishment of Cotton Breeding Program in the Institute to develop propriety germplasm from a variety of domestic and international sources with a strong support from microbiology for breeding where not only it will have its own lab but also establish linkages with other centres of excellence in microbiology. In addition to the establishment of breeding stations, acquisition of technology from multi-national companies, a strong program of capacity building will be pursued; and
- Development, testing and marketing of hybrids: under this component, the lead organization will establish, among other things, seed/fiber testing labs and hybrid seed production facilities towards developing hybrids from its proprietary germplasm and import from elsewhere and market all of these varieties in the country.

Implementation Approach: The lead entity for the implementation of this activity will be an entity known for its leadership role in all aspects of cotton breeding, production, marketing of seed under national/international safeguards and standards. If none exists, USAID support could be provided to a new indigenous entity that is dedicated to the cause and one that has invested considerable resources of its own in the pursuit of common objectives. Short term experts, both local and international, are proposed to be assigned to advise and assist the selected entity using project's TA funds.

Project Location: The ideal location for concentration of project activities is in the proximity of Multan district.

Approximate Cost: The total estimated cost for this initiative is estimated at $10 Million. Considering the long term nature – about ten years - of this undertaking, the upfront costs for

purchasing of land, setting up of laboratory facilities and essential equipment may be financed by USAID. Other costs of the project such as human resources and O&M costs ought to be the responsibility of the counterparts. A memorandum of understanding needs to be signed spelling out commitments of parties. Component by component costs include:

Acquisition of Land, Equipment and Other Resources	$5,000,000
Cotton Breeding R & D Activities	$2,000,000
Development, Testing and Marketing of Hybrids	$2,000,000
Other Incidental Expenses – Contingency	$1,000,000

5.6.4 Improving Production, Post-Harvesting Care and Export of Mango

Purpose: To enhance the demand for improved quality Pakistani mango by addressing capacity related issues of growers/workers/exporters and gaps related to infrastructure and unsupportive business environment.

Rationale and/or Criteria for Selection: Significance of the sector to the economy of the district, the province and the country.

Benefits from the Proposed Project: The proposed project has the potential of significantly enhancing growers, processors, traders, exporters and ultimately the growth and income of the district and the province.

Activities to be carried out:

- A comprehensive training program on basic and advance production techniques, on-farm harvest and post-harvest management, cluster level post-harvest management and packing, exporters' capacity building, global gap practices and certification, and capacity building of indigenous training institution is to be designed and launched.
- Provision of technical assistance for training and promotion to obtain global GAP certification.
- Provide assistance in establishing business links with importers and holding international exhibitions.
- Provision of on-farm packs houses and cold storage facilities for small and medium growers.
- Provision of small affordable locally made pulping units and perhaps to feed a larger plant like the one recently established in addition to exploring the use of mobile units.
- Support production of mango based products such as chutney, pickle, jams and dried mangos.
- Recognition of mango as an industry for the purpose of extending credit to growers.

Implementation Approach: The newly established – under construction – Mango Research Institute needs to be adequately staffed and equipped to take lead in the planning and execution of most, if not all, of the activities listed above. The Mango Growers Association and other stakeholders are to be encouraged to play an active role during the life of the project. Short term domestic and foreign experts will be brought on board as needed.

Project Location: Most project activities will be concentrated in the district of Multan.

Approximate Cost: An amount of $2.0 million is proposed to be set aside for this initiative. Beneficiary stakeholders are expected to share costs for the provision of equipment and facilities on their orchards. Estimated component by component cost is as follows:

Training Program Designed/Launched	$100,000

Global GAP Certification	$100,000
Marketing & Export Promotion	$100,000
On-Farm Pack Houses & Cold Storage	$500,000
Small & Mobile Pulping Units	$500,000
Promotion of Value Added Products	$100,000
Support to Mango Research Institute	$300,000
TA Costs in Support of Above Activities	$300,000

5.6.5 Mango Supply Chain Value Addition Project

Purpose: To improve mango supply chain through capacity building and technological intervention

Rationale and/or Criteria for Selection: Significance of value addition in mango to the economy of the district, the province and the country.

The whole process of Mango production from farming to harvest to marketing is very old fashioned and outdated by modern standards. Because of lack of efficient post harvesting processing, much of the very good quality mango goes to a waste. The mango that reaches the market or export end loses most of its quality because of poor packing and ripening procedures adopted. The packing process as well as the material is very poor quality and the carbide powder used to ripen the raw mangoes in wooden crates is actually carcinogenic and very dangerous if consumed. There is negligible involvement of women in the operations as these are exclusively run by men from start to finish.

The people engaged in post harvesting have meagre resources. They need technology, capacity building and institutional support. This has to come through interventions that are sustainable. The people engaged in Mango farming have to be weaned off the archaic packaging and transportation system and have to be introduced to better and more efficient systems which includes systematic sorting, grading, cooling, ripening, packaging, transporting and marketing techniques.

Benefits from the Proposed Project: The proposed project has the potential of significantly enhancing growers, processors, traders, exporters and ultimately the growth and income of the district and the province.

Activities to be carried out:

- Enter into agreement with the Mango Growers Association for implementing capacity development and technology introduction program;
- Enter into agreement with Mango Research Institute to provide technical backstopping;
- Establish effective linkages with Pakistan Foundation for the Advancement of Engineering and Technology for developing simple machines for the post-harvesting processes; and
- Design and implement a capacity building program for farm workers, traders, processors and exporters.

Implementation Approach:

- Members of the Multan Mango Growers can provide premises where the needed handling equipment and machines will be installed. They will also provide equity on the venture capital. Further capital will be raised through matching grants.

- Pakistan Foundation for the Advancement of Engineering and Technology will provide services of their technical experts for developing equipment and machines and training of workers.
- Project implementing organization will provide services of social experts for developing the community capacity and working systems.
- Mango Research Institute will be asked to provide the research and development backup.
- Low cost sustainable technologies will be introduced.
- Bio-mass will be used to make packaging material and machines will be used to make cardboard and cartons.
- Ripening and preservation chambers will be developed.
- Cool vehicles will be purchased for carrying mango to Lahore, Karachi etc. These vehicles will be operated on cost-recovery basis and will be available to area farmers who implement project activities.

In many of the initial processes local women can also be involved. With a little encouragement and training, the proposed intervention can become an important avenue for increasing women's economic participation in this sector, and through it, in the district economy.

Project Location: Most project activities will be concentrated in the district of Multan.

Approximate Cost: Estimated component by component cost is as follows:

Training Program Designed/Launched	$100,000
On-Farm Pack Houses & Cold Storage	$500,000
Promotion of Value Added Products	$100,000
Payment to Mango Research Institute	$50,000

5.6.6 Women Participation in Mango Post Harvesting Project

Purpose: Inducting women in mango post harvesting operations

Rationale and/ or Criteria for Selection: Mango picking and its post harvesting processing at present is done completely crudely, wastefully and in old fashioned ways. If proper hand implements, gadgetry, pack-lines, are provided, as these are in other countries, women will enter into this field. Because of their natural attribute of care and concern that the fruit handling demands, women will surpass men. Productivity will increase manifold.

Benefits from the Proposed Project: Women need working tools, pack-lines and gadgets specially developed for them. Today some 95,000 tons of mangoes is produced yearly in the district of Multan. 50% of it never gets to the market in a saleable form. If the wastage can be reduced to 25%, and better price is fetched even by Rs10 per kg, it is a saving of the order of Rs 2.25 billion. Before going to the district level, the proposed project attempts to address 20 farms producing 500 tons of mangoes each, and target an income enhancement of Rs 112.5 million per year.

Activities to be carried out: Training and capacity building of cluster of women around each of the 20 selected farms will be involved. Proper implements, gadgets, and pack-lines suiting to women's working habits will be developed. Technologies will be introduced which will be low cost and low energy demanding. Bio-mass will be used to make cardboard cartons. Ripening and preserving chambers will be provided.

Implementation Approach: Capacity building and training of women to enable them to work in clusters will be the focus of this project. Participatory method of working together will be introduced rather than present buy and sell procedure. Partners will be provided net share in the proceeds. There will be three partners: a trainer-technology organization, which will train women and develop implements etc; a public sector partner who will provide logistic support; and a mango grower who will provide premises, utilities and manpower. FIRM's funds will be provided as matching grant for cost of implements, gadgets etc.

Project Location: The project will have its head-office in Multan, will have sub-offices at 20 selected farms, and transport for mobility.

Approximate Cost: The total cost of the project will be around Rs 110 million for 20 farms. The recurring cost will be Rs. 20 million.

Cost of implements, gadgets, etc.	Rs. 60 m
Technology and training cost	Rs. 20 m
Administrative costs including logistic support	Rs. 30 m

5.6.7 Enhancing Private Sector's Agricultural Storage Capacity

Purpose: To Increasing the capacity of the private sector to handle and store agricultural commodities (most notably wheat and maize, but also other crops) on a predictable and sustainable basis.

Rationale and/or Criteria for Selection: Wheat is the major staple crop of the area, for the region and the country and its critical role in ensuring food security.

Benefits from the Proposed Project: Reduce farmers' anxiety by making the procurement process efficient, transparent and predictable and that in turn will encourage growers to enhance productivity making the country self-sufficient improving economy and lives of the poor.

Activities to be carried out:

- Provide TA in the formulation of policy, program and an action plan to address the storage capacity issue;
- Conduct feasibility studies for establishment of small and medium scale storage facilities;
- Engage with the private sector to ascertain specific support requirements;
- Support automation of various processes;
- Establish a centre for pricing research and policy advice, preferably in the private sector, to conduct research on market trends, cost of production, demand and supply situation and produce policy papers to inform decision making in the public and private sectors; and
- Provide for representatives of farmers groups and local administration in the monitoring of procurement process.

Implementation Approach: A team of two to three experts from the private sector will be assigned to assess the existing capacity in the private sector and operational mechanisms for the procurement and storage of major agricultural commodities. The team will also identify needs for the establishment of additional procurement centres and their location. Based on its findings, the team will formulate and execute an action plan to address identified shortcomings, inclusive of automation of certain operations, and for supporting the setting-up of new centres. The findings of the TA team and proposed action plan then needs to be widely publicized for information of the local farmers. A system is to be designed to solicit feedback and for "blowing the whistle" to report abuses.

Project Location: Throughout the district of Multan.

Approximate Cost: The cost of short term two persons TA team, say for a year and other incidental expenses is estimated to be around $300,000.

Technical Assistance	$100,000
Training and other Capacity Building	$50,000
Automation and Incidental Expenses	$50,000

5.6.8 Promotion of Quality and Marketing of Vegetables

Purpose: To enhance the capacity of area's farmers to produce more, improve quality and capture an additional share of the domestic and export market.

Rationale and/or Criteria for Selection: The district grows a variety of vegetables and is self-sufficient in this area. However, there is a great potential for the area to enhance productivity and quality of produce to enhance profit, contribute to economic growth and earn foreign exchange by exporting quality products.

Benefits from the Proposed Project: Expansion of this particular sub-sector will expand job opportunities particularly for women, unemployed youth, small and landless farmers generating income contributing to the prosperity of the area.

Activities to be carried out:

- Introduction and promotion of quality standards;
- Funding of R & D to promote and disseminate information about modern practices including tunnel technology;
- Provision of technical assistance for strengthening of in-house capacity of local horticulture entity & training for local growers;
- Support for small scale cottage industry to process surplus vegetables;
- Ensuring availability of quality seeds on a timely basis;
- Supporting initiatives to build required infrastructure such as cold storage and transportation.

Implementation Approach: A technical assistance of two competitive professionals, preferably locals, will be assigned to this project, for a period of one year, who will work with the local horticulture department in developing and executing plans for in-house capacity building as well as training of farmers and other stakeholders. In collaboration with stakeholders, the team would ensure the availability of inputs and promote investments in missing infrastructure such as cold chain storage. The team will assist growers in the formation and support of an association to lobby and promote their interest.

Project Location: Throughout the district of Multan targeting small farmers.

Approximate Cost: The estimated cost for this particular initiative is $300,000 and is based on the following cost factors:

Technical Assistance	$60,000
Capacity Building Activities	$40,000
Research Grants	$40,000
Demonstration Activities for Farmers	$20,000
Promotion of Standards & Quality	$40,000

Support to Growers Association	$10,000
Seed Money for Cold Chain Infrastructure	$90,000

5.6.9 Promotion of Livestock Development

Purpose: To improve livestock management including breeding, expansion of livestock per household, animal care and the marketplace.

Rationale and/or Criteria for Selection: There is sizable population of animals in the district cared for at household level by women and other very poor segment of the rural society. This initiative not only contributes to their well-being but also to the district economy.

Benefits from the Proposed Project: The income of poor rural household is likely to go up improving the economy of the district.

Activities to be carried out:

- Provision of veterinary facilities at union council level and strengthened capacity of staff to treat emergencies, educate households about animal care and in such areas as insemination;
- Strengthened livestock – buffalos/ cows – breeding program at household level protecting Sahiwal cow and Neeli Ravi buffalo and using cross breeding only after careful R & D;
- Improve the quality of livestock management – health, hygiene, watering, fodder and waste disposal – by the provision of technical support, awareness campaigns, & field demonstrations;
- Develop capacity for goat breeding focusing women at household level;
- Award of small grants to TMAs for the provision of proper sheds, feeding, watering, loading/unloading and other services to make animal markets business friendly.

Implementation Approach: A team of two professionals will be assigned to the district office for one year period. They will help the livestock office develop PC-1 for the provision of additional personnel, facilities and resources to better serve needs at local level. The team will train employees by undertaking field demonstration activities in order to build their technical capacity to serve needs of livestock farmers. In addition, the team will help the livestock office in preparing another PC-1 to provide for necessary resources to address identified needs and shortcomings in the area of breeding. Finally, the team will help administer grants and provide required assistance to TMAs in building animal markets.

Project Location: Throughout the district but focused at tehsil level.

Approximate Cost: The total estimated cost of this program is estimated at $450,000:

Capacity Building of District Livestock Office	$250,000
Improved Artificial Insemination Program	$50,000
Field Demonstrations for Proper Animal Care	$50,000
Grants to TMAs to Build Animal Markets	$50,000
Awareness Program	$20,000
Technical Support Cost	$30,000

5.6.10 Establishment of Cold Storage Capacity

Purpose: To promote awareness, investment and establish cold storage capacity in the district.

Rationale and/or Criteria for Selection: Considering the production of a wide variety of agriculture production and immeasurable post-harvest losses and wastage/spoilage, the investment in building cold storage capacity has the potential of giving tremendous boost to the growth and expansion of agriculture in the district.

Benefits from the Proposed Project: The establishment of cold storage capacity will help reduce and prevent immeasurable losses for lack of such facilities in the area. The farmers, growers and producers of the district will be able to market and export more of their produce enhancing incomes and savings encouraging them to make further investments and contributing to the growth of the sector.

Activities to be carried out:

- Provision of technical analysis, assessment of needs and feasibility studies;
- Awareness among district agriculture officials, private sector investors and growers;
- Building of one model facility; and
- Assistance to investors for establishment of such facilities.

Implementation Approach: A TA team of two persons – one expatriate and one local expert - is to be financed by the project for a period of 18 months to facilitate in the performance of tasks outlined above. The proposed TA team will carry out assessment of needs, formulate plans, and conduct sessions to promote awareness, lead/sponsor study tours to countries in South Asia and Southeast Asia regions. One model facility to store fruits/vegetables, milk and meat will be constructed and space for leasing will be available at reasonable cost. The team will advise potential investors to build cold chain storage using local resources.

Project Location: This project is to be implemented at one centrally available convenient place.

Approximate Cost: Major cost components include TA, building of cold storage, awareness and promotional activities. To build a cold storage facility, one needs land and pay for construction costs of the building and equipment. It is entirely possible for the project, the government and interested private sector stakeholders to enter into partnership and share costs of this initiative.

The total cost is estimated at US	$800,000.
Technical Assistance	$ 200,000
Building of One Model Facility	$500,000
Awareness and Promotional Activities	$50,000
Incidental Expenses	$50,000

5.6.11 Conversion of Existing Commodity Non-specific Cold Stores into Control Atmosphere Commodity-specific Type Cold Stores

Purpose: To provide for commodity-specific conditions of storage in cold stores in private sector in Multan.

Rationale and/or Criteria for Selection: Presently, none of the cold stores in Multan has separate chambers where different atmospheric conditions can be maintained. Consequently, different vegetables and fruits are stored under a uniform set of conditions, which is not only wasteful but may also lead to crop loss in some cases.

Benefits from the Proposed Project: If cold stores in Multan have arrangement s for commodity-specific storage facilities, where humidity and temperature can be adjusted according to commodity needs, it will become possible to store a larger number of commodities

under conditions best suited to them. It will also enable short-long term storage under varying conditions. Commodity specific storage will reduce costs in the long run.

Activities to be carried out:

- Provision of technical analysis, assessment of needs and feasibility studies;
- Awareness among district agriculture officials, private sector investors and growers;
- Building of one model facility preferably at Agriculture University Faisalabad;
- Technical assistance to investors for establishment of such facilities;
- Conversion/retrofitting of 2-3 existing facilities on cost-sharing basis.

Implementation Approach: A TA team from the University of Agriculture, Farm Machinery and Power (FM&P) Department should be engaged for conducting feasibility studies, for creating awareness and for providing technical assistance to cold stores willing to convert their existing infrastructure into structures that support maintenance of control atmosphere for commodity-specific storage. This team will also develop a model facility in their department at the University.

Project Location: This project is to be implemented at a few cold stores in Multan; model facility to be established in Agriculture University, Faisalabad.

Approximate Cost: Major cost components include TA, retrofitting of cold storage, awareness and promotional activities. To convert an existing cold storage facility, one needs technical expertise, insulation material and construction material. The rest is labor costs. Significant component of project costs – the one that involves retrofitting of existing facilities – can be shared with the private sector. The model facility to be established at Faisalabad can be run on commercial basis by providing storage services to commodity producers in Faisalabad.

The total cost is estimated at US $100,000.

Technical Assistance	$20,000
Building of One Model Facility	$40,000
Awareness and Promotional Activities	$5,000
Incidental Expenses	$35,000

5.6.12 Advocacy for Legal and Institutional Reforms

Purpose: to create an enabling legal and institutional regime for private sector participation in agricultural activities in the district

Rationale and/or Criteria for Selection: The importance of an enabling legal and institutional regime for agricultural development cannot be overstated. Appropriate frameworks have to be put in place to enable private sector participation, and to regulate markets.

Benefits from the Proposed Project: Benefits will be wide spread. Suffice it to say that legal reform underpins all other reforms.

Activities to be carried out:

- Constituting a Core Group at the district level representing key stakeholders to formulate proposals for legal reform;
- Lobbying the district, provincial or federal government, as the case may be, for affecting proposed legal reform;
- Enlisting the support of local NGOs in lobbying effort; and

- Awareness raising about proposed legal and institutional reform.

Implementation Approach:

The EDO (agriculture) can take the lead in this project. He will prepare a list of key stakeholders and invite them to nominate one member each for the Core Group. The Group will co-opt technical members to advise it on legal and technical matters. It will meet on need basis to identify areas for legal reform. It will build upon the work already done. It will use mass media and local NGOs for creating awareness on the proposed reform package as well as to put pressure on the bureaucratic and political lobby in Lahore/Islamabad.

Project Location: The project will use the EDO (agriculture) office as its meeting/activity point.

Approximate Cost: An amount of US$ 200,000 should be allocated for meeting, communication and miscellaneous expense.

6. The District Resource Envelop

6.1 Introduction

The previous chapters contain a number of specific proposals for investment in various sectors in Multan. These strategic interventions, it has been shown, will remove constraints on economic activity in the district, enable private sector investment, generate employment (in many case proactively seeking women employment) and create mechanisms for sustained growth. Since Multan's economy is inextricably integrated with the economy of neighboring districts in a broader regional economy, the proposed investments are likely to have economy boosting effect on neighboring districts specially and on the provincial economy more broadly.

A key question here is: how are these investments going to be financed? As explained in Chapter 1, district, provincial and federal governments and international aid agencies will have to pool in resources and create synergies to undertake activities mentioned hereinbefore. A key stakeholder here is the district, which must allocate resources – as much as it – can for investment in proposed interventions. This chapter examines the receipts (and also the expenditure) of the district government (DG) and various Tehsil/Town municipal administrations (TMAs) with the objective of suggesting ways and means to enhance the total available resource with the district so that it can allocate more resources for specific interventions that produce economic development. It examines the resource envelop and proposes measures to enlarge it.

The analysis in this chapter is organized in five sections. The first section overviews the income and expenditure of the districts government and TMAs during the last three years. The second section examines receipts. The two major sources of revenue for the district – own source revenue (OSR) and district share from the provincial allocable amount – are examined in detail. In case of OSR, the legal and institutional regime under which various taxes, cesses and fees are levied and collected, and the business processes for such assessment and collection are closely examined. Specific recommendations for legal and institutional reform are presented in this section. DG and TMA expenditure are examined in the third section. Development expenditure for the last three years, including that of the Multan Development Authority, is particularly examined. The last section contains recommendations for revenue enhancement.

The figures in this chapter are based on district budget documents for the last three years, unless otherwise stated. For 2006-07 and 2007-08, figures used are based on actual receipts and expense, whereas for 2008-09, the data are for revised estimates.

6.2 Overview of District Receipts and Expenditure

The table below presents an overview of the District Government finances during the last three years. It shows the development and non-development expense of the district, indicating that the latter has far exceeded the former in each year. The ratio of development vs. non development expenditure has changed over the years with a downward trend in development expenditure. This typically happens when development schemes/projects are not designed as investments that can sustain themselves after completion, rather as projects to be maintained and operated with continued government support. This is a generic problem and has led to an increase in non-development expenditure over the years, which now consumes a lion's share of the available resource everywhere. This trend can be checked by a rethink of current development strategy: as many projects as possible should be envisaged as investments, which should generate their own maintenance and operation costs. So user charges and collection

mechanisms should be inbuilt into project design. Multan can be the first district to pilot this strategic rethink.

Table 29 Overview of DG Finances (2007-09) (million Rs.)

Description	2006-07	2007-08	2008-09
Expenditure	Actual	Actual	RE
Non-development	2,762.80	3,912.51	4,066.98
Development	1,462.49	1,539.14	882.19
Development – tied grant	300.12	512.19	965.16
Total	4,525.41	5,963.84	5,914.34
Income	2006-07	2007-08	2008-09
Opening balance	386.16	995.15	1,086.13
Provincial grants	3,780.30	3,853.29	5,172.88
Own Source revenue	201.07	149.37	140.13
Tied grants (development and non-development)	475.84	801.40	1,017.88
Total	4,853.37	5,726.64	7,417.02

Revenue of the district is of two types i.e. own source revenue and provincial transfers. In District Government Multan, there is a heavy reliance on funding from provincial government since district OSR is almost negligible. Efforts are needed to change the scenario and move the district towards sustainability.

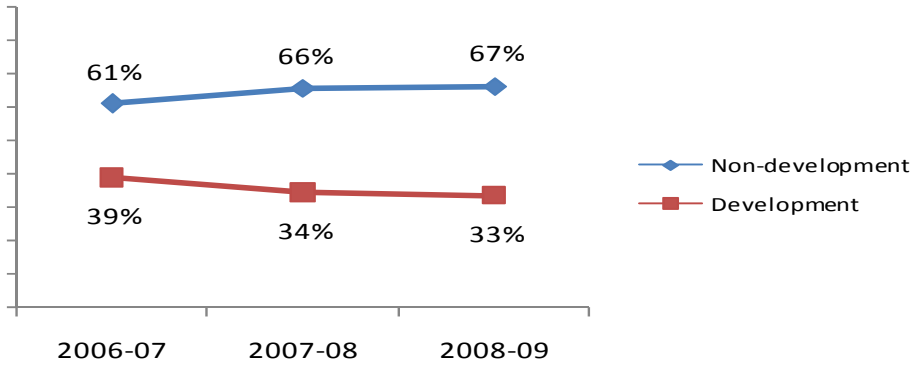


Figure 31 Trends in Development and Non-development Expenditure (2007-09)

Table below presents an overview of the cumulative expenditure and income of TMAs in Multan during the last three years. It helps us in understanding the trends. Unlike the DG, TMAs have a robust OSR base. There are six TMAs in the district and all of them have a reasonable amount of OSR that enables them to fund at least a major part of their activities from their own expense. However, there is considerable potential to increase their revenue specially taxes that form a major component of their OSR. This is discussed in greater detail in the next section. The development expenditure has been large than the non-development expenditure during all years under review. The development and non-development expenses are more or less consistent at a ratio of 64:36 over the last three years.

Table 30 Overview of TMA Finances (2007-09) (million Rs.)

Description	2006-07	2007-08	2008-09
Expenditure			
Non-development	251	247	326
Development	470	449	584
Total	721	697	910
Revenue	2006-07	2007-08	2008-09
Provincial grant	246	303	290
Own Source revenue	293	339	414
Total	540	642	704

6.3 Analysis of DG and TMA Receipts

This section is divided into two sections. The first analyses the OSR for the district and six TMAs, whereas the second examines the resource transfer from the provincial government. Thus, it presents a comprehensive overview of the resources available at the disposal of the district *per se* from year to year. This does not include resources allocated to Multan through vertical programs, such as the Prime Minister's Package for Multan, simply because the district has hardly any control on their utilization. Since an overarching principal in formulating DEDS has been to 'act locally', this section explores various avenues for improving district's resource base in a sustainable manner. This section examines in detail the legal and institutional regime under which various taxes and fees are levied, assessed and collected.

Under the present local government system, the following three agencies levy and collect various taxes, fees and rents for services they provide in Multan.

- The district government (including Excise and taxation department)
- Town municipal administrations (six)
- Multan development authority (MDA) including Water and Sanitation Agency (WASA)

Table 31 Taxes and Fees Recovered by DG for Provincial Government (2008-09)

	Target (million Rs.)	Recovery (million Rs.)	Recovery %age	Rate
Mutation Fee	33.8	33.8	100	2%-4%
Water Rate	54.1	50.1	93	Rs.55-80
Agriculture Income Tax	25.8	23.7	92	Rs. 150 per 12.5 acre
Stamp Duty	-	31.2		2%
Registration fee	-	15.2		4%

Source: EDO (revenue), Multan

These agencies collect revenue either for the provincial government, district government or TMA. The district government collects agriculture income tax, water rate, mutation fee,

registration fee and stamp duty for the provincial government (Table 6.3 below), whereas it collects tender fee, registration fee for Citizen Community Boards (CCBs), sanitation fee, advertisement fee, etc. for itself. TMAs collect building plan fee, rent against municipal properties, cattle market fee, slaughter house fee, TTIP, etc for themselves. The excise and taxation department collects property tax for TMAs and WASA and motor vehicle tax, professional tax, cotton fee, entertainment duty, hotel tax and excise fee for the provincial government. Our interest in this section is limited to those taxes, fees and rents that are used by the DG Multan or any of its TMAs, regardless of who the collection agency is.

6.3.1 Analysis of OSR

In this section, we shall examine the OSR of the DG and TMAs for the last three years. The analysis begins with a discussion of the laws that govern collection and levy of taxes and fees. A detailed analysis of the broader legal regime is presented in Appendix 5.

6.3.1.1 Legal Regime Governing Levy, Assessment and Collection of OSR

2nd Schedule to PLGO, 2001 specifies the taxes/rates/fees that a DG/TMA can levy. Sections 116, 117 and 118 of the PLGO, 2001 govern the levy and collection of taxes. The provisions are enabling in nature, and envision a rational, equitable and progressive local taxation regime. Under PLGO, 2001 taxes are to be levied after careful consideration and incorporating public objections. Any tax levied without consulting the public or incorporating its objections will be in defiance or contravention of the spirit of the PLGO, 2001. The Council process is also given its due place in the scheme of things. The requirement of getting the taxation proposals vetted by the Provincial Government (under Section 116) signifies the importance of the fact that the LGs, while striving to develop their fiscal capacity, need to work within the policy parameters laid down by the Provincial Government. Failure to pay taxes has been declared an offence and the arrears are recoverable as arrears of land revenue under The Land Revenue Act, 1967.

The relevant sections of PLGO, 2001 relating to resource generation are reproduced in the box below. There are other sections of PLGO, 2001 that relate to collection of taxes or income generation by a local council (e.g. 118-A, 120, 120-M, 124, 142). The same are not being reproduced here and only a reference to the relevant section shall be made, wherever deemed necessary. A detailed analysis of all laws and rules governing OSR is contained in Appendix 5

116. Taxes to be levied

(1) A Council may levy taxes, cesses, fees, rates, rents, tolls, charges, surcharges and levies specified in the 2nd Schedule.

Provided that the Government shall vet the tax proposal prior to the approval by the concerned Council:

Provided further that the proposal shall be vetted within thirty days from the date of receipt of the proposal failing which it would be deemed to have been vetted by the Government.

(2) No tax shall be levied without previous publication of the tax proposal and after inviting and hearing public objections.

(3) A Council may, subject to provisos of sub-section (1), increase, reduce, suspend, abolish or exempt any tax.

117. Rating Areas and Property Tax

(1) On commencement of this Ordinance every Tehsil and Town shall be rating areas within the meaning of the Punjab Urban Immovable Property Tax Act, 1958 (V of 1958).

(2) The Tehsil or Town Council, as the case may be, shall subject to the provisions of section 116, determine the rate of property tax in an area within the Tehsil or Town:

Provided that in the areas within a Tehsil or Town where rate has not been determined, the rate shall remain as zero.

(3) Unless varied under sub-section (2), the existing rate in the areas within a Tehsil or Town shall remain in force.

Explanation: For the purpose of this section the “rate” shall mean the tax leviable under the Punjab Urban Immovable Property Tax Act, 1958 (V of 1958).

118. Collection of Taxes

(1) All taxes levied under this Ordinance shall be collected as prescribed.

(2) Failure to pay any tax and other money claimable under this Ordinance shall be an offence and the arrears shall be recovered as arrears of land revenue.

6.3.1.2 Analysis of DG OSR

DG receipts comprise of provincial grants, tied grants and OSR. From Table 5.1, a sharp rise of 37% in provincial grants could be noticed in the FY 2008-09 over FY 2007-08 endorsing district’s dependence on these transfers. The provincial grants are transferred as per the Provincial Finance Commission (PFC) criteria which will be discussed in detail later in the chapter. Tied grants have been the second highest source for the DG. These have been transferred for development and non-development expenses of the district government. For the FY 2008-09 the tied grants were Rs. 1,018m which constituted 13.7% of the total resources. These grants were for specific expenditure and were not in district’s control.

OSR is the only resource the district generates on its own and has full control on. However, the OSR of the district government forms an insignificant proportion of the total resource available

with the DG (2% in 2008-09), rendering the district to rely heavily on provincial transfers. The OSR of the district has been declining in absolute terms as well as a proportion of the total resource available each year. This should be a cause of concern as this not only increases dependence on provincial transfer but it also affects the autonomy of the district to make decisions. A sincere effort to revamp the taxes and their collection mechanism is required with the focus on generating more resource. In budget for FY 2009-10 there is an increase in OSR of 40% which includes estimation of arrears that are more than three years old. These balances are very old and have been appearing in budget estimates for over more than three years. There is little likelihood for these to be recovered, at least through present approaches and mechanisms. Hence, their appearance in budget books in somewhat misleading. Even if these amounts are recovered, OSR does not comprise a significant component of DG's resource.

Table 32 Taxes, Rents and Fees – DG Multan (2007-09) (million Rs.)

Head	2006-07	2007-08	2008-09
	Actual	Actual	Actual
Local Rate	4	2.50	1.80
Toll tax	11	6.30	-
Ferries	0.5	0.89	
Rent of Shops	16	22.00	26.00
Purchee fee Health	0.12	1.43	3.30
Contractor leases	5.5	6.30	0.10
Medicine Veterinary	0.25	0.32	0.53
Sale of old trees		2.00	2.06
Licensing Fee	15	4.00	3.00
Pure food fines	0.3	0.38	0.20
Fee on Advertisements	26	50.00	44.21
Town Planning	15	7.50	6.84
Fire Services	0.24	0.35	0.26
Loading fee	9	9.81	10.52
Terminal Fee	98	27.00	37.29
Sanitation fee		4.00	4.00
NOC fee		0.40	-
Parks fee		3.50	-
Miscellaneous	0.16	0.650	
	201.070	149.370	140.133

The district government collects two types of own source revenue. The first type comprises the taxes and fees that the DG collects on behalf of the provincial government, such as the agricultural income tax, mutation fee and registration fee. The rates for these taxes and fees are determined by the provincial government and the collected amount is deposited in account 1 over which the district government has no control. So for these taxes and fees, the DG is just the collection agent for the provincial government. The second type of OSR is the one levied, collected and retained by DG. It is this component of OSR that is of interest to us in this report.

The DG OSR comprises Fees, Rents, Taxes and Others. Table 6.4 (above) shows the respective share of various taxes, rents and fees during the last three years. It indicates a declining trend over the years. From the above table it can be seen that in district Multan fees form a major component and generate nearly 80% of OSR. Fee on advertisements, town planning charges, loading and terminal fee and rent on property are the significant sources of income. These constitute 89% of the district governments own source revenue in FY 2008-09.

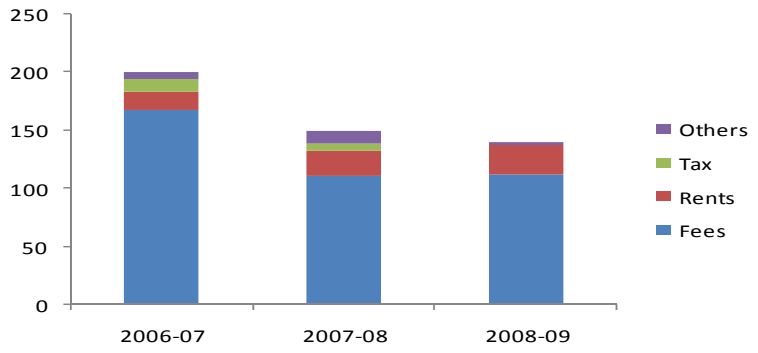


Figure 32 Fees as a Component of DG OSR (million Rs.)

The **advertisement fee** is charged by the DG for all the advertisement carried out in the district through billboards, signboards, banners etc. The collection of this fee is contracted out which is normally above the budgeted amount. The base price is determined using last three years average collection. For FY 2008-09 Rs. 44m has been generated under this head. Multan being 5th largest city of the country is now a fully matured market for this business. The city is full of billboards and advertisement. A discussion on potential of increasing revenue by adopting a different mechanism of collection process with stakeholders revealed that the DG suffers losses by contracting out collection, however in the absence of sound internal controls and transparent mechanism due to lack of resource and capacity the DG has less choice of taking up this task themselves.

Terminal fee or **General Bus Stand fee** received by the District Government was the second largest contributor to its OSR. In 2008-09, it stood at Rs. 37 million. This is a fee charged from all transport operators for using the general bus stand. The DG has its own staff to collect this fee from transport operators.

Rent on property mainly shops has generated Rs. 26 million for the financial year 2008-09. There are approximately 1,000 shops with major concentration in and around the general bus stand. An increase of 10% in rent takes place every year which is at par with the current inflation rate. Discussions with officials revealed that recovery is a bit difficult from tenants. Further, tenants have also undertaken illegal modification to the building/shops increasing its capacity; however rents have not been adjusted accordingly. Furthermore, tenants also engage in further subletting hence taking undue benefit through earnings. Appropriate actions to regularize these alterations could result in increased income of the district government. Furthermore revising rent to bring them at market level is also required.

The next largest source of revenue is **loading fee** and **town planning fee**. Recovery under loading fee stood at Rs. 10.5 million in 2008-09. This income is collected by the DG itself from transporters moving within city. Under town planning fee the revenue collection is against the commercialization. This fee is received from everyone who wishes to change status of property to any other classification given in section 4 of Land Use Rules 2009 i.e. residential; commercial (including institutional); industrial; peri-urban; agricultural; and notified area. The conversion fee for the conversion of residential, industrial, peri-urban area or intercity service area to commercial use is 20% of the value of the commercial land as per valuation table, or 20% of the average sale price of preceding twelve months of commercial land in the vicinity, if valuation table is not available. During discussion with officials it was revealed that the department is unable to achieve high efficiency due to multiple reasons. The high % of charges is one of them. Due to this high rate people avoid getting this activity registered with the authorities. In a recent development i.e. from FY 2009-10 the rights of collection of these charges within city limits have been transferred to MDA. This has resulted in another reduction in revenue sources of the DG.

As per the discussions it was revealed that almost 90% of the revenue comes from city limits the revenue of which will flow to MDA.

Water rate is another big source of revenue for the district. WASA Multan is responsible for collection of water rate from users, but the collection system is very old and inefficient. A substantial amount remains unrecovered every year, which adds to the arrears from previous years. For 2008-09, actual recovery was only Rs. 137.916 million against a budgeted target of Rs. 172.25 million. The total arrears[51] till March 2010 are as follows:

Domestic consumers	Rs. 393,384,794
Commercial consumers	Rs. 119,331,759
Government institutions	Rs. 28,681,409
Industrial consumers	Rs. 22,366,702
Total	Rs. 563,764,664

6.3.1.3 Analysis of TMAs OSR

Receipts of TMA consist of provincial transfers and OSR. In TMAs of Multan, OSR contributes significantly to the overall receipts. Table 6.5 (below) provides head-wise data on collection of various taxes and fees by Multan TMAs during the last three years.

Table 33 OSR and provincial grants – Multan TMAs – (2007-09) (million Rs.)

Sources of Revenue	2006-07 (actual)	2007-08 (actual)	2008-09 (actual)	2009-10 (RE)
Own Source Revenue				
Taxes				
UIP Tax	89	67	56	80
Tax on transfer of immovable property	74	120	175	166
Other taxes	-	-	-	0
	163	186	231	246
Fees				
Building Plan	16	21.78	22.09	30
Cattle Market	24	49	77	96
Enlistment and renewal of contractor	1	2	2	2
Slaughter House	7	5	5	5
License	7	4	4	4
Parking	8	7	4	5
Other	1	2	1	2
	64	90	114	144
Rent and Rates				
Rent of Property	29	27	34	45
Water Rate arrears	4	2	2	6
Sewerage charges	0	0	2	3

[51] Data obtained from Director Finance, WASA Multan.

Sources of Revenue	2006-07 (actual)	2007-08 (actual)	2008-09 (actual)	2009-10 (RE)
	33	30	38	55
Miscellaneous	33	32	32	52
Total OSR	293	339	414	497
Provincial grant	246	303	290	299
Total Receipts	539	642	704	796

The combined figures for all six TMAs show that the OSR in all the three financial years under discussion has been sufficient to fund the non-development activities; it has even left a small surplus for development activities. This is a positive sign as far the TMAs' ability to make decisions is involved. The ratio of contribution of OSR has in fact increased in FY 2008-09 in comparison with previous years. However, there is considerable room for increase in revenue by increasing collection efficiency and/or by increasing rates. The major source being taxes should be tapped into for more efficiency.

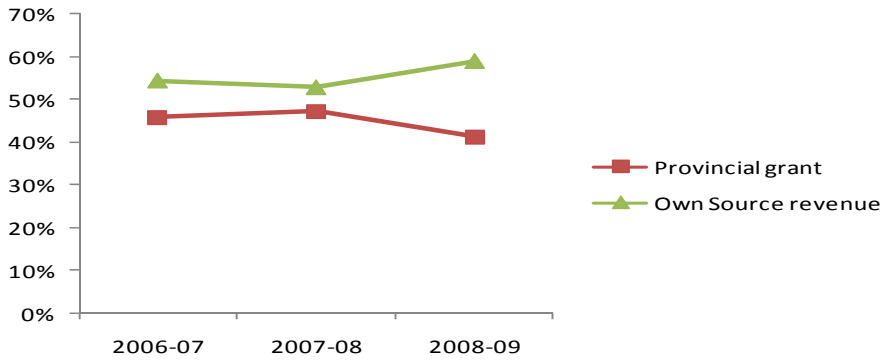


Figure 33 OSR as a proportion of total TMA receipts (2007-09) (million Rs.)

OSR of TMA comprises of taxes, fees, rent & rates and a few miscellaneous sources (Table 6.4). Taxes are the largest contributor at 56% of the revenue.

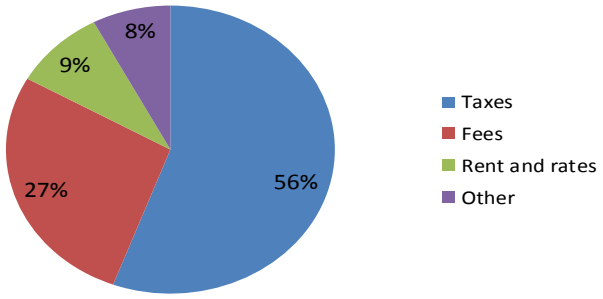


Figure 34 OSR Components for Multan TMAs (2008-09)

Taxes

There are two types of taxes in OSRs of TMAs i.e. tax on transfer of immovable property (TTIP) and urban immovable property tax (UIPT). TIP is levied on the buyer of the property at the rate of 1 % of the value of property as recorded in the sale deed/registry. The rate was kept low with the intention of persuading people to correctly report property values and pay due tax. However this goal has not been achieved.

Supervision of this process is contracted out on annual basis but the TMA staff assesses and collects tax from buyers of property. The contractor, besides paying the contract price also pays salaries of TMA staff responsible for collection. The tax is collected at the time of execution of sale deed or at the time of verification of mutation.

The contractors wishing to participate in the process are registered by EDO (Revenue). Through an amendment, it has been recently made possible for a contractor registered anywhere to bid for the contract. This allows for greater competition in the award of contract. The bids are presented in the council and contract is awarded after open competition.

Despite the increase in revenues, the true potential of this tax has not been realized in TMA. The property value is generally under-reported in the sale deed/registry. The valuation table determines the minimum price on which a sale deed can be registered, but the same is not revised regularly. The District Officer (DO), Revenue, authorized by the Stamp Act, 1899, revises the valuation table after survey of property prices. This power (i.e. the determination of valuation table) should be given to TMAs as the tax is assessed, levied and collected at TMA level. The revenue under this head in FY 2008-09 was Rs. 175 m with an increase of 46% over previous year. This phenomenal increase in FY 2008-09 reflects the efforts of the TMA to ensure transparency in awarding the contract as well as increase in competition specially Bosan Town which has significantly improved revenue under this head.

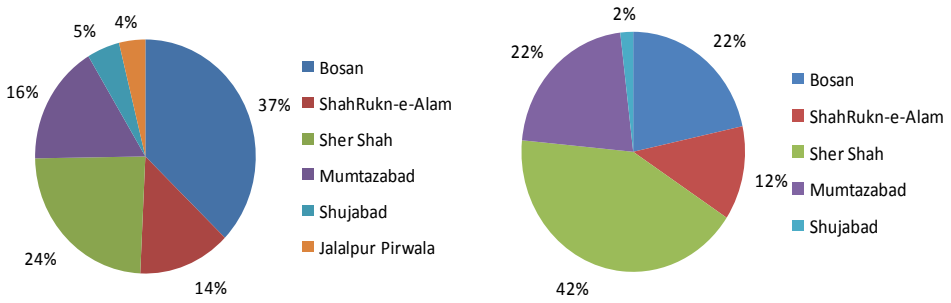


Figure 35 TTIP & UTIP (2008-09)

Another major source is UIPT. An analysis of the three year data shows that income under this head has been reducing consistently. It stood at Rs. 89m in FY 2006-07, was reduced to Rs. 66.5 m in FY 2007-08 and it now stands at Rs. 55.5 m in FY 2008-09. This tax is levied on the owner of the house and is assessed and collected by the Excise and Taxation staff under the administrative control of the District Government. Legal confusion has caused problems in realization of true potential of this tax.

The tax is levied under the Punjab Urban Immovable Property Tax Act, 1958. The Act of 1958 assigns the assessment and collection responsibility with the provincial government (in the Excise Department). UIPT is an example of a tax that is levied by the TMAs but its collection is done by the provincial government. It is an important tax with a large potential. But its realisation is constrained by many factors.

The firsts issue here is the non-inclusion of many areas as rating areas. Under Section 117 of the PLGO, 2001, every Tehsil/Town is a rating area and the TMA is authorised to determine the rate of property tax (commonly called house tax) within its territorial limits. All areas, however, have not been declared as rating areas, though the TMAs are incurring considerable expenditure for provision of basic civic amenities and infrastructure even in non-rating areas. Jalalpur Pirwala is an example, which has not so far been declared a rating area. Therefore, there was no collection of UIPT from this town over the years. There is need to declare those

towns as rating areas which, at present, are not rating areas or those villages which have now developed as a town. However, this step would require a strong political decision. There is always a political uproar whenever this issue has been raised with the objective of bring it in tax net.

Another problem in the realization of the full potential of UIPT is the trust deficit between the Excise and Taxation department/ Provincial government and TMA. The system lacks transparency hence TMA always doubt whether they have received their complete share. Furthermore, a small portion of collection under this tax is also given to WASA to meet their operational cost. Out of the amount collected 85% of the amount is transferred to TMAs and WASA and 15% is retained by the E&T department as administrative charges. If the tax is devolved in the real sense, the DG/TMA shall have a stake in improved collection.

Automation is another avenue through which collection could be improved. If the tax levy and collection system is computerized there will be more transparency and efficiency would improve.

Fees

This is the second largest category of income for TMAs. The significant contribution under this head is from Cattle Market fee and Building Plan approval fee, which are 87% of the total fees.

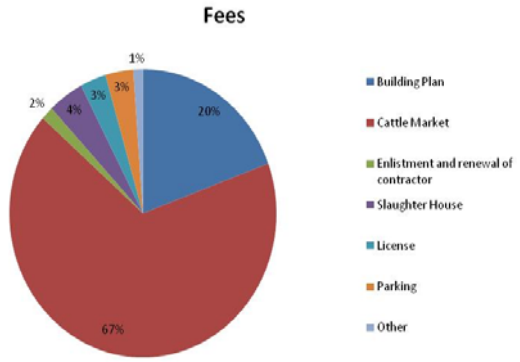


Figure 36 Percentage Contribution of Various Fees to TMA OSR – (2008-09)

Cattle market fee has seen phenomenal growth in three years. In FY 2006-07 it stood at Rs. 24 m and moved to Rs. 77m in FY 2008-09. This cattle fee is collected by Sher Shah Town since it falls under its geographical boundaries and is then allocated to Bosan Town, Sher Shah Town, Shahrukn-e-alam town and Mumtazabad town. The concentration of activities under this head is in these 4 towns with very small contribution from Shujaabad and Jalalpur pirwala. Under section 118 A of PLGO 2001 the cattle fee distribution is as follow: 25% to the town where cattle *mandi* is established and remaining 75% distributed in all towns including the town where cattle *mandi* is established.

Another substantial income of the TMA is from the building plan fee. In FY 2006-7 the income stood at Rs. 16 m and has grown to Rs. 22 m in FY 2008-09. The building plan fee is collected by TMA staff and a receipt against cash is issued as per the initial assessment. The plan is then evaluated for approval. Looking at the fee schedule for these three years there has been no change in charges for any type of properties which highlights an area where the TMA can increase their incomes. The rates vary from Rs. 1 per square foot of covered area (in case of one to five *marla* non commercial building) to Rs. 200 per *marla* (for land subdivision fee). Although there has been some growth in income from this head, there is a huge untapped potential of increase. People simply avoid getting the building maps approved, or do not notify

the TMA if there is any change in the approved structured. Incentive based system for the TMA for collection of revenue would make a substantial difference. The ambit of building fee needs to be expanded to large villages with considerable construction activity (through a Tehsil Council decision). Monitoring and enforcement of penalties for violations needs to be improved. This can be done through enforcement of completion certificate requirement.

The Slaughter house income is collected by Shah Rukn-e-Alam Town and distributed amongst itself, Bosan Town and Shershah Town. The majority of income comes from these three towns. This collection is contracted out. Revenue in FY 2008-09 stood at Rs. 4.93 m. In FY 2008-09 Mumtazabad town built its own slaughter house, which has since started charging fee from the activity.

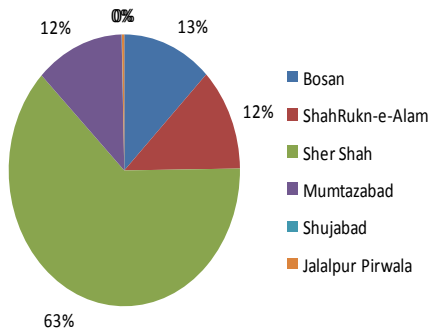


Figure 37 Cattle Market Fee (2008-09)

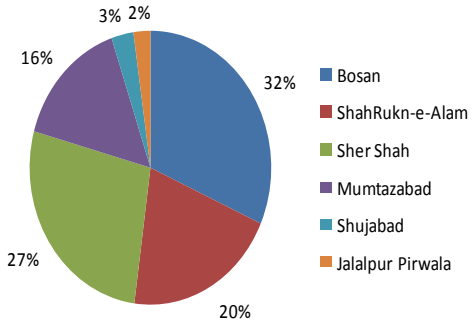


Figure 38 Building Plan Fee (2008-09)

License and permit fee is collected by the TMA against issuing licenses and permits and charging penalties on violation of rules. Fee for license and permits is charged by City District Government (2nd Sch. Pt. II, Serial no. 6), Town Municipal Administration (2nd Sch. Pt. IV, Serial no. 6) and Union Councils (2nd Sch. Pt. V, Serial no. 1) as per the PLGO 2001. A notification no SOV(LG)5-21/2001 dated 3rd September 2002 clarifies the categories of license and permit fee to be charged at different level.

Rent and Rates

Rent from municipal properties provides a reasonable amount of revenue to the TMAs. The majority of this income comes from Shujaabad, Shah Rukn-e-Alam and Mumtazabad town. Combined they hold approximately 850 shops. Many of these properties are on prime location but the rent being charged is very low compared to the market. Further, the issue of modification to the properties and subletting also exists with TMA properties. Efforts to adjust rent of these properties according to market and modifications would result in a substantial

increase in income. Issues in the rent legislation and corruption in lower judiciary effectively thwart any effort at rate enhancement. While a resolution of these issues is unlikely in the short term, the DG and the TMAs may consider disposing off such property through open auction. By

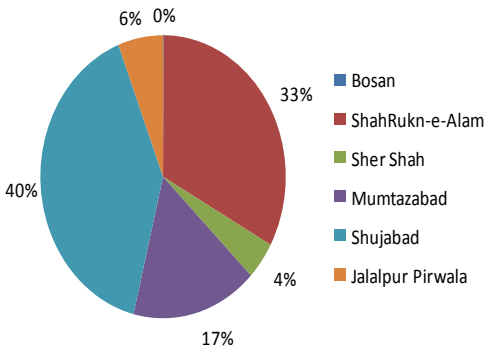


Figure 39 Rents from Municipal Properties (2008-09)

liquidating their assets, TMAs would at least receive substantial one-time revenue as against the nominal rent presently recovered for the very valuable properties.

6.3.1.4 Proposal for Reform of Business Processes

The business process of OSR items such as taxes, rents and fees and user charge in the DG and TMAs have mostly been defined a long time ago and the current local government setup has inherited them. There has not been any significant investment in review and reform of business processes of the taxes. Any improvement in the business processes for the assessment and collection of these taxes, cesses, fees and rents will not only facilitate the public at large, it will also increase the resource available at the disposal of DG and TMAs of Multan to undertake development activities. In some cases, dysfunctional processes are hampering economic growth in the district. There are basically three major sets of issues: first, stale processes make it difficult to provide a growth environment for businesses; and second, lack of awareness of these processes in people due to insufficient dissemination of information regarding these processes makes it difficult for people to understand the process and results in delays. Further, corruption at various levels causes loss to district exchequer. The following specific recommendations are offered to reform the legal regime concerning OSR and business processes for assessment and collection thereof.

- Section 116 of PLGO 2001 empowers a local council to impose, increase, reduce, abolish, suspend and/or exempt any tax mentioned in the second schedule. However the section also mentioned that any amendment to taxes is vetted by the provincial government. This process hampers the local governments' autonomy to set their own tax rates as the provincial government plays a controlling role. Although the section mentions that if a tax proposal is not vetted by the provincial government in 30 days, it will be deemed to have been vetted, this is not the case in actual practice. This approval process needs to be made dynamic or automatic once the criterion has been fulfilled. This would require suitable amendments in the PLGO. If full autonomy to fix rates, etc. is not to be devolved, then the issue can be resolved by providing band widths within which the DG and the TMAs would be free to act.
- The collection of UIPT on behalf of TMA is subject to 15% administrative charge whereas the collection done by DG on behalf of the provincial government doesn't result in any administrative charge being deducted by DG. This issue has been discussed with the stakeholders and they showed concern about not being paid for efforts done, furthermore

they stated that recoveries could be improved if the DG is incentivized for this task. This reciprocal arrangement should be put in place to improve the collection process and its efficiency. The additional resources would also mean better systems and data bases that would result in more efficient collections. It is, therefore, recommended that depending on the level of difficulty and complexity of collection, a collection charge ranging from five to ten percent of the actual collections may be paid to the local government where collections are made by the DG/TMA on behalf of or for the provincial government.

- Octroi and Zilla Tax (OZT) were abolished and replaced by GST and were set at 2.5 % of the federally collected GST. However it was frozen at the level of 1996-97. We recommend that the transfers should be based on actual 2.5% of GST collection. Unfreezing the level and building in a healthy increase based on actual 2.5 % of GST collection would work wonders for the local governments.
- Automation of assessment and collection process, and capacity building of DG/TMA staff involved in the process will increase revenue.
  - The automation of business processes would result in better accounting, efficiency in tax collection mechanism hence increasing revenue, provide up to date databases, availability of information to be used by various departments and timely reporting.
  - Without increasing rates of present taxes, the total yield can improve dramatically by maintaining records/registers properly, regular survey and incorporation of changes in tax records, improved monitoring and inclusion of systems of rewards and punishments for tax collecting machinery.
  - Capacity and training of staff are critical to success of any initiative for enhancement of own source revenues. Local government officials dealing with these issues (in many cases) do not have up to date information about government laws and rules. Serious efforts should be made to build the capacity of staff dealing with tax assessment and collection, maintenance of records, preparation of budget, receipt estimates, expenditure management and other aspects of financial management at local level. It was highlighted in discussion with official that there is a definite need of training the drawing and disbursing officers on their powers and responsibilities, there is a need of accounting and financial management, there is a need for training of LG staff on legal issue pertaining to cases pending with courts where these staff have to appear before the courts making them fully conversant with relevant rules, there is a need of training on The Punjab Employees, Efficiency, Discipline and Accountability Act 2006 to appraise relevant official on their duties, powers and responsibilities.
- Low yielding taxes/fees are an administrative hassle for the collecting authority and they should be done away with or their rates be revised upwards to increase revenue. These will result in focusing the efforts on taxes that yield considerable revenue for the DG/TMA by diverting committed resources. For example Purchee Fee (health) is charged at Rs. 2 per person and generates approximately Rs. 3.3 m (2008-09 revised estimates) for the DG. If the rate is enhanced to Rs. 5 per person, it can generate approximately Rs. 5 m for the district government. If that is not possible for any reason whatsoever, it should be abolished.
- Dissemination of information about process, assessments, valuation table, and fees would help curtail corruption. One of the major reason people fall in the trap of providing kick backs is lack of information. This information could be made available through publicity material, notices in newspapers, display through posters in relevant offices and media awareness campaign.

- There also exists the need for an effective system of dispute resolution. Billing invariably leads to disputes. In the absence of a mechanism for such resolution, people at times resort to non-payment and there is general dissatisfaction with the service. As such, a swift mechanism for dispute resolution and grievance settlement is warranted at local level.
- Assessment and collection of water rate by WASA needs drastic reforms. Manual monthly bills are distributed to all consumers who subsequently pay their respective bills. However this system of manual billing and collections of water rates are full of omission and commission and is subject to a lot of criticism. Furthermore, the actual consumption of water should be considered for billing by installing meters to gauge consumptions instead of flat billing based on rates as per classification.
- A quality control mechanism should be introduced to check functioning of various departments in the district. Service being provided by the district government lacks sincere effort to provide people their money's worth. A general sense of willingness to pay taxes and fees exists on part of consumer, provided they receive the quality service. For example discussions revealed that the quality of water in the district is not fit for consumption, this is a major reason for defaults in payment. Facilities in General Bus Stand, cattle market, slaughter house etc. are not of quality hence causing hardship to the users. The administration, where it needs capacity building in many areas, should also be trained for ensuring customer satisfaction. A quality control initiative needs to be put in place at provincial level to not only check the performance of DG but also support them in this task.

6.3.2 Provincial Transfers to DG/TMAs

The second source of revenue for the district is provincial transfers under the Provincial Finance Commission (PFC) award. In this section, we shall briefly examine the criteria under which funds are distributed to assess if Multan is unduly and adversely affected in provincial allocations under these criteria.

The first comprehensive PFC Award was passed in July, 2006 as the Punjab Specification and Distribution of Provincial Resources Order, 2006. Prior to the PFC Award 2006, the Punjab Government provided resources to local governments comprising District Governments, Tehsil / Town Municipal Administrations (TMAs), and Union Administrations under the interim PFC Award 2002-03, which was a stop-gap measure until a new more comprehensive award was announced to ensure a more structured, transparent, and equitable mechanism for resource allocation to the local governments. The term of the PFC Award 2006 expired on June 30, 2009. However, as a new award has not been announced so far, the PFC Award 2006-09 stands continued for the Financial Year 2009-10 under Section 120-D of the Punjab Local Government Ordinance 2001.[52]

6.3.2.1 The PFC award 2006

The provincial consolidated fund available for distribution is distributed into provincial retained amount (PRA) (58.1%) and provincial allocable amount (PAA) (41.9%) under the PFC award 2006. From PRA, provincial current revenue expenditures of non-devolved functions, the Annual Development Program of the Provincial Government and other emergent expenses are financed. To the PAA is added 2.5% of GST (after adjusting cantonment board share), and it is distributed to various local government tiers in the following in ratios:

City District Government	83.81%
Town municipal administrations	12.50%

[52] Budget White Paper 2009-10, Department of Finance, Government of Punjab.

Union administrations 3.69%

The following table gives the types, purpose and criteria of distribution of these grants:

PRINCIPLES OF RESOURCE DISTRIBUTION UNDER PFC AWARD 2006:

Meeting the actual salary expenditure needs of all levels of local governments.

Meeting the actual non-salary expenditure needs of all levels of local governments.

Providing adequate resources for financing development activities / works in local governments.

Factoring in the fiscal capacity of all levels of local governments.

Recognizing fiscal efforts of the local governments through incentive grants.

Maximum resource distribution on per capita basis.

Distortions arising out of the new basis for distribution may be corrected through equalization grants / special grants.

Tied grants to be distributed in accordance with the protocol agreed with donors (need + performance + MICS data).

Funds for Union Administrations to be on population / delimitation basis.

Development Grant for districts to be distributed, 50% on the basis of population and 50% on the basis of under development index based on MICS.

Development Grants for the TMAs to be distributed, 50% on the basis of population and 50% on the basis of urban population.

City District Governments to be given additional financial resources to cater for their additional functions

Table 34 Criteria and Purpose of Various Provincial Grants

Grant	Purpose	Criteria for distribution
General Purpose Grant	To meet current expenditure needs	According to the Population of the District
Equalization Grant	To remove any shortfall from the base line expenditure after distribution of General Purpose Grant in case of District Governments and TMAs. Any amount left after meeting the above shortfall will be distributed in a manner similar to General Purpose Grant.	Fiscal gap between baseline expenditures and shares under the General Purpose Grant. The balance amount of Grant after equalization will be distributed amongst all CDGs / DGs on the basis of population
Development Grant	To meet development needs	CDG – Distributed on the basis of Under-Development index prepared from the Multiple Indicator Cluster Survey (MICS) and population giving equal weight to both TMA – on the basis of population and urban population giving equal weight to both
Tied Grants	To provide additional finances to social sectors under protocols agreed with donors.	CDG – The grant has two components which will be distributed as follows: Education Component: Population: 60%, Performance: 40% Health Component: Population: 70%, Health Deprivation Index: 30% (Based on the MICS) TMA – Population 70% & Water and sanitation index 30% (Based on the MICS)

The criteria of allocating general purpose grant based on population is a cause of concern for districts with large geographical areas and relatively less population. This criteria does not take into consideration the administrative issues faced by districts with large geographical spread, rendering them with less funds to manage large areas. On the other hand districts with large population get more funds as compare to those with less population even though the latter may need more funds to meet their social needs. This criterion favours the more urbanised districts. There is a practical problem as well with population-based transfer: since no population census has been conducted since 1998, reliable data are not available for provincial transfers. any shift to a more inclusive formula that considers factors other than population would benefit Multan and other less-urbanised districts.

The respective shares of various local government tiers are given in the following table:

Table 35 Respective Share of DG and TMAs from Provincial Allocable Amount

Type of grant	Share of provincial allocable + 2.5% GST (%)	Type of grant	Sub-share of each grant (%)
General Purpose and Equalization Grants for CDGs/DGs	67.50	General Purpose Grant for CDGs / DGs	89.00
		Equalization Grant for CDGs/ DGs	11.00
General Purpose and Equalization Grants for TMAs and General Purpose Grant for UAs	13.00	General Purpose Grant for TMAs	57.28
		Equalization Grant for TMAs	14.32
		General Purpose Grant for UAs	28.40
Development Grant for CDGs/DGs and TMAs	11.30	Development Grant for CDGs / DGs	78.26
		Development Grant for TMAs	21.74
Tied Grants for CDGs/DGs, TMAs	8.2	Tied Grant for CDGs / DGs	91.00
		Tied Grant for TMAs	9.00

As per population projections based on the 19998 census, 4.26% of Punjab's people live in district Multan.[53] Against this population share, Multan DG and its TMA have received about 5% share from PAA during the last four years. This shows that Multan has received a fair share of the provincial resources on the population criterion. However, if backwards, etc. had been included in the distribution criteria its share could have been greater.

Table 36 Multan's Share in Population and Resources (2007-10)

				2006-07	2007-08	2008-09	2009-10
Resources transfer by Province							
DG				90,794	96,952	99,413	108,822
TMA				13,541	14,431	15,320	15,209
Total				104,335	111,383	114,733	124,031

[53] Development statistics 2009, projections based on 1998 census.

				2006-07	2007-08	2008-09	2009-10
Allocation to DG and TMAs of Multan				4,512.56	4,885.02	6,480.43	6,108.37
% share				4.325%	4.386%	5.648%	4.925%
Population							
Punjab				87,548	89,036	90,550	92,089
Multan				3,727	3,792	3,858	3,925
% population				4.26%	4.26%	4.26%	4.26%

Other factors that could be considered for PFC distribution are:

- Poverty – district's ranking in the MICS report, which is currently considered for calculating development grants, should also be considered for general purpose grants. This will provide additional support to Multan being less developed. Poverty index based on socio economic indicator should be taken into consideration.
- Curtailment of expenditure can be a useful criterion to incentivise districts that demonstrate better financial management and fiscal prudence.
- Revenue increase – introduction of incentivized revenue generation system may also help in achieving this target of increasing revenue and in turn making this a criterion for increased provincial allocation to the district.

6.3.2.2 Provincial Allocations – Commitments and Receipts

We have seen in earlier sections that around 90% of DG resources come from the provincial government. Hence, the effect of PFC award on DG resources is profound. When DG gets more resources, it is in a better position to spend more on its development. However when there is a cut on district share, development expenditure falls adversely affecting the development process in the district.

At the start of a financial year Finance Department Government of Punjab notifies through a circular regarding annual allocation from resource pool available for distribution as per the criteria. The amount is then released on monthly basis to the local government. For the FY 2009-10, an amount of Rs. 4,239 million was allocated for district Multan. Accordingly, a monthly instalment of Rs. 353 million was received by the district until December 2009. Thereafter, full instalment was not released in any of the remaining six months, presumably due to decrease in PAA caused by poor revenue generation by the provincial government. District accounts show that only R. 323.847 million, 324.337 million and 312.9 million were received for January, February and March 2010 respectively. This brings the total allocation to the district for 2010-11down to Rs. 3,666 million, which is Rs. 573 million less than the amount committed. This reduction in provincial transfer makes it difficult for the district to stick to its development plan, which adversely affects the economic development process.

Another problem is the inflationary effect, which has never been taken seriously. A regular increase in salaries and other operational expenditures makes it difficult for the DG/TMAs to provide quality service. Lack of capacity at the DG level for proper pleading of its case with provincial government and non availability of accurate data make the situation more complicated. The office of EDO (F&P) needs to be strengthened for proper pleading of its case for more resources which will in turn enable DG to undertake multi –year planning for demand based development.

6.3.3 Multan Development Authority and Water and Sanitation Agency

Multan Development Authority (MDA) was established in 1976 under the Punjab Development of Cities Act of 1976. Its area of jurisdiction spreads over 362 km². Vital responsibility of MDA is to evolve policies and programs to launch new housing schemes, to work for residential development of the city, and to execute important engineering projects. Over the years MDA has launched a number of developmental projects especially in housing sector.

Prior to the promulgation of Local Government Ordinance of 2001, MDA was under direct administration of Government of Punjab, and Minister of Housing and Physical Planning was the head of the Governing Body. After promulgation of PLGO 2001, the City District *Nazim* is head of the Governing Body and all policy matters are decided locally.

MDA employs 653 people and is administratively divided into four directorates, viz. Directorate of Estate and Land Management; Directorate of Town Planning; Directorate of Engineering; and Directorate of Finance and Administration.

MDA has three major revenue sources: revenue receipts, capital receipts, and payment for government funded works. The revenue receipts mainly comprise of the following: rental income from sign boards and more than 90 different properties including shops, plots for nurseries and petrol pumps, fines/penalties, site/building plan approval fee, NOCs fee, commercialization fee, taxes and interest income. Capital receipts are from sale of plots that MDA develops as part of housing projects. This income is applied towards carrying out development works. Receipts under government funded projects are for specific projects.

Table 37 Income and Expenditure of MDA (million Rs.) (2007-10)

	2006-07	2007-08	2008-09	2009-10
Opening Balance				
Own sources	177.146	862.4	871.197	1763.12
Government funds	37.09	54.779	67.432	148.951
	214.236	917.179	938.629	1912.071
Receipts				
Revenue Receipt	218.662	275.094	316.8	269.52
Capital Receipt	703.639	1005.429	1110.423	700.624
Government funded works	54.556	68.061	412.698	2258.1
	976.857	1348.584	1839.921	3228.244
Expenditure - Own sources				
Revenue Expenditure	126.475	170.491	214.386	279.41
Capital Expenditure	110.572	1101.235	320.914	1293.359
Government funded works	36.867	55.408	331.179	2387.388
	273.914	1327.134	866.479	3960.157
Closing balance	917.179	938.629	1912.071	1180.158

Revenue expenditure mainly comprise of salaries and administrative expense of MDA plus a few repair and maintenance cost of MDA's property or minor patch work in its jurisdiction, whereas capital expenditure are expenses incurred towards development of projects put on sale.

MDA carries out three types of development activities: 1) projects out sourced by other Government and Private institutions (externally funded); 2) projects initiated within its

geographical boundaries for revenue generation (internally funded); and 3) projects initiated outside its jurisdiction for revenue generation (internally funded). In 20008-09, MDA undertook the following Government funded projects: Multan Southern Bypass, dualization of Northern Bypass, and preparation of Master Plan for Multan. It also undertook various development works for the district government.

Water and Sanitation Agency (WASA) is a sub-agency of MDA. It was created in 1992 with the express mandate to provide better services to Multan city in water supply and sanitation sector. its main sources of revenue are income from water and sewerage charges and share of UIPT received from provincial government. Out of these sources it has to bear the expenses for salaries of its staff and for maintenance of infrastructure. It undertook development works worth Rs. 490.38 million during 2009-10.

WASA can become a self-sustaining agency if it improves its water supply and sanitation services on the one hand and its collection efficiency for its fees and user charges on the other. Currently, an amount of Rs. 563.765 is outstanding against domestic and commercial consumers. If it is able to recover this amount, it can undertake the much needed improvement of its infrastructure.

6.3.4 Vertical Programs (Tied Grants and Provincial ADP)

In addition to the district ADP, there are development initiatives that take place through provincial priorities and political movement. These initiatives play a significant role in district's development. The provincial priorities are based on national or provincial targets; one major set of targets are Millennium Development Goals, against which many initiatives take place. Besides tied grants, there are other initiatives taken by the provincial government based on its long time targets, funding for which is allocated in provincial ADP every year. Funding under both these are allocated as per the Medium Term Development Framework (MTDF) of the province. For 2008-09, tied grants stood at Rs. 965 m for ongoing and new projects. Some of the major projects against which amounts were allocated are the following:

- Prime ministers package for roads, streets, drain etc.
- Various schemes for roads development
- Punjab devolved social service program (PDSSP) for special education
- Punjab education sector reforms program
- CM accelerated program for school education
- Up gradation of schools
- Grants for Health sector schemes
- Grant in aid for DHQ/THQ

6.4 Expenditure

Having examined the DG and TMA receipts in detail, we briefly examine their expenditure during the last three years.

6.4.1 Expenditure of District Government

The following table gives the breakdown of district government's expenditure under developmental and non-developmental activities. In 2006-07, 2007-08 and 2008-09, the ratio of non - developmental expenses and development expenses is 61% to 39%, 66% to 34% and 69% to 31% respectively. This shows the declining trend of developmental budget. The year 2008-09 saw a drop in the allocation for developmental activities out of district government

resources from Rs. 1,538 m in FY 2007-08 to Rs. 1,082 m in FY 2008-09. This huge reduction was somewhat compensated through increase in development expenditure through tied grants which rose from Rs. 512m in FY 2007-08 to Rs. 965m in FY 2008-09. In FY 2008-09 the budget estimate for development activities other than CCB and tied grants stood at Rs. 558 m for ongoing activities and Rs. 742 m for new activities. The revised estimate for same expenditure came out to be Rs. 656m, which means that neither new activity was initiated nor ongoing expenditure targets were met. The major reasons identified during discussion were the change in political setup in the province and the consequent delay in funds transfer.

Table 38 District Government Expenditure (2007-09) (million Rs.)

Description	2006-07	2007-08	2008-09
	Actual	RE	RE
Non-development	2,762.80	3,912.51	4,066.98
Development	1,762.61	2,051.33	2,047.36
Total	4,525.41	5,963.84	6,114.34

The non-developmental budget mainly relates to staff cost of the DG and their administrative costs. Education, Health and Municipal Services together accounted for about 83% of the total expenditure in FY2008-9.The non-developmental expenditure has constantly increased in these three years. The FY 2007-08 registered an increase of 16% over FY 2006-07, whereas in FY 2008-09 the expenses increased by 22%. Education department has taken the largest share of the pie by consuming more than 60% in the last three years. The allocation for health department has stood at around 10% during the last three years. For Municipal Services, allocation has been 8%, 10% and 11% for FY 2006-07, 2007-08 and 2008-09 respectively.

6.4.1.1 Development Expenditure of District Government (2007-09)

The development allocation for the district government consists of funds allocated towards ADP, CCBs and Tied Grants (provided by provincial government against specific development projects). Table 6.10 provides the amounts allocated under each head.

Table 39 Development expenditure of DG Multan (2007-09) (million Rs.)

Development expenditure	2006-07	2007-08	2008-09
	Actual	**Actual**	**Revised**
ADP (on-going)	524.21	699.25	605.214
ADP (New)	641.72	483.97	50.285
CCB Share (on-going)	209.061	244.717	313.697
CCB Share (New)	87.5	111.180	113.000
Provincial Govt. Schemes (New + Ongoing) – Tied Grants	300.12	512.194	965.168
Total	1,762.611	2,051.329	2,047.364

The ongoing projects for the year mostly focused on construction, renovation and physical facilities improvement. A close look at the ongoing projects shows that in FY 2008-09 the original budget estimates were Rs. 558 m for ongoing projects and Rs. 742m for new projects. Against this budget the revised estimate given in the table above are Rs. 605.2m for ongoing projects and Rs. 50.3 m for new projects. A discussion with DG officials also revealed that procedural difficulties and delays at provincial level due to change in political setup took its toll on the DG development activities.

6.4.1.2 Throw Forward of Development Schemes

Table 40 The Throw Forward from Previous Years (million Rs.)

Throw forward from previous years in FY 2008-09 (project approved in earlier years, but funds not allocated to this extent)	229.95
Throw forward from FY 2008-09 (projects approved, but funds not allocated to this extent)	1167.48
Total throw forward from 2008-09 and before Less: Budgetary allocation against ongoing projects in FY 2009-10 (assuming these will be achieved, if not then the carry over impact would increase)	1397.43 766.801
Total throw forward impact for FY 2010-11 onwards	630.629

New schemes in FY 2009-10 were put on hold by the provincial government, therefore none of the schemes proposed in budget were approved. Hence, there is no throw forward from 2009-10 new schemes. However, the throw forward from previous financial years is significant. Budgets for previously approved scheme have been kept in 2009-10 and some of it will be carried forward to the next financial year i.e. 2010-11. Following is the analysis of the financial impact.

The above table shows that the DG has been approving schemes with less than full allocation in a particular year. The net impact has been to increase the proportion of ongoing schemes in each year's development budget, which leaves smaller fiscal space for new projects. For example, the Rs. 630.63 million of throw forward from previous years is a major commitment on next year's budget. This not only puts burden on districts resource, it also could also result in financial losses due to abandoning the project especially during the time of change in government and inflation which increases project costs.

6.4.1.3 Allocation for Citizen Community Boards Schemes

Allocation for CCB schemes is required at the rate of 25% of the development budget under section 109 of PLGO 2001. Therefore the district government has been allocating these funds annually and the accumulated balance now stands at Rs. 557.7m in FY 2009-10. Discussions on utilization of these funds revealed that very few projects have been approved and carried out from this allocation. Table 6.12 (below) presents data for CCB schemes in district Multan for the period 2002-03 to 2009-10.[54]

Table 41 Funds Allocated and Utilized for CCB Schemes (2003-10)

Total allocation (million Rs.)		557
Funds released (million Rs.)		86.6
CCBs registered		587
Projects received		297
Projects approved		93
Projects completed		51
Projects incomplete55		4

In Multan, CCB funds have by and large remained un-utilized. Discussion with officials revealed that over the years the District *Nazims* became very cautious towards spending this amount. The district development committee also put in place a strong pre approval evaluation procedure.

[54] EDO (CD), Multan
[55] These cases are pending in courts.

6.4.1.4 Sectoral Distribution of Annual Development Program (2009-10)

As for FY 2009-10, total development budget stands at Rs. 2,749 m which is 38% of the total budget for 2008-09. The total allocation towards ADP is Rs. 1,492 m which is 54% of the total development budget. This ADP has Rs. 966m as ongoing projects that have started in previous years. This is a large allocation and has taken up approximately 35% of the share from development budget. The new projects identified for the year are 19% of the total development budget. The table below shows the sectoral distribution of ADP (ongoing and new):

Table 42 Sectoral Distribution of ADP (million Rs.)

Sector	2009-10	%age
Education	214.342	14%
Health	159.877	12%
District Government facilities	52.166	3%
Solid waste management	26.188	2%
Sports	47.14	3%
General bus stand	64.259	4%
Livestock and Fisheries	24.027	2%
Farm to market roads	223.931	15%
Roads, Building and Roundabouts	348.837	23%
Others	332.034	22%
Total	1492.801	100%

The above table reflects district government's priorities for sector development. The social services such as health and education take up 26% of the share whereas the roads network takes up 38% of the allocation. The new projects identified were virtually put on hold by the provincial government through its notification no. SOR(LG) 38-3/2005 dated 20th June, 2009. Therefore no new projects were started by the district government.

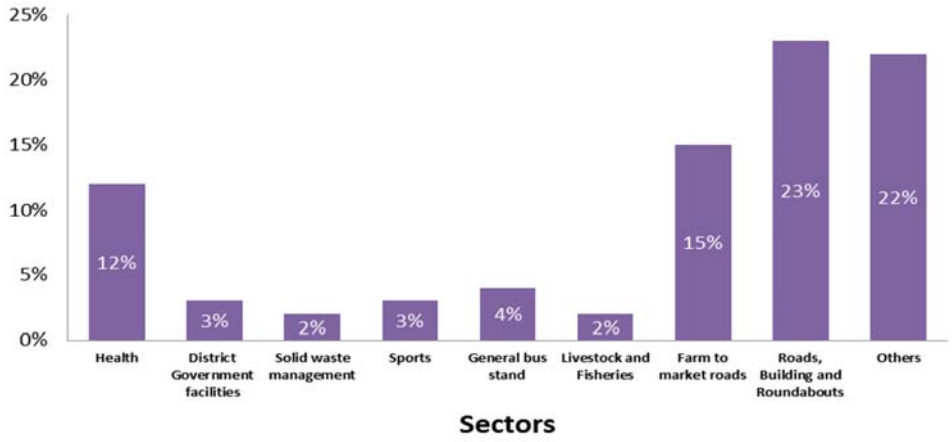


Figure 40 Sector-Wise Distribution of Annual Development Program

6.4.2 Expenditure of TMAs

The following table presents data on the development and non-development expenditure of all TMAs in Multan.

Table 43 Overview of TMA Expenditure (million Rs.) (2007-09)

Expenditure	2006-07	2007-08	2008-09
Non-development	251	247	326
Development	470	449	584
Total	721	697	910

The non development expenses of TMAs consist of the following:

- Establishment expenses – covering staff cost of all departments including salaries and benefits.
- Contingencies – these include administrative expenses, such as, repairs, stationery, utility bills, transport and travel expenses.

Charged expense – these are expenses committed by either district or provincial government and subsequently charged to TMAs. For example contribution towards localgovernment board,

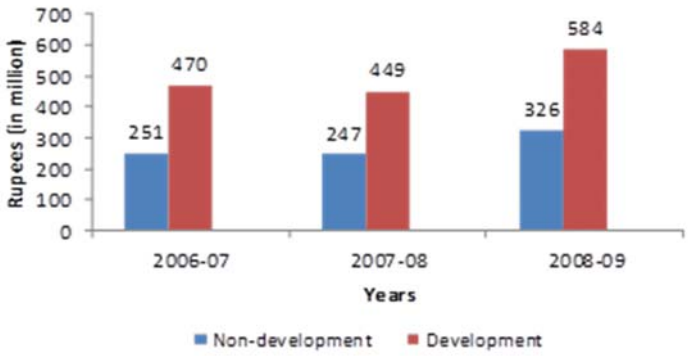


Figure 41 Comparison of TMA Expenditures (2007 – 2009)

expenses on VIP movement, loans for TMA employees, contribution towards festivals, etc. These are usually not substantial amounts.

The development expense comprises schemes that TMAs undertake. The development expenditure stood at Rs. 470 million, Rs. 449 million and Rs. 584 million during 2006-07, 2007-08 and 2009-10 respectively. The above table shows that the allocation towards development expenditure is 64% of the total outlay. It has remained relatively stable over the last three years. The allocation in FY 2008-09, which comprises of the annual development projects, CCB contribution and payment against liabilities amounts to Rs. 255m, Rs. 262m and Rs. 66 m, respectively. Payments against these liabilities were frozen by the Government of Punjab, which has asked the TMAs to present these liabilities as new projects under the ADP. Over-optimistic planning and change in political setup at the provincial level resulted in huge payment liabilities being carried forward to the next year. The development budget against New ADP in FY 2009-10 has also been frozen by the Provincial Government via notification no. SOR(LG) 38-3/2005 dated 20th June, 2009. Therefore new projects against this amount have not been approved. However, payments against ongoing ADP scheme have been allowed. The new CCB allocation, as per the PLGO 2001 section 109, has been made at 25% of current year ADP. However, as is the case with DG, the CCB funds are being carried forward each year with no significant projects being implemented.

7. Recommendations

In this chapter we have comprehensively examined the various sources of income for the district government and for TMAs. We have also briefly examined the expenditure, especially development projects. Any improvement in district/TMA resources will enable them to improve their services delivery and upgrade their infrastructure. This will directly contribute to economic development in the district, and is, *ipso facto*, a key element of the district development strategy. The recommendations contained in this chapter are summarized as follows:

- DG, TMAs, MDA and WASA should rethink their development projects as investment opportunities. As many as possible projects should be designed in a manner that these are able to support themselves from user charges and fees.
- The comprehensive review of legal and institutional regime for collection of various taxes, fees and rents by the DG and TMAs has shown that there is considerable room for improving collection efficiency in most cases. This would, however, require commitment from the district and provincial governments to create an enabling legal regime, broad contours of which have been presented in section 6.3.1 and in Appendix 5. It is recommended that the changes in various laws, rules and notifications proposed herein be made forthwith to enable enhanced resource generation by DG and six TMAs of Multan.
- Discussion in this chapter has also highlighted the need for reform in the business processes for assessment and collection of various taxes, fees and rents. Such reform will not only increase local resource for future investment, it will also create a friendlier user interface.
- It is strongly recommended that modern tools of information technology be used to facilitate assessment and collection by DG, TMAs, MDA and WASA. Comprehensive databases of users should be developed on priority and the process of issuance of bills and receipts should be automated. The entire financial outlay of these organizations should be re-organised in a management information system (MIS) and a financial information system (FIS). An effective use of MIS and FIS will not only inform decision making and allocation of resources, but will also facilitate public at large in seeking various services from these organizations.
- A comprehensive capacity building program also needs to be launched. There are serious capacity gaps in all departments/wings. It is recommended that a comprehensive training need assessment (TNA) be carried out. Based on such TNA, a capacity building strategy and a capacity building plan should be developed. The following areas are identified for special attention: use of information technology to store and retrieve information and to communicate internally and externally; strategic planning and resource mapping; financial rules and regulations, especially on procurement, contractor payments and recovery of arrears. Separate sessions should be held on gender sensitization of DG/TMA employees.
- Appendix 6 identifies a few government offices in Multan district that are located on prime land and that can be relocated without any significant inconvenience to the people. The list has been prepared in consultation with district officials and includes government offices that do not have a significant public dealing component. It should also be noted that many of these facilities were built outside city limits at the time of their constructions but due to urbanization they now fall within city limits. The table shows approximate market value as well as relocation cost of few of these facilities to areas outside city limits. We propose to sell these properties and relocate them, if need be, to a more economical location. In a few cases, relocation is not required as luxurious and under-utilized outfits like a circuit house

have hardly any place in a modern dispensation. It is estimated that sale of these properties may fetch the district something around Rs. 4,682 million. This is a significant amount and may provide the district the means to implement some of the recommendations/interventions formulated in this report for boosting economic activity in the district.

- Another step that can generate significant resources for development is efficient management of the property given on rent. The DG, TMA and MDA have many shops, stores and buildings that have been rented out. One option to enhance revenue is to revise these rents upwards to bring them at par with the market. Alternatively, these properties can be sold in open auction to generate a one-time income for the DG or TMA, as the case may be.
- Another under-utilized resource is the CCB funds lying with the DG and TMAs (Rs. 558 million and Rs. 324 million respectively). This is a significant resource and the government should allow the use of these funds for development projects.
- Finally, the option to float municipal bonds should be explored. Municipal bonds are issued by a city or other local government, or their agencies. Municipal bonds may be general obligations of the issuer or secured by specified revenues. Interest income is received by holders of municipal bonds. Municipal securities consist of both short-term issues (often called notes, which typically mature in one year or less) and long-term issues (commonly known as bonds, which mature in more than one year). Short-term notes are used by an issuer to raise money in anticipation of future revenues such as taxes, state or federal payments. These allow the issuing local authority to cover irregular cash flows, meet unanticipated deficits, and raise immediate capital for projects until long-term financing can be arranged. Long term bonds are usually sold to finance capital projects over the longer term. This could be another potential resource that could be explored to finance development in the district. The devolution plan in Pakistan pre-empts local governments from raising funds in the capital markets. Hence, municipal bonds are unheard of in Pakistan. Multan being a large urban centre with high-value assets should be permitted to float bonds in open markets to finance development. Amendment in section 120 of the PLGO 2001, which bars the local governments to incur any debt, would be required to enable the launching of municipal bonds by DG Multan or by any of the urban TMAs.

THE STRATEGY MATRIX

The following matrix lists constraints and baseline, strategic recommendations offered in the detailed report, proposed activities to operationalise these recommendations, government tier/organization responsible for implementing these activities and expected gains.

Table 44 Strategy Matrix

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
Persistent power shortages inhibit economic activity • Distribution capacity of about 5,800 MW, but only 1,912 MW provided in summer and 1,206 provided in winter on average • About 23% and 25% demand-supply gap in summer and winter respectively • 10-12% line losses • 2.5 – 5% power theft • The legal regime inhibits local power generation and consumption • Exclusive reliance on power supplied by the national grid • No consumer involvement in power distribution and billing • Energy audits an unfamiliar concept	**Create an enabling legal framework for power generation** • Amend the Regulation of Generation, Transmission and Distribution of Electric Power Act of 1997 (especially Sections 15, 15 and 20) to allow decentralised power production and distribution, especially at a small scale. **Support small-scale local power generation projects** • Advertise request for proposals for innovative small-scale power generation projects • Evaluate shortlisted proposals and support selected proposals from a fund specially created for this purpose • Liaise with Irrigation Department to facilitate the private sector in installing small turbines on selected sites **Promote alternate power generation and use** • Demonstrate use of solar panels for domestic and industrial consumption • Encourage electricity co-generation in textile units located in Multan. • Conduct a feasibility study to assess the commercial viability of using municipal solid waste for power generation • Advertise request for proposals for waste to power projects • Support selected parties through assured supply of segregated municipal waste over a 5-10 years time period **Reduce transmission losses and power theft**	Ministry of Water and Power Ministry of Law MEPCO Planning and Development Board Urban Unit, Government of Punjab District Government International Aid Agencies	**Demand-supply gap brought down to about 8%** • Waste to energy project produces 120 MW additional electricity • Small turbines installed on irrigation networks produce 65 MW additional electricity produced for local consumption in 26 villages • Improvement in distribution network, energy audits, bulk supply to clusters reduces electricity consumption by 38 MW

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
• District energy conservation plan does not exist	• Conduct regular energy audits in various public and private sector organizations • Involve consumer organizations (initially industrial consumers) in power distribution • Improve distribution infrastructure (transformers, switches, gears, etc.) • Launch a campaign to create awareness about power theft and its negative consequences • Strengthen power theft checking mechanisms		
Widespread complaints of water shortage • Only 40% water demand met from canal irrigation network • 19.3% irrigation by tube wells • Mostly flood irrigation, which is wasteful and harmful • Crop yields 50-80% below potential	**Reduce water loss in the irrigation network** • Undertake de-silting, concrete lining and/or repair of embankments in those canals and distributaries that are not included in the ongoing asset management program of the irrigation department • Launch a campaign to create awareness on community's role in maintenance of irrigation network and checking water loss/theft **Improve water use efficiency in agriculture** • Brick line remaining water courses in the district that have not been covered under the previous ONWF projects • Launch a program of farmer education to create awareness on modern and more efficient modes of irrigation, such as sprinkler and drip irrigation • Promote development of water reservoirs to enable use of water-efficient modes of irrigation and to make water available when it is not being provided by the irrigation network	Irrigation Department On Farm Water Management Wing, Department of Agriculture District Government International Aid Agencies	**Crop yields increase by about 15-20%** • Repair and maintenance of the canal network improves water conveyance efficiency by about 15% • Lining of water courses saves about 200 cusecs in *Kharif* and about 120 cusecs in *Rabi* • Use of water saving modes of irrigation reduces water demand by about 25%
Inefficient and inadequate water and sanitation services • Water table dropping @ 0.3 m annually due to excessive pumping for urban and industrial use	**Create an efficient, autonomous and responsive institutional infrastructure to provide reliable water supply and sewerage facilities in Multan city** • Incorporate WASA Multan as an operationally, administratively and financially autonomous entity that has the autonomy to take its decisions based on specified objectives and performance agreements.	PHED, Government of Punjab MDA/WASA TMAs International Aid Agencies	**Essential municipal services provided ensuring reliability and regularity of services, environment and health safety and efficiency in service delivery**

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
• Only 65% households provided piped water • Only 55% households provided sewerage facilities • Water supply and sewerage systems need major investment in repair, maintenance and upgrading of infrastructure • Poor quality of water supplied to households; arsenic content increasing • No monitoring of water quality at the household level • About 400 ton solid waste left on street every day • No landfill sites • No system of waste segregation at the household level • Comprehensive database of consumers does not exist • Primitive system of billing and collection of user charges • Asset management plan does not exist	• Develop a system of regular data collection on customers, commercial/business efficiency, income/expenditure and technical aspects of water supply and drainage • Install necessary equipment (bulk, zonal and some customer water meters, pressure monitors, and measuring flumes on sewers, etc.) and allocate human resource to enable collection of appropriate technical data • Develop detailed area maps showing the location of all facilities and ideally information on their condition. A Global Information Based (GIS) based approach is the modern way of assembling much of this data but requires significant upfront investment. • Conduct a comprehensive survey to prepare an inventory of assets. There should be a mechanism for regular updating of this inventory • Prepare an asset management plans for long-term use, maintenance, and replacement of these assets • Strengthen the disconnection teams by providing additional mobility and human resource • Prepare a medium-term Performance Improvement Plans based on the following: 1) full recovery of O&M costs from user charges after a maximum of five years; 2) decreasing financial assistance to WASA in support to O&M costs linked to actual collection of user charges; and 3) immediate rehabilitation program to achieve visible initial service improvement. The immediate program should also include the necessary arrangements and investments in metering and monitoring equipment in order to start up the data collection process as soon as possible. • Outsource specific functions to the local private sector under O&M service contracts on trial basis. Start with the O&M of water pumping plant and sewerage disposal pumping stations. • Develop a capacity building plan for WASA staff. The Plan should cover a diverse range of service delivery aspects, such as, technical, commercial and financial management issues; customer relations;		• 100% households and industry in Multan city and major towns provided piped water • 100% households and industry in Multan city provided sewerage facilities • Arsenic content in water monitored regularly • Regular monitoring of other impurities in piped water • Increased coverage, regularisation of illegal collection, efficient system of billing and collection of user charges increases WASA income by about 75% • Full recovery of O&M costs from user charges after a maximum of five years • 95% solid waste collected from city streets on daily basis • Modern landfill site constructed • Municipal waste used for energy generation

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
• Private sector and consumer participation in service provision minimal • Services require continuous subsidy	stakeholder consultation and communication; appraisal and evaluation of investment projects; and tariff review and approval • Create public awareness about avoidance of health risks, contamination of their own water sources and improvements in the system **Create an efficient institutional infrastructure for solid waste management in Multan city** • Create a strong, capable solid waste management organisation for planning, monitoring and controlling of SWM activities. This organisation should be operationally, administratively and financially autonomous, and other than broad oversight by public officials, should be free to develop its own policies, procedures and priorities. • Encourage private sector participation in solid waste management operations. There are several gaps which need to be filled before a smooth Public Private Partnership is established. First, an institutional framework needs to be in place for the induction of private sector in solid waste management operations. Second, the TMAs need to build their capacity to work with and to monitor the performance of the private sector. Third, TMAs need to bring all stakeholders, especially communities, on board to ensure their participation in waste management operations. Fourth, fiscal and social incentives should be provided to the private sector to invest in this area. Finally, a reasonable time frame should be given to establish and show results. • Increase community involvement in waste management operations. Launch an awareness campaign to educate the community about the objectives of the structural shift. • Develop economical solutions which have low risk in investment costs and reasonable profit incentives to modernise the infrastructure in Multan • Shift from inefficient street sweeping to a door-to-door collection system • Reorient the SWM staff and educate households. Either directly or through a private sector entity, run a public awareness campaign so that		

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
	households collect their waste in shopping bags, which are collected house to house every morning • Develop a long-term plan for cost recovery from users, at least in the better off localities		
Unharnessed potential as regional transport hub • 242 truck addas; 162 still scattered in various parts of the city • The General Truck Stand lacks basic facilities; internal roads in dilapidated condition • Multan Dry Port lacks heavy machinery; can't handle 20 ft high containers • Obsolete and rusted cranes; second hand machinery • No railway sidings to link Dry Port with Shershah Railway Station • No cold storage facility at the Dry Port • Only 700-800 containers despatched every month; only 150-200 containers received each month	**Harness Multan's potential as the transport hub for neighbouring districts for shipping merchandise to various parts of Pakistan** • Amend the Goods Forwarding Act of 1938 to enable truck addas to operate in the formal sector after due registration and under oversight from the RTA • Improve physical infrastructure in the existing General Truck Stand. Major requirements are provision of basic municipal services, maintenance of roads and installation of weigh-bridges • Shift the162 *addas* currently scattered around the main entry/exit points of the city to the new place making it a transport hub for the region **Harness Multan's potential as the transport hub for neighbouring districts for export to various countries** • Support acquisition of modern technology, heavy equipment and basic facilities by the Dry Port Trust Such machinery is essential to promote trade activities • Provide railway-sidings to interlink the dry port with Shershah railway station • Maintain a complete record of all people working at the dry port. Customs department should issue official identity cards to workers to avoid cases of theft and loss of merchandise. • Support establishment of a cold storage facility at the Port to promote export of horticultural products directly through the facility • Simplify custom clearance procedures. Use information technology to quickly store, process and retrieve information	Government of Punjab • P&D Board • Department of Commerce • Department of Transport District Government International aid agencies	**Volume of imports and exports (from/to other districts and countries) increases by about 40%** • 162 truck addas located in various city parts shifted to the General Truck Stand • Trucking business concentrated in one place facilities business and reduces congestion on city roads • Another 100 truck addas established to handle increased volume of goods being transported to and from the district • Approximately 5% increase in mango export • Additional 300 containers sent each month

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
	• Provide income tax rebate and provision of duty free machinery for handling of heavy containers as the port is working under a nonprofit Trust		
Agriculture			
Existing legal framework does not attract large-scale private sector investment in agriculture and does not enable effective regulation of support services • 32 seed companies in the district; all functioning without any regulatory oversight on their breeding, seed multiplication and marketing activities • No proprietary rights for breeders in new varieties • Cotton seed smuggled from Indian Punjab being used without testing and local adaptation • Cattle markets lack basic facilities • Agricultural market lacks basic facilities	**Reform the legal and institutional infrastructure** • Amend the Agricultural Produce Markets Act of 1939 to enable private sector participation in setting up and managing agricultural markets. • Amend the Seed Act of 1976 to enable private sector participation in seed provision in the formal sector, and to also extend regulatory oversight to private sector seed operations. • Enact Plant Breeders' Rights. This will create proprietary rights in new plant varieties, which will pave the way for private sector investment in agricultural R&D in general and development of new varieties in particular. • Amend Rules made under the Plant Quarantine Act of 1923 to allow for large scale import of cotton seed by the private sector at any port of entry. • Amend the Pesticide Control Act for testing of xylene as well as the poison content. • Amend the Slaughter Control Act to ensure the free functioning of the market. The revised law should set standards and facilitate the establishment of slaughterhouses in the private sector. Also remove market distorting provisions, such as the one banning slaughtering of beef and lamb on Wednesdays. • Amend the Cruelty to Animals Act to set standards and to approve techniques that would ensure that all slaughtering techniques used are humane. The absence of such provisions not only imposes undue cruelty on animals, but also makes it difficult to export meat that has not been slaughtered in accordance with international practices.	Ministry of Food and Agriculture Department of Agriculture Department of Livestock	**An enabling framework created for implementation of strategic reforms in the agricultural sector** • Agricultural Produce Marketing Act of 1939 amended to enable private sector participation in operation of *mandis* • Seed Act amended to provide regulatory oversight to private sector seed provision • Private sector investment in plant breeding incentivised • Cotton seed imported from India after proper testing and adaptation • Establishment of cattle and agricultural markets in the private sector enabled • Improved food safety and quality • Farmers get better prices for their livestock and agricultural produce

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
	• Revise the Cattle Market Rules to remove market control through price caps. Such caps not only distort values, but also raise quality concerns. In general, remove all caps on meat and milk prices. • Enact legislation for milk and meat quality control. A significant quantity of the milk produced in the district is adulterated and is not fit for human consumption. This law is required to develop standards on the quality of the milk and meat, and to provide a framework that will ensure the monitoring of this quality. • Develop regulatory capacity at the provincial level. Variety approval and registration, seed testing and certification, and overall regulation of the seed business in all crops is a provincial privilege. Hence, the Punjab Seed Certification and Variety Registration Authority should be established as an independent regulatory organization. • Develop seed certification facilities at district level; at least one seed inspector to be dedicated for the district.		
Crop Yields 50-80% below potential • Good soils, perennial canals, sweet ground water, home to two premier cotton research institutes, and yet the district ranks 5th in Punjab in cotton production • 250,000 – 3,80,000 bales lost to Cotton Leaf Curl Virus alone every year • 112 ginning factories working on less than 2/3rd capacity	**Build the capacity of the District Agriculture Office** • Fill all vacant positions in the district with qualified professionals; rationalize work load by creating more positions at the union council level; provide motor cycles and POL budget for all Agriculture Officers and Field Assistants in the district. • Develop specialized cadres of extension workers for different crop groups (cotton-wheat-sunflower; mango-citrus, etc.). • Conduct a target and resource gap analysis to develop a realistic work plan for each official in the district. • Develop effective linkages with R&D institutes and agricultural universities for a regular flow of information on crop production from the lab to the field. • Develop a capacity building strategy and a capacity building plan for district agriculture office; training on use of information technology tools to be an important component in all training programs.	Agriculture Department District Government International aid agencies	**Yield of three key crops – cotton, wheat and mango – increase by 10-15%** • Cotton production increases by 0.2 million bales; net addition of US$ 97 million to district economy (US$ 69 million in lint and US$ 28 million in seed cake and oil) • Multan becomes top cotton producing district in Pakistan • 112 ginning factories work on full capacity • Around 40 new ginning factories established to gin increased production

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
• 14th in land use but 16th in wheat production • 1st in land use but 2nd in mango production • Only 4% of mango is exported • 85-90% farmers unaware of appropriate techniques and timing of fertiliser, pesticide and water application • Extension wing seriously under resourced; no system of regular capacity building; No system of providing crop specific extension services • One Agriculture Officer for every 9,000 farmers; only one Field Assistant for seven villages and 12,000 acres of cultivated area • Three posts of Agriculture Officer and nine posts of Field Assistant lying vacant	• Use information technology for creating data bases of farmers, crops and livestock. • Provide performance based incentives to officials who meet targets and provide effective extension advice to farmers. **Outsource extension service provision on pilot basis in one tehsil** • Focus extension effort on key crops (cotton, wheat, sunflower, mangoes and citrus). • Develop a set of key messages that are to be delivered to farmers; develop terms of reference and invite private sector companies to bid for provision of extension advice to a pre-determined proportion of farmers in selected crops • Reformulate the role of district agricultural establishment to the extent of pilot tehsil as manager of contracts, rather than a service provider • Document lessons learnt for possible replication in other tehsils of Multan and subsequently in other districts **Create awareness among small farmers about newer production techniques for fruits and vegetables** • The district agriculture office should enlist technical assistance from the Punjab Agricultural Marketing Company (PAMCO) to develop projects for creating awareness on Global GAP (Good Agriculture Practices) certification, better production techniques including efficient fertiliser application and water management, pruning, and plant care. • Develop training manuals for crop production and work on disseminating the information and 'preaching by demonstration'. Establish more model farms and farmer learning schools to impart training on growing practices on the pattern of the one farm already established in Multan. • Develop effective linkages between PAMCO and small farmers for appropriate farming and harvesting practices that support high-end domestic and export markets.		• District becomes top wheat producer in the province • District becomes top mango producer in the district • Export of mango increases to 10% of annual produce in the district • All vacant posts filled and new posts created to rationalise work load • Regular capacity building of extension workers • Crop specific extension services provided to 100% farmers in one tehsil through the private sector • 100% farmers educated on appropriate practices to apply fertiliser, pesticides and irrigation • A new model developed for replication in other areas

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
Inadequate farmer access to support services • Basic diagnostic facilities not available at tehsil level • Accredited laboratories not available for scientific testing of agricultural inputs and produce • 95% flood irrigation • Less than 1% farmer have on-farm water reservoirs • Mango pulp plant working on less than full capacity even during mango season • No irradiation facility in the district	**Improve farmers' access to various support and diagnostic services** • Establish water and soil testing laboratories at tehsil level. • Offer quality diagnostic services to farmers on cost-recovery basis. • Establish a Provincial Reference Fertilizer and Pesticide Testing Laboratory at Lahore to test disputed fertilizer and pesticide samples; this laboratory can also evaluate fertilizers, pesticides, enzymes and other growth regulators for the purpose of registration **Improve crop reporting services** • Use modern tools of information technology to maintain crop data in the district • Use GIS for accurate and real time crop reporting on pilot basis in one tehsil **Promote water use efficiency** • Encourage the use of high-efficiency irrigation systems (e.g. drip and sprinkler) • Strengthen the district OFWM office • Integrate advice on water use efficiency with core extension activities **Develop ISO 17025 certified laboratories** • Support the existing laboratory infrastructure (public and private) to become ISO 17025 certified. This will enable the private sector to meet international sanitary and phyto-sanitary (SPS) measures on microbial contamination and pesticide residue analysis. Active monitoring and surveillance must also be provided to ensure that processes are being followed at the grower and processor level.	Ministry of Commerce (especially Pakistan Horticulture Development and Export Company) Department of Agriculture Punjab Agricultural Marketing Company District Government	**Improved farmer access to support services** • Famers access to SPS and other testing facilities improves; increased export of horticultural products • Informed farming decisions; improved agricultural practices; efficient use of inputs; increased crop yields • Reliable and accurate crop data made available to farmers, processors, exporters and other members in the value chain of various crops • Irrigation demand drops by about 25%
Inadequate agricultural storage • Effective wheat storage of the Food Department only 44,500 ton; wheat	**Improve agricultural storage facilities** • Support private sector development of storage facilities, including cold storage facilities	Department of Agriculture Department of Food ADBP	**Agricultural storage capacity in the district increases by 200%** • Private sector's capacity to store agricultural commodities in built-up

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
procurement in 2010-11 227,000 ton. The rest stored in open places • Only 15 cold stores; effective average capacity 45,000 – 50,000 tons • No commodity specific storage facilities • Futures trading in commodities non-existent	• Develop model pack houses, farm cooling systems and portables reefers to facilitate the growers to maintain the quality of their produce. Provide training to growers on picking techniques, storage and post harvest treatment. This will save about 20-40% of produce, which is currently wasted due to lack of proper infrastructure and post-harvest care • Encourage ADBP and commercial banks to provide soft credit to farmers intending to store their crops for short to medium term at a private sector storage facility (including cold stores); use stored crop as the collateral; the credit can be recovered at the time of sale. This will be a tri-partite arrangement among the bank, the farmer and the storage provider • Support conversion of existing commodity non-specific cold stores into 'control-atmosphere' commodity-specific types • Study 'futures trading system' and support private sector warehousing facilities to enable 'futures trading' of wheat, maize, rice, etc.; support Engro (Pvt.) Ltd. or another major commodity trader to develop warehousing facility in Multan • Encourage the Food Department to sell its silos on Multan-Khanewal Road and its offices in the city and relocate to a peri-urban area; sale proceeds to be used to support the private sector for developing storage capacity • Support the private sector in developing adequate storage facilities for its own use as well as for renting to farmers	District Government International aid agencies	godowns increased by 45,000 ton • 15 existing cold stores converted into commodity-specific controlled atmosphere facilities • 19 new cold stores established in the private sector • Improved post-harvest infrastructure saves about 20-40% crop loss • Increased access to agricultural credit
Inadequate R&D support to farmers • None of the three most popular cotton varieties during the last three years came from public sector research institutes in Multan (i.e. Central Cotton Research Institute (CCRI)	**Invest in agricultural research and development** • Strengthen the crop research institutes at the Ayub Agricultural Research Institute (Faisalabad). Fill vacant posts and create new posts to patiently carry out crop improvement activities through breeding and selection.	Ministry of Food and Agriculture Pakistan Atomic Energy Commission (especially National Institute of Biotechnology and Genetic Engineering)	**Cotton and mango yields increase by about 30% and 20% respectively** • High-yielding Bt varieties released by CCRI and CRI • Farmers' cost on pesticides and herbicides drops by 50%

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
and Cotton Research Station (CRS)) • Both cotton research institutes and the mango research institute working on very low budget • 3 posts of breeders lying vacant in CCRI; one post lying vacant in CRS • Research institutes do not have operational autonomy to set their own research agenda • Large-scale cultivation of illegal Bt cotton varieties • Majority of mango farmers using old production practices, which don't ensure quality of fruit and good yield • Little known about the mango sudden death syndrome • Not even a single certified nursery in the district • Second generation Bt and herbicide tolerant varieties not yet available in the formal sector	• Establish a system of performance based incentives to encourage innovation; develop a system of royalty sharing between breeder, institute and seed providers on commercialised crop varieties. • Implement governance reform in research institutes to give them operational, fiscal and administrative autonomy; they should be responsible to key stakeholders, rather than bureaucrats in the Agriculture Department. **Improve governance in cotton research institutes** • Reform CCRI governance by providing the textile industry greater role in determining research priorities and in overall supervision of research activities; institutionalise stakeholder engagement by making them a part of the CCRI governance structure. • Reactivate Cotton Research and Development Company (CRDC); bring all provincial cotton R&D (including CRS Multan) under its umbrella and give it operational freedom to set its own research agenda in accordance with farmer preferences and needs. **Promote use of biotechnology to improve crops** • Support private seed companies in producing and marketing their Bt cotton varieties. • Use government microbiology labs to support private sector breeding activities; provide seed testing services for genetic purity, for existence of new traits (such as insect resistance and herbicide tolerance) and for expression level of proteins (such as the one produced by Cry 1Ac gene from Bt). • Rigorously enforce quality standards in genetically modified Bt cotton seed provision. • Establish effective partnership with Monsanto for introduction of double-gene Bollgard II cotton in Punjab. This will help the farmer in bollworm control, and will build the capacity of our seed industry. • Explore avenues for introduction of herbicide tolerance technology through the formal sector. This will help the farmer overcome the weed	Federal Seed Certification and Registration Department Department of Agriculture University of Punjab (especially Centre of Excellence on Molecular Biology) University of Agriculture International aid agencies	• Appropriate guidance to farmers on management of mango sudden death syndrome • Improved advice on appropriate farming practices increases crop yields by about 15-20%

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
	problem. Genetically modified herbicide tolerant crops allow use of broad-spectrum soft herbicide (such as glyphosate) at vegetative and reproductive stages to control weeds without damaging the crop (which has been genetically modified to be tolerant to the herbicide).		
Unharnessed livestock potential • Unenviable ranking in the province: 16th in poultry, 9th in cattle, 20th in buffalo, 23rd in sheep and 14th in goat population in the province • Veterinary centres only at the *Markaz* level • Veterinary care facilities are under resourced and under-staffed • No system of regular capacity building of veterinary officers, artificial insemination staff and technicians • Livestock care relegated to quacks	**Build the capacity of District Livestock Office** • Fill vacant posts and create new posts to rationalise work load. • Provide veterinary care facilities at the union council level. • Develop a system of regular training of staff, especially for the extension and artificial insemination staff. • Develop a database of livestock farms. • Establish a Livestock Development Centre in the district to provide animal health services, advisory services for livestock owners and provide business facilitation services. • Develop an animal disease reporting and epidemiology system in the district. **Create awareness among livestock and dairy farmers about production techniques** • Emphasize practical training in the existing livestock training programs. • Privatise extension services on pilot basis in one *Markaz* or tehsil **Encourage private sector participation in breed improvement** • Support development of artificial insemination facilities in the private sector • Allow private sector access to semen collection centre in Bahadar Abad	Livestock Department District Government	**Improved veterinary care for livestock farmers** • Increased production of livestock in the district • Enhanced dairy production • Livestock farmers' incomes double in five years
Manufacturing, Trade and Commerce			
Unharnessed potential of Multan's entrepreneurs	**Promote development of new enterprises**	SMEDA TEVTA	**Increase in business activity in the district**

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
• Number of new business established every year decreasing; only 45 new companies established in 2009 • Reliable data on number of firms and employees • Most business in the informal sector • Weak capacity of professional organizations to lobby • Enterprise and Investment Promotion (E&IP) wing of the District Government seriously under-resourced and under-staffed • Limited input from local industry and business in devising curriculum for technical and vocational education • Mostly export of raw material; value addition done elsewhere	• Strengthen office of DO (E&IP) to provide support services for establishment of new enterprises in the district. Provide human resource, equipment and training to enable the office to discharge its responsibilities • Develop a comprehensive database of the enterprises in the district • Provide support for the creation of new enterprises and for expanding the pool of entrepreneurs. Formulate a program based on advising and "Business Incubation" with support from DO (E&IP), banks and the Chamber of Commerce and Industry to expand the existing pool of entrepreneurs. Business Incubation services should include advising the new entrepreneurs, supporting them to access technical and financial support from relevant organizations, making infrastructure available for a limited time period to start new enterprise and help in market linkages at nominal charges. • Develop small clusters, which offer space and basic facilities to new SMEs to house their operations and offices in a fully operative facility. These clusters would provide turnkey infra structure facilities on lease to potential investors. Cluster for silver jewellery and clusters for traditional embroider can attract the suppliers, technical workers and buyers alike at respective cluster with much ease. These cluster would-be different in style and structure from a Small Industrial Estate which usually provide developed land only whereas these clusters would have constructed structure of production halls and other facilities like a turnkey for ease of use and start up on rental basis. **Promote business competitiveness** • Develop financial products suitable for SMEs with the help of SBP, SME Bank, Khushhali Bank, representative of large commercial banks, SMEDA, PSIC and DO (E&IP) to address the constraints of access to finances by SMEs; more specifically the problem of collaterals faced by SMEs. • Revise the curriculum of Technical and Vocational Training Authority (TEVTA) and Punjab Vocational Training Council (PVTC). The revision process to be led by Multan Chambers, professional associations,	PVTC PSIC Department of Commerce District Government International aid agencies	• Increased number of enterprises in the district; simplified processes for establishment of new enterprises • Improved support services for business; increased access to small business finance; enhanced capacity of business organizations • Increased productivity of key sub-sectors; larger share of value retained in the district • Increased number of enterprises in the district; simplified processes for establishment of new enterprises

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
	SMEDA and PSIC. DO (E&IP) to be the focal person to align the curriculum to need based training of the required human resource for SMEs. • Build the capacity of the Multan Chamber of Commerce and Industry and other trade associations to enable these organizations perform their support functions for local business. • The SME bank should resume its lending in the Multan district immediately. **Upscale key sectors and focus on value addition within the district** • SMEs are usually handicapped in marketing and R&D due to their restricted size and resources. It is recommended to develop market linkages and extend R&D support through Business Development Service Providers (BDSP) as private – public partnerships. • Carry out a detailed training need assessment for SMEs; initiate capacity building programs to improve management and technical skills of existing SME entrepreneurs. • Support the development of a separate Trade Body to highlight problems of sector based SMEs and cottage enterprises. This sector Trade Association (e.g. silver jewellery, embroidery, Rohi crafts etc.) should act as sector promotion councils at district level to promote and develop their own sector similar to sector development companies established at national level for furniture, marble, gems and jewellery. • Commence the development of the proposed industrial estate under Punjab Industrial Estates for Multan forthwith. The prices of industrial plots in the estate should be kept low to attract new investment. • Develop clusters for the promotion of Multan arts and crafts of silver jewellery and traditional embroidery. The proposed cluster would offer opportunities to relocate many of the artisans and traders to avail the benefits of cluster locations. • Develop common facility centers for product designing, training, capacity building, processing and market linkages, which can open new		

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
	horizons for the up gradation, value addition and branding of Multan silver jewellery and embroidery for domestic and export markets.		
Local Resource Generation			
Very small local resource base • District's Own Source Revenue (OSR) only 149 million in 2007-08 • TMAs' cumulative OSR in 2008-09 was only Rs. 414 million (59% of total income) • 2.5% share of GST frozen at the 1996-7 level • Manual record keeping; leakage prone system of billing and collection • No MIS and FIS to support financial management • Comprehensive databases of users of various services do not exist to support collection of revenue • 850 shops on prime municipal land in various TMAs, but only Rs. 34 million recovered as rent in 2008-09 • Rs. 882 million CCB funds lying unutilised	**Create an enabling legal regime for local resource generation** • Amend laws and rules, and issue notifications and circulars as specified in the report **Demand legitimate share of resources from provincial and federal governments** • Demand a collection charge from the provincial government ranging from five to ten percent of the actual collections (depending on the level of difficulty and complexity of collection) in all cases where collections are made by the DG/TMA on behalf of or for the provincial government • Demand 2.5% share of the GST actually collected by the Federal Government in lieu of Octroi and Zilla Tax (OZT), which were abolished and replaced by GST in 1997-8 **Improve business processes for assessment and collection of DG/TMA taxes, fees and rents** • Automate assessment and collection process of various taxes, fees and rents in the DG and TMAs. Use modern tools of information technology to facilitate work in the DG, TMAs, MDA and WASA. The entire financial outlay of these organizations should be re-organised in a management information system (MIS) and a financial information system (FIS). • Develop comprehensive databases of users • Abolish the low yielding taxes/fees (identified in the detailed report) or increase their rate • Widely disseminate information about process, assessments, valuation table, and fees. This information could be made available through publicity material, notices in newspapers, display through posters in relevant offices and media awareness campaigns	Ministry of Finance Local Government and Rural Development Department Law Department Finance Department District Government TMAs NGOs	**Additional one-off income of Rs. 5,580; additional annual income of Rs. 230 million** • A legal framework created that enables the implementation of recommendations to improve business process and enhance local revenue • Additional income of Rs.50 per year as rent of municipal property • Additional taxes and fees of Rs. 180 million • Rs. 880 million unutilised CCB funds utilised for local development • Rs. 4,700 million extra revenue generated from sale of government properties • Public at large facilitated; improvement in delivery of municipal services

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
	• Develop an effective system of resolution of billing complaints • Install water meters at household, business and factory level, and charge water usage on consumption, rather than on the current flat rate for different categories of consumers • Coordinate collection of user charges with other utility providers • Initiate quality control mechanisms at the district/TMA level to check functioning of various service providers in the district. An improvement in service delivery is a pre-requisite for enhanced collection of user charges **Build the capacity of relevant officials in the DG and TMAs to improve assessment and collection of local taxes, fees and rents** • Develop a comprehensive capacity building plan for the DG and TMA staff dealing with tax assessment and collection, maintenance of records, preparation of budget, receipt estimates, expenditure management and other aspects of financial management at local level. The following areas are identified for special attention: use of information technology to store and retrieve information and to communicate internally and externally; strategic planning and resource mapping; financial rules and regulations, especially on procurement, contractor payments and recovery of arrears; accounting and financial management; legal issues pertaining to cases pending with courts where these officials have to appear before the courts; powers and responsibilities of drawing and disbursing officers. Separate sessions should be held on gender sensitisation of DG/TMA employees. **Explore alternative modes of resource generation** • Relocate government offices identified in Appendix 6 to the detailed report; use land to leverage private investment or dispose off to generate additional resources • Develop a property management plan. Improve management of the property given on rent. Revise rents upwards to bring them at par with		

Constraints and Baseline	Strategy	Responsibility	Expected Gains
Infrastructure			
	the market or sell these properties in open auction to generate a one-time income for the DG or TMA, as the case may be • Seek government permission to use CCB funds lying unutilised with the DG and TMAs (Rs. 558 million and Rs. 324 million respectively) • Explore the option of floating municipal bonds to finance development. Amendment in section 120 of the PLGO 2001, which bars the local governments to incur any debt, would be required to enable the launching of municipal bonds by DG Multan or by any of the urban TMAs		

8. Appendices

Appendix-1 Documents Reviewed

1. Assessment of Urban Land Development and Management Practices in Five Large Cities of Punjab, The Urban Unit (2007)
2. Pakistan Agriculture Census, 2000
3. Livestock Census 2006, Agriculture Census Organization
4. Social Development in Pakistan: Devolution and Human Development, Annual Review 2006-07, Social Policy and Development Centre, Karachi
5. Pakistan Economic Survey 2006-07
6. Punjab in Figures, 2007, Bureau of Statistics
7. Pakistan Economic Survey, 2007-08, Chapter 2 – Agriculture
8. Economic Survey of Pakistan 2007-08, Statistical Supplement
9. Economic Survey of Pakistan 2008-09, Ministry of Finance, Government of Pakistan, Islamabad
10. The Status of the Pakistan Seed Industry, FSC&RD, Ministry of Food and Agriculture
11. Multan Master Plan
12. Water and Sewerage Development Plans, Multan
13. Cost of Doing Business Survey 2008-09
14. Budgets of the WASA Multan
15. Physical Housing and Town Planning Department: Detail of Ongoing Residential Schemes, and Progress Report Annual development Program 2009-2010
16. Punjab Rural Support Program: Rural Participation program, Month wise Disbursement report, Community Physical Infrastructure Plan
17. Market Committee Multan: Outline, Basis of Working
18. City District Government Multan: Ongoing Road projects Detail
19. AHAN Projects Details
20. SMEDA Projects Details
21. Agri Business Support Fund: Introductory material
22. WASA Development Plans
23. Multan District Schemes, DCO Office, Multan
24. Punjab Canals Line Diagram
25. Punjab Canals Map
26. MEPCO Electric Power Distribution Line Diagram
27. MEPCO Electric Power Distribution Map

28. Multan Zone Irrigation Canals, Distributaries, and Channels Data
29. Bahawalpur Zone Irrigation Canals, Distributaries and Channels Data
30. MEPCO Load Dispatch Data
31. Multan Solid Waste Project Outline
32. Multan Airport Expansion Project Outline
33. Mango Sector Development Strategy (2009), USAID
34. Mango Briefing Book (2009), USAID
35. Pakistan Fruit Sector Analysis and Recommendations. David Picha (2006)
36. Changing the Pakistan Cotton Landscape, Neil Forrester (2008)
37. Formalizing the Informal: The Commercialization of GM Cotton in Pakistan, Muhammad Ahsan Rana (2010)
38. Punjab Solid Waste Management Reform, The World Bank (2007)
39. KOICA-World Bank Joint Study on Solid Waste Management in Punjab, Pakistan, World Bank (2007)
40. Water Supply and Sanitation Reform Strategy, The Urban Unit (2007)
41. Water Supply and Sanitation – Policy Note, The Urban Unit (2007)
42. Water Supply and Sanitation Reform Strategy – Status Quo Report Multan, The Urban Unit (2006)
43. Urban Transport Policy Study for Five Cities of Punjab, The Urban Unit (2008)
44. Urban Land and Housing Markets in the Punjab, The Urban Unit (2006)
45. Assessment of Institutional Arrangement for Urban Land Development and Management in Five Large Cities of Punjab, The Urban Unit (2007)
46. Sector Identification Reports, USAID (2009)
47. Multiple Indicator Cluster Survey, Government of Punjab (2008)
48. Household Integrated Economic Survey, Government of Punjab (2006)

Appendix-2 List Of Persons Met

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Sr.	Name, Designation and Address	Date
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Appendix-3 Sites Identified By Irrigation Department For Power Generation

Distributary/ Sub Distributary/ Minor	R.D. 1000 FT.	Fall (FT)	Discharge (Cs)	Power (KW)
2L / 1L-9L Sub Minor	16+000	3.63	32.08	7.037
2L / 1L-9L Sub Minor	17+500	5.19	26.58	8.336
2L / 1L-9L Sub Minor	18+500	3.27	24.68	4.877
1L / 2L-9L Sub Minor	14+035	6.90	10.60	4.420
3L / 9L Minor	38+500	8.90	14.74	7.928
3R / 9L Minor	5+500	5.16	4.85	1.512
Bahab Disty	4+665	3.32	97.16	19.493
3L / 11L Minor	7+400	6.66	6.50	2.616
3L / 11L Minor	8+410	6.32	6.50	2.482
2R / 7R Minor	4+500	7.90	9.29	4.435
1R / 2R / 7R Sub Minor	1+000	5.45	6.00	1.976
12L Disty	24+700	5.18	353.00	110.500
12L Disty	121+000	5.44	109.00	35.833
13L Disty	12+000	4.50	99.24	26.987
13L Disty	29+528	3.25	46.64	9.160
14L Disty	112+325	6.15	8.00	2.973
7ER Disty	3+000	4.41	23.00	6.129
-	542+168	5.59	3096.00	1045.849
-	585+900	3.23	1516.00	295.909
-	601+200	11.04	1505.00	1004.065
-	640+200	4.39	1377	365.30411
2R / 15L Minor	39+868	6.05	30.34	11.092439
1L / 2R-15L Sub Minor	12+525	4.8	10.67	3.0950079
3L / 15L Minor	2+533	6.04	7.90	2.884
3AL / 15L Minor	3+500	4.34	22.10	5.796

Appendix-4 Smultan's Irrigation System's Designed Capacity and Drainage Data

Sr.	Channel Name	Designed Capacity (cusecs)	RDS	Channel Type	Flow Type	Actual Flow (cusecs)	Cost of Remodelling (million Rs.)
1 *	Gujju Hatta Branch	700	86450	BC	NP	282	43.0
2	Makhdoom Rashid Branch	425		BC	P	175	
3 *	Multan Branch	775	170500	BC	P	300	85.0
4 *	Shujaabad Branch	1918	17500	BC	NP	790	9.0
5	Ambala Disty	8.5		D	NP	2.5	
6 *	Baggar Disty	19.15	4100	D	NP	8.0	2.0
7	Bahishty Disty	564	11150	D	NP	245	5.5
8 *	Bakhtu Wah Disty	41	8650	D	NP	0	4.3
9 *	Buch Disty	38.44	3340	D	NP	24.0	1.7
10	Burhanpur Disty	9		D	NP	0	
11	Chitwala Disty	27		D	NP	13.5	
12	Daira Pur Disty	6		D	NP	0	
13	DuMinora Disty	4		D	P	0	
14 *	Faizpur Disty	308	162200	D	P	133.0	81.0
15	Inayat Pur Disty	22		D	NP	8.3	
16 *	Jalalpur Disty	591	68000	D	NP	243	34.0
17 *	Jalwala Disty	48.5	6700	D	P	200.0	3.3
18 *	Jampur Disty	57	5740	D	P	19.8	2.9
19	Kachoor Disty	20		D	NP	0	
20	Khadil Disty	65		D	NP	26.5	
21	Kukkar Hatta Disty	46.5		D	P	19.8	
22 *	Lower Khairpur Disty	34	5160	D	NP	12.2	2.5
23 *	Lower Muzaffarabad Disty	30	12185	D	NP	12.0	6.0
24	Luther Disty	16		D	P	0	
25	Madina Disty	70		D	P	28.6	
26 *	Mahmood Disty	509	31200	D	NP	190	15.0
27	Makhdoom Rashid Disty	208.5		D	P	85.0	
28	Matital Disty	93		D	NP	36.7	
29	Miani Disty	78		D	P	34.0	
30 *	Multan Disty	46	8450	D	NP	20.1	4.2
31 *	Mungawala Disty	46	5600	D	P	24.2	2.8
32 *	Nawabpur Disty	23	4450	D	NP	10.9	5.3

Sr.	Channel Name	Designed Capacity (cusecs)	RDS	Channel Type	Flow Type	Actual Flow (cusecs)	Cost of Remodelling (million Rs.)
33	Panjani Disty	453.5		D	NP	183.8	
34	Piran ghaib Disty	4		D	P	0	
35	Raizabad Disty	25		D	P	10.0	
36	Rashida Disty	32		D	P	12.4	
37 *	Sat Burji Disty	93.41	10680	D	NP	24.3	5.3
38 *	Shah Pur Disty	95.5	8425	D	NP	24.3	4.2
39 *	Sher Shah Disty	23.6	3500	D	NP	0	1.7
40	Sher Singh Disty	98.5		D	P	24.3	
41 *	Shujaabad Disty	44.35	1750	D	NP	17.6	0.9
42 *	Sikandarabad Disty	202	11560	D	NP	83.4	5.8
43 *	Sujan Pur Disty	15	2515	D	P	0	1.2
44	Tahir Pur Disty	23.6		D	NP	9.8	
45	Tarpai Disty	64		D	P	25.4	
46	Upper Muzaffarabad Disty	41	10070	D	NP	16.7	5.0
47	Wali Muhammad Disty	181	8990	D	P	72.5	4.4
48	Ahir Minor	27		M	NP	0	
49 *	Akbar Minor	18.61	3475	M	NP	7.6	1.9
50 *	Ali Pur Minor	60.5	38000	M	NP	24.3	19
21 *	Baloch Wah Minor	34	4320	M	NP	12.5	2.1
52	Bhaini Minor	21		M	P	8.2	
53	Chajju Minor	25		M	NP	10.6	
54	Gardez Minor	16.09		M	NP	6.5	
55	Ghariala Minor	26.5		M	P	12.0	
56	Ghazipur Minor	25.7		M	NP	10.0	
57 *	Gulzar Minor	14.5	2975	M	P	58.0	1.4
58 *	Hafiz Wala Minor	29	7650	M	NP	12.5	3.8
59	Hamid Pur Minor	33		M	P	13.9	
60	Hans Wala Minor	21.5		M	P	8.4	
61	Ilampur Minor	7		M	NP	2.5	
62	Jalil Minor	50.5		M	P	20.6	
63	Jhoke Minor	4.5		M	NP	0	
64 *	Jugguwala Minor	96	11015	M	NP	24.6	5.5
65 *	Kannu Minor	94	11475	M	NP	24.6	5.7
66 *	Khoja Minor	13	4485	M	P	0	2.2

Sr.	Channel Name	Designed Capacity (cusecs)	RDS	Channel Type	Flow Type	Actual Flow (cusecs)	Cost of Remodelling (million Rs.)
67	Kirpal Pur Minor	35		M	P	15.1	
68 *	Lasuri Minor	9.7	2230	M	NP	0	1.1
69 *	Mallah Minor	15	1675	M	NP	6.6	0.9
70	Matotli Minor	72		M	NP	30.0	
71	Matti Minor	10		M	P	4.0	
72 *	Mubarik Wah Minor	17	7450	M	NP	6.9	3.8
73 *	Patti Minor	26	3500	M	NP	10.0	1.8
74	Rai Pur Minor	44		M	NP	17.8	
75 *	Rana Minor	148	7375	M	P	58.8	3.7
76 *	Rasoolpur Minor	18	9610	M	NP	0	4.8
77 *	Sahu Minor	28.5	4475	M	P	12.4	2.2
78	Sangali Minor	60.5		M	NP	24.2	
79 *	Shah Musa Minor	66	5700	M	NP	26.4	2.9
80	Sial Minor	19		M	P	0	
81	Sultan Pur Minor	2.75		M	NP	0	
82	Taj Minor	7		M	NP	3.0	
83	Tatepur Minor	20.5		M	P	0	
84	Upper Khairpur Minor	6.35		M	NP	2.4	
85 *	Wehr Minor	8	1600	M	NP	3.4	0.8
86 *	Sidhnai Canal	4005	36800	MC	P	1600	19.0
87	1R/2L/TD Sub Minor	35		SM	P	14.2	
88 *	Daud Sher Sub Minor	37	4775	SM	NP	16.0	2.3
89 *	Gopal Sub Minor	10	3300	SM	P	4.5	1.6
90 *	Hafizwah Sub Minor	64	7650	SM	NP	17.8	3.8
91 *	Kotli Adils Sub Minor	13.5	2120	SM	NP	5.4	1.0
92 *	Qasba Sub Minor	45	7975	SM	P	18.0	4.0
93 *	Ratta Sub Minor	13.5	2250	SM	NP	5.4	1.1
94	Thath Sub Minor	14		SM	NP	0	
	Total	13,710.75				5,607.7	433.0

Notes: RDs = Reduced distances in ft; BC = Branch Canal; D = Distributaries; P = Perennial; NP = Non Perennial

Appendix-5 Detailed Analysis of Legal Regime for Assessment and Collection

The Punjab Local Government Ordinance (PLGO), 2001 is the over-arching legislation that provides for the systems and the processes for efficient and effective local governance. Good governance, in turn, entails efficient fiscal management and requires carefully framed laws for revenue generation. Sections 116, 117 and 118 of the PLGO, 2001 govern the levy and collection of taxes. The provisions are enabling in nature, and envision a rational, equitable and progressive local taxation regime. In this way, the PLGO, 2001 caters to the requirements of the well-known 'canons of taxation'. It is desirous of a regime wherein taxes are levied after careful consideration and after incorporating public objections. Any taxes levied without consulting the public or incorporating its objections will be in defiance or contravention of the spirit of the PLGO, 2001. The Council process is also given its due place in the scheme of things. The requirement of getting the taxation proposals vetted by the Provincial Government (required under Section 116) signifies the importance of the fact that the Local Governments, while striving to develop their fiscal capacity, need to work within the policy parameters laid down by the Provincial Government. Failure to pay taxes has been declared an offence and the arrears are recoverable under the processes adopted for recovery of arrears of land revenue under The Land Revenue Act, 1967.

The relevant sections are reproduced below for ready reference.

116. Taxes to be levied

(1) A Council ma levy taxes, cesses, fees, rates, rents, toils, charges, surcharges and levies specified in the Second Schedule.

Provided that the Government shall vet the tax proposal prior to the approval by the concerned Council:

Provided further that the proposal shall be vetted within thirty days from the date of receipt of the proposal failing it would deemed to have been betted by the Government.

(2) No tax shall be levied without previous publication of the tax proposal and after inviting and hearing public objections.

(3) A Council may, subject to provisos of sub-section (1), increase, reduce, suspend, abolish or exempt any tax.

117. Rating Areas and Property Tax

(1) On commencement of this Ordinance every Tehsil and Town shall be rating areas within the meaning of the Punjab Urban Immovable Property Tax Act, 1958 (V of 1958).

(2) The Tehsil or Town Council, as the case may be, shall subject to the provisions of section 116, determine the rate of property tax in an area within the Tehsil or Town:

Provided that in the areas within a Tehsil or Town where rate has not been determined, the rate shall remain as zero.

(3) Unless varied under sub-section (2), the existing rate in the areas within a Tehsil or Town shall remain in force.

Explanation: For the purpose of this section the "rate" shall mean the tax leviable under the Punjab Urban Immovable Property Tax Act, 1958 (V of 1958).

118. Collection of Taxes

(1) All taxes levied under this Ordinance shall be collected as prescribed.

(2) Failure to pay any tax and other money claimable under this Ordinance shall be an offence and the arrears shall be recovered as arrears of land revenue.

There are other sections of the PLGO, 2001 that relate to collection of taxes or income generation by a local council (e.g. 118-A, 120, 120-M, 124, 142). The same are not being reproduced here and only a reference to the relevant section shall be made, wherever deemed necessary. The full text can be seen in the PLGO, 2001.

Other Laws and Rules Regulating Local Taxation

Listed below are other Laws and Rules frames there under that govern some distinct aspect of taxation at local level. The table briefly describes each Law/ Rules and the purpose that it serves. This is done with a view to indicate the deficiencies and suggest improvements required to streamline the procedures further so that the fiscal capacity is enhanced.

Appendix-6 Local Government Taxation Rules/ Legislation And Resource Generation

Sr. No.	Rules	Legal Framework	Concerned LG	Purpose	Relevant Legal Provisions	Description
1.	Punjab Local Rate (Assessment & Collection) Rules, 2001	Section 191 (1) of PLGO, 2001	District Government/ City District Government	To generate revenue with a view to enhancing the welfare of the local population	*Rule 2:* Levy of tax *Rule 3:* Assessment of local rate *Rule 4:* Collection of local rate	These Rules, in essence, complement the Land Revenue Act, 1967. Assessment and collection of local rate find a mention in broad terms and same is the case with the roles of the revenue officials. They, however, do not contain any provision that can be called enabling.
2.	Punjab Local Government (Tax on Transfer of Immovable Property) Rules, 2001	Section 191 (1) of PLGO, 2001	Tehsil & Town Municipal Administrations	It is aimed at providing legal cover to the transaction concerning immovable properties while contributing to the objective of generating revenue for enhancement of the welfare of the people.	*Rule 3*: Levy of tax *Rule 4*: Assessment & collection of tax *Rule 5*: Liability to pay tax *Rule 6*: Credit of tax *Rule 7*: Recovery of arrears of tax *Rule 8*: Appellate provision *Rule 9*: Exemption	These Rules contain provisions about assessment and collection of tax where the property is transferred through a registered deed and where it is transferred orally. The provisions of these Rules are enabling and the language formal.
3.	Punjab Local Government (Taxation) Rules, 2001	Section 191 (1) of PLGO, 2001	District and City District Governments, Tehsil and Town Municipal Administrations	To prescribe procedure for taxation in the light of review of the financial position of the concerned LG	*Rule 3:* Framing of preliminary taxation proposals *Rule 4:* Publication of preliminary taxation proposals *Rule 5:* Notice of objections and suggestions to the preliminary taxation proposals *Rule 6:* Convening of meeting of the Local Councils *Rule 7:* Finalisation of taxation proposals	The Taxation Rules are meant to introduce a system in which taxation is done in accordance with the well-known canons of taxation. For this the taxation proposals are looked into carefully and even the preliminary taxation proposals are required to be published. It is mandatory, under these Rules, that all the objections and suggestions are heard by the Nazim in public before they are taken to the Local Council. The language of these Rules is formal and provisions are enabling.

Sr. No.	Rules	Legal Framework	Concerned LG	Purpose	Relevant Legal Provisions	Description
					Rule 8: Sanction of the tax *Rule 9:* Post-sanction publication *Rule 10:* Taxation Bill *Rule 11:* Notice of Demand *Rule 12:* Recovery as arrears of land revenue	
4.	Punjab Local Government (Appeal) Rules, 2002	Sections 190 & 191(1) o f the PLGO, 2001	District and City District Governments, Tehsil and Town Municipal Administrations	All appeals preferred against orders passed under the PLGO, 2001 and the Rules or by-laws framed there under except service matters; Section 190 (3) (d) of the PLGO, 2001 requires that *"natural justice and due process of law"* must be ensured in this context.	*Rule 2:* Appellate authority *Rule 3:* Limitation *Rule 4:* Manner in which appeals are to be filed *Rule 5:* Hearing and decision of appeal *Rule 6:* Transfer of appeal *Rule 7:* Disposal of pending appeals	These Rules apply to all appeals preferred against orders passed under the PLGO, 2001 or Rules framed therein. The limitation period prescribed is thirty days and it is also laid down that the appeals shall be preferred in the form of a memorandum. The appeal so preferred has to be decided within a period of ninety days.
5.	Punjab Local Government (Fees for Licensing & Permits and Licensing of Professions & Vocations) Rules, 2002	Sections 191 and 116 of the PLGO, 2001	District and City District Governments, Tehsil and Town Municipal Administrations	To generate revenue by bringing professionals and people working in lawful vocations within the tax net with the objective of enhancing the welfare of local people.	*Rule 3:* Power to issue licenses or permits *Rule 4:* Fees for the licenses or permits *Rule 5:* Procedure to grant licenses or permits *Rule 6:* Power to impose fine on violations	These Rules provide the power or competence of the different tiers of LG to issue licenses or permits for professions and vocations. The fees can only be levied after approval of the concerned Local Council. These Rules will become enabling if by-laws are framed in accordance with the procedure given in the Taxation Rules.
6.	Punjab Local Government (Auctioning of Collection Rights) Rules, 2003	Sections 191 (1) and 118 of the PLGO, 2001	District and City District Governments, Tehsil and Town Municipal Administrations	To outsource revenue collection rights to capable and competing parties through a transparent process	*Rule 3:* Auction of collection rights *Rule 4:* Prohibition clause *Rules 5 to 7:* Auction procedure *Rule 8:* Manner of awarding Contracts	These Rules assist a LG in collecting its revenue as specified in the Second Schedule of the PLGO, 2001. The intention is to make the auction process as transparent and fair as possible. It lays down the manner of awarding contracts and lays down provisions about the

Sr. No.	Rules	Legal Framework	Concerned LG	Purpose	Relevant Legal Provisions	Description
					Rule 9: Reserve Price *Rule 10:* Attempts to award the Contract *Rule 11:* Acceptance of Bid *Rule 12:* Proceedings of Negotiations *Rule 13:* Intimation of Acceptance of Bid *Rule 14:* Terms and Conditions of the Contract *Rule 15:* Eligibility of Contractor *Rule 16:* Earnest Money *Rule 17:* Dues and Deposits *Rule 18:* Other Deposits *Rule 21:* Implementation and Collection Procedure and by-laws *Rule 22:* Overcharging *Rule 23:* Rights and Responsibilities of the Contractor *Rule 24:* Disputes *Rule 25:* Sureties and Guarantees *Rule 26:* Cancellation of Contract *Rule 27:* Rebates	reserve price. To maximize the amount, there is scope for negotiations with the participants. The Rules also provide the eligibility criteria for the contractors. After the award of the contract, the contractor shall be responsible to maintain accounts and official record appropriately and implement the collection procedure as well as the by-laws. In case of a dispute between the contractor and the LG, the Arbitration Act, 1940 will be invoked. These Rules are enabling and the language is formal.
7.	Punjab Private Site Development Schemes (Regulation) Rules, 2005	Section 191 (1) of the PLGO, 2001	District and City District Governments, Tehsil and Town Municipal Administrations	To provide a framework for facilitating development of private housing schemes while safeguarding the legitimate interests of land owners, potential	*Rule 3:* Submission of application *Rule 4:* Pre-requisite of scheme *Rule 5:* Inviting objections *Rule 6:* Planning standards *Rule 7:* Scrutiny of scheme	These Rules are meant to regulate development of private site schemes. They give the constitution of the Scrutiny Committee and the pre-requisites for a scheme as well as the need for inviting public objections to such a development. The developer is required to include a host of things in the advertisement to be given

Sr. No.	Rules	Legal Framework	Concerned LG	Purpose	Relevant Legal Provisions	Description
				buyers and general public	*Rule 8:* Sanction and its conveyance *Rule 9:* Approval of design and specifications *Rule 10:* Farm Housing Schemes *Rule 11:* Release of Mortgaged Plots *Rule 12:* Modification *Rule 13:* Execution of Scheme *Rule 14:* Appeal *Rule 15:* Supervision and Control	in the Press. It necessitates the implementation of the 'National reference Manual on Planning and Infrastructure Standards' for the purpose of roads and residential use. It also lays down the requirement of detailed designs and specifications.
8.	Punjab Local Government (Commercialization) Rules, 2004	Section 191 (1) of the PLGO, 2001	District and City District Governments, Tehsil and Town Municipal Administrations	To regulate land use in terms of prohibiting use of residential buildings for commercial purposes (the basic idea is to make life of the local people more comfortable and nuisance free); selection of roads and streets as commercial and to put in place setback requirements.	*Rule 3:* Regulation of land use *Rule 4:* Declaration of Roads and Streets *Rule 5:* Setback requirements for the Roads selected for Commercialization *Rule 6:* Established Commercialization *Rule 7:* Partial Commercialization *Rule 8:* Submission of Application *Rule 9* Commercialization Charges *Rule 10:* Temporary Commercialization *Rule 11:* Regularization of Unauthorized Commercial Buildings	These Rules provide for regulation of land use in accordance with the land use plan. They also give a list of factors to be considered before selecting a road or street to be commercial. The setback requirements are also mentioned clearly and the procedure for helping the Commercialization Committee to decide about partial and temporary commercialization is also given. The process of paying the commercialization charges is also given in reasonable detail. It can be said that these Rules are least stifling of the legislations done in our context.
9.	Punjab Marriage Functions (Prohibition of Ostentatious Displays and	Section 11 of the Punjab Marriage Functions (Prohibition of Ostentatious Displays and Wasteful	District and City District Governments, Tehsil and Town Municipal Administrations	To take effective measures to check the culture of ostentation and wasteful expenses on social events like marriages. This is also done with a view to	*Rule 3:* Constitution of Committees *Rule 4:* Functions of the Committees *Rule 5:* Provide information regarding violations *Rule 6:* Cognizance of offences	These Rules assist in taking cognisance of offences committed under the Act and require undertaking from the owners, managers or proprietors of wedding/banquet halls, clubs, hotels, restaurants, community centres, caterers etc. about the number of guests, nature of

Sr. No.	Rules	Legal Framework	Concerned LG	Purpose	Relevant Legal Provisions	Description
	Wasteful Expenses) Rules, 2003	Expenses) Act, 2003		assist the lower and middle income classes to increase their savings and bolster their fledgling income position.	*Rule 7:* Undertaking of abiding by law *Rule 8:* Joint responsibility of owners *Rule 9:* Committee not to cause disruption	function and food to be served. It lays down joint responsibility of the owners/managers etc. and the person in whose favour booking was made for any breach of the law. It is observed that the Rules are enabling but the language used is not strictly formal.
10.	Punjab Local Government (Property) Rules, 2003	Section 191 (1) of the PLGO, 2001	District and City District Governments, Tehsil and Town Municipal Administrations	It aims at maintaining and managing properties vested in the LGs in the best interest of the public. It also aims to ensure that the rented property fetches the maximum rent as well as to prevent the impairment of the value and utility of the rented property.	*Rule 3:* Management of Property *Rule 4:* Responsibilities of the Manager *Rule 5:* Maintenance of Property *Rule 7:* Verification and Stock Taking of Property *Rule 8:* Committee for Identification of Redundant/Encroached Property *Rule 9:* Procedure for Auction of Redundant/ Encroached Property *Rule 11:* Approval of Auction *Rule 12:* Utilization of Proceeds of Auction *Rules 13 to 15:* Disposal of Movable Property *Rule 16:* Lease of Immovable Property	These Rules give the responsibilities of the 'Manager' of the property; principal of which is that he has to ensure that the rented property fetches maximum rent. A long list of registers is prescribed for the maintenance of the property. Encroachments and redundant properties are dealt with separately. The Rules aim to make the auction of the property as transparent a process as possible. The same objective is found in the rule governing the lease of the immovable property which needs to be undertaken through a competitive bidding process.
11.	The Punjab Urban Immovable Property Tax Act, 1958	An Act to consolidate the law relating to the levy of a tax on urban immovable property in the Province of the Punjab	District and City District Governments, Tehsil and Town Municipal Administrations	Its purpose is to collect revenue for the welfare of the people and to create fiscal space for the Government. It is restricted to buildings and lands within the limits of cities and sizable towns only. Generally speaking it	*Section 3:* Levy of Tax *Section 4:* Exemptions *Section 5:* Ascertainment of Annual Value *Section 5-A:* Valuation Tables to ascertain Annual Value *Section 6:* Assessing Authority	Under this Act, the Provincial Government issues notification declaring several towns, cities and rating areas for levying property tax. The District Excise & Taxation Officer has been declared as Assessing Authority for every rating area. It is levied on the basis of annual value of buildings and lands in a rating area at the rate of twenty percent of such annual value. The annual value is the aggregate annual value of all

Sr. No.	Rules	Legal Framework	Concerned LG	Purpose	Relevant Legal Provisions	Description
				is levied in the case of a rented building or land on the basis of its actual annual rent and in case of others on their estimated notional annual rent.	*Section 7:* Making and Operation of Valuation Lists *Section 8:* Draft Valuation List *Section 10:* Appeal and Revision *Section 12:* Tax when Payable *Section 13:* Collection of Tax *Section 14:* Recovery of Tax from Tenants *Section 15:* Recovery for Default in Payment *Section 16:* Recovery of Unpaid Dues *Section 23:* Government's Powers to make Rules for carrying out the purposes of this Act	buildings and lands owned by the same person in a rating area. Where a building is occupied for residential purpose by the owner himself, the tax is levied at the rate on one half of the annual value of such building.
12	The W.P. Urban Immovable Property Tax Rules, 1958	Section 23 of the West Pakistan Urban Immovable Property Tax act, 1958	District and City District Governments, Tehsil and Town Municipal Administrations	Its purpose is to collect revenue for the welfare of the people and to create fiscal space for the Government. The objective is to streamline the process of collecting as well as recovering tax on urban immovable properties. The law is restricted to buildings and lands within the limits of cities and sizable towns only. Generally speaking it is levied in the case of a rented building or land on the basis of its actual annual rent and	*Rule 3:* Assessing Authority *Rule 5:* Duties of Assessing Authority *Rule 6:* Preparation of Draft Valuation List *Rule 7:* Publication of Draft Valuation List *Rule 8:* Filing of Objections *Rule 9:* Amendment of Correct Valuation List and the Filing of Objections *Rule 10:* Hearing of Objections *Rule 11:* Authentication and Custody of Final Valuation List *Rule 13:* Appeal and Revision *Rule 14:* Appointment of Valuers *Rule 15:* Demand Notice and Payment of Tax *Rule 16:* Collection of Penalty	These Rules give a detailed procedure for assessment of the tax, the responsibilities of the Assessing Authority (getting a property register repaired in Form PT-I for the rating area, proper maintenance and safe custody of all prescribed registers and records, taking necessary steps for recovery of tax etc.) and these very delegated duties of the subordinate staff. Draft valuation is prepared in accordance with the information gathered. This is followed by the publication of the draft valuation list. Objections are called for thereafter before the final authentication. The Assessing Authority is supposed to give hearing to a defaulter under Rule 16 before the recovery is made.

Sr. No.	Rules	Legal Framework	Concerned LG	Purpose	Relevant Legal Provisions	Description
				in case of others on their estimated notional annual rent.	*Rule 17:* Recovery of Tax from Tenants *Rule 18:* Collection of Tax through Tax-collecting Staff *Rule 19:* Collection of Tax and Penalty as Arrears of Land Revenue *Rule 20:* Custody and Payment into Government Treasury of sums received by the Collecting Authority under these Rules *Rule 21:* Refund and Remission of Tax *Rule 24:* Charitable Institutions *Rule 26:* Mode of Service of Notice, Summons or Order *Rule 27:* Exemptions	
13.	Punjab District Government Rules of Business, 2001	Section 31 of the PLGO, 2001	District and City District Governments	To facilitate conduct of official business and streamline procedures relating to official matters and business	*Rule 7 (1) (d):* Sector EDO to submit all proposals for taxation and the by-laws to the Zila Council through the DCO and the Zila Nazim *Rule 13 (1) (c):* No District Office to authorize any order, without consulting the District Finance & Budget Office, which involves levy of taxes, duties, fee or cesses listed in Part 1 of Second Schedule of the PLGO, 2001	The Rules of Business is a fundamental piece of legislation and puts forward the manner of conducting business within the District Government offices.
14.	Punjab Tehsil/Town Municipal Administration Rules of Business, 2002	Section 191 (1) of the PLGO, 2001	Tehsil and Town Municipal Administrations	To facilitate conduct of official business and streamline procedures relating to official matters and business	*Rule 7 (1) (d):* Tehsil/Town Officer to submit all proposals for taxation and the by-laws to the Tehsil/ Town Municipal Officer and Tehsil/Town Nazim after scrutiny by the Tehsil/ Town Officer (Finance) *Rule 12 (1) (c):* No Tehsil/ Town Officer to authorize any order, without consulting the Tehsil/ Town Finance Office, which involves levy	The Rules of Business is a fundamental piece of legislation and puts forward the manner of conducting business within the various Tehsil/Town Municipal Administration offices.

Sr. No.	Rules	Legal Framework	Concerned LG	Purpose	Relevant Legal Provisions	Description
					of taxes, duties, fee or cesses listed in Part II of Second Schedule of the PLGO, 2001.	

Recommendations for Legal Reform

The Table above and the analysis done by virtue of it assist in coming up with a viable set of recommendations to bridge the deficiencies in the taxation system at the LG level. The following suggestions should contribute in improved revenue generation by removing the deficiencies and streamlining the processes involved in it:

- Computerised recording of the property related transactions should be made a legal requirement. It would result in generating greater revenues as direct interface with the revenue staff at this stage implies payment of commission and kickbacks to the revenue and excise staff. The registration fees can also be enhanced as the clients would prefer paying to the government exchequer and saving precious time that is ordinarily consumed/ lost in visiting the revenue and excise offices frequently. This suggestion, basically, applies to the Punjab Local Government (Tax on Transfer of Immovable Property) Rules, 2001.
- Valuation tables should be made public and more comprehensible as greater understanding of the assessees would decrease the likelihood of illegal settlements and rent seeking.
- Taxation proposals and objections to taxation proposals required under the Punjab Local Government (Taxation) Rules, 2001 should be made public through newspapers as not many people have access to official gazette.
- Amendment is advisable in Rule 9 of the Punjab Local Government (Auctioning of Collection Rights) Rules, 2003. The reserve price should be 25% more than the average of the preceding three-year income of the respective LG, instead of the average of the preceding three-year income as required at present. This is suggested keeping in view the expectation that outsourcing of the collection process would inevitably enhance proceeds.
- Amendment is also required in Rule 6 of the Punjab Private Site Development Schemes (Regulation) Rules, 2005. In the list of '*land uses'*, the following category should be added: '*Minimum size of residential plots'*. The implication of this addition would be that in case of plots measuring five *marla* or less, no map would be required for construction purposes and instead the owners would be required to pay Rs. 1000/- per *marla* for construction of house. In case of a double-storied construction, the owner would be required to pay Rs. 1500/- per *marla*. Owners of already built houses measuring less than five *marla* should also be required to pay the same fees for regularising their construction when they plan to sell off such properties. This would save the small house owners the un-necessary hassle of preparing building designs and getting the same approved from local town planning authorities. To avoid, unplanned and chaotic construction of small (less than five *marla*) houses, necessary by-laws can be framed which provide general guidelines for such construction. In Rule 10, pertaining to the farm housing schemes, valuation of the plot should be undertaken and given out as well.
- Slight amendment in the Punjab Local Government (Commercialization) Rules, 2004 can help in enhanced resource generation. In Rule 10(1), Temporary commercialization may be allowed for a period of not more than three years (instead of a maximum of one year) at the rate of 5% (instead of 3%) of the value of urban land based on valuation table prepared under the Stamp Act, 1899. Buildings commercialized for the purposes of schools, colleges and hospitals should be excluded from this list as such commercialization is likely to be permanent rather than transitory.

- Rules 6 and 8 of the Punjab Marriage Functions (Prohibition of Ostentatious Displays and Wasteful Expenses) Rules, 2003 should be amended with a corresponding amendment in the similar clauses in the Punjab Marriage Functions (Prohibition of Ostentatious Displays and Wasteful Expenses) Act, 2003. There should be explicitly laid down penalties in the shape of fines for violations in terms of food being served to the guests as well as the number of guests invited to the function.
- Rule 6 of the Punjab Local Government (Appeal) Rules, 2002 governs the transfer of appeal. Amendment should be made to the effect that justification for transfer of an appeal should be provided in the transfer order.

Overlaps in Schedule II to the PLGO, 2001

The above review of the Laws and Rules will remain incomplete if we do not look into the overlaps which invariably creep in while laws and rules are being framed. These overlaps can result in District Governments and Town/Tehsil Municipal Administrations working at cross purposes and need to be removed to avoid multiple jurisdiction issues.

- Fees for licenses or permits on penalties or fines for violation is the subject of the District Council as given in Part-I Sr. No. 3 while it is a subject of the Tehsil Council as per Part-III Sr. No. 9
- Rent for land, buildings, equipment, machinery and vehicles is the subject of District Council as laid down in Part-I Sr. No. 7 and of the City District Council of Part-II Sr. No. 6, while it is also given as a subject of the Tehsil Council as per Part-III Sr. No. 13 and of the Town Council according to Part-IV Sr. No. 9. Presumably, the framers of law had intended that rent for land, building, equipment, machinery and vehicles shall be recoverable by the local council in which the ownership of such property vests. But this intent is not coming up clearly by the phrasing and a clarification is warranted.
- Fees for approval of building plans, erection and re-erection of buildings is a subject of the City District Council as laid down in Part-II Sr. No. 10, while it is also an assigned subject of Town Council under Part-IV Sr. No. 13

Fee for advertisement is a subject of the City District Council as per Part-II Sr. No. 8 while it is also a subject of the Town Council according to Part-IV Sr. No. 6 (in the form of *"fees on advertisement-other than on radio, television and bill boards).* An important issue here is that of bill boards, which have been specifically taken out of the purview of TMAs. Prima facie, this was required only for City District Governments, where the Provincial Parks and Horticulture Authority is responsible for collection of such fee and to use the same for city beautification and maintenance of parks. For other districts, this should remain the responsibility of TMAs. This confusion needs to be removed as in practice all TMAs (except the ones in City District Governments) are recovering advertisement fee on bill boards situated in their territorial jurisdiction.

Instructions and Circulars to Clarify Issues Pertaining to OSR

A host of letters, instructions, and circulars have been issued from time to time (copies placed as Appendices) to clarify, elucidate, interpret or reiterate (in a few cases) issues pertaining to LG taxation. These constitute important part of the policy transmittal from the Provincial Government. These need to be looked into and analysed carefully.

1. **Registration of Deaths and Births; No. SO (ELEC) 1-7/2001, dated 15.11.2001, LG&RD Department**

This aims to prevent issuance of fake certificates, usually acquired through illegal gratification, and at the same time aims to put a check on the discretion of the Secretary, Union Council and his subordinate staff. There is an obvious need to remove this element of discretion and it is proposed that the LG&RD Department should issue a Schedule with by-laws. By-laws are needed so that the procedure is made fool proof as they will contribute towards gathering and compiling authentic information on deaths and births. The Schedule will be part of the by-laws and will serve the purpose of prescribing rate of fees for registering deaths and births. Moreover, a progressive surcharge will be incurred in case of delay in registration of death. Computerisation of the process shall help remove the undesirable element of discretion as well. It will also help the Council stay out of uncalled for litigation. In addition to this, people should be made more aware of the procedure and advised strongly to follow it. A behaviour change is required in all the stakeholders so that the improvements to be introduced in the procedure take solid foundations.

2. **Improvement in General State of Cleanliness; No. SO.III (16)/2-69-97, dated 1.12.1999, LG&RD Department**

This letter is addressed to all the Administrators of the local bodies in the Punjab. It talks about efficiency of the sanitary staff and the need for daily cleaning of urban local councils and solid waste management in them. It alludes towards the need of monitoring and inspections of the work but clearly stops short of giving any methodology for doing this. Therefore, it is felt that by-laws are needed for both drainage system and solid waste management. Without by-laws improvements will be quite limited and at best sporadic and revenue generation will be marginalised.

3. **Levy of Toll Tax by TMA; No. SO-VI (LG) 2-82/97, dated 9.11.2002; LG&RD Department**

It reiterates that TMAs are not competent to levy toll tax on any road. Laws i.e. the PLGO, 2001 and Taxation Rules, 2001 need review in the light of this letter. Sections 67 and 67-A of the PLGO, 2001 include ‘tolls’ for Tehsil and Town Municipal Administrations respectively. These Sections of the PLGO, 2001 need to be amended as well as the Taxation Rules, 2001. However, Parts III and IV of the Second Schedule are in consonance with this particular notification.

4. **Notification No. SOV (LG) 5-10/2003, dated 17.3.2003 concerning powers under Section 5 of the Punjab Prohibition of Dangerous Kite Flying Activities Ordinance, 2001**

This Notification authorises the Deputy District Officer (Revenue) and the Assistant District Officer (Revenue) to ‘accompany’ the Police for enforcing the Ordinance. It is suggested that the Committee envisaged under Section 5 of the Ordinance should be formed and given a schedule to impose fines/ penalties.

5. **Taking Cognizance of Undesirable Activities; No. SOV (LG) 5-19/2003, dated 10.4.2003**

The context of this letter, addressed to Tehsil Nazims and the Tehsil Municipal Officers (TMOs) is civic degradation. It talks about regulating the affixing of signboards and advertisements as

well as sanitation and solid waste collection and disposal of industrial waste. It alludes towards the relevant provisions of the PLGO, 2001 in this context and reminds that Chapter VI of the PLGO, 2001 provides for the legal procedure for taking cognizance of municipal offences. It is suggested that by-laws should be made for solid waste management (in terms of imposing fines to those who litter the streets/ environment) and also for placing sign-boards.

6. 10% Annual Increase in Rent of Land/ Shops leased by the LG; No. SO III (LG) 2-11/80 (P), dated 30.5.2003

It lays down that all agreements made prior to the promulgation of the PLGO, 2001 shall be governed in accordance with the instructions issued vide letter No. SO.III/2-11/80, dated 7.7.1982, and all agreements made after the promulgation of the PLGO, 2001 shall be governed by the terms and conditions settled therein. Not denying the importance of this Notification, it is suggested that procedure in such important issues should not be prescribed through instructions/ notifications. Instead, Rules should be framed and by-laws adopted by the LGs. Framing of Rules is important since the issues involved here are those of competitive bidding and public auction.

7. Instructions regarding implementation of Punjab Local Government (Collection Rights) Rules, 2003; No. SOVI (LG) 2-253/97, dated 22.7.2003

This letter spells out the importance of implementing Rule 3 of the Punjab Local Government (Auctioning of Collection Rights) Rules, 2003. It is proposed that the Punjab LG (Collection Rights) Rules, 2003 need amendment to the effect that they should clearly lay down, in the form of Schedule, as to which taxes, fees, rates, cesses and other levies of a LG can be auctioned and which cannot be auctioned. The Schedule should, obviously, form part of the (Collection Rights) Rules. This will have a salutary effect on revenue generation and will also remove any misunderstanding on this score.

8. Provincial/ Local Taxes Issues; No. SO VI (LG) 1-1/2001-P, dated 19/22 September, 2003

This letter deals with a serious issue i.e. charging of exorbitant rates of license fees for professions and vocations. It is believed that such an issue cannot be dealt with through an executive order of sorts as doing so gives the impression of rather flippant handling of a serious matter. The letter can impinge strongly on revenue generation and own source receipts. It is also concerned with the larger decentralisation debate. Using such affirmative language in a letter can call into question the spirit and essence of the LG laws and rules. Therefore, it needs to be reviewed.

9. Auction of Different Taxes; No. SO VI (LG) 2-253/97, dated 21.10.2003.

It reiterates the importance of implementation of the Punjab LG (Auctioning of Collection Rights) Rules, 2003. As discussed earlier (at Serial No. 7 of this part), the Punjab LG (Collection Rights), 2003 needs to be amended, to clearly bifurcate levies into auctionable and non-auctionable categories.

10. Registration of Contractors under Punjab Local Government (Auctioning of Collection Rights) Rules, 2003; No. SO VI (LG) 2-253/97, dated 30.10.2003

This provides qualifications for registering the contractors. Qualification of contractors needs to be part of the Rules and, therefore, an amendment in the Rules is necessary. Qualification should not be communicated through a letter of the Provincial Government. As for the

registration of contractors and renewal of fees, they should be part of the Schedule to the Rules, which is not the case at the moment.

Appendix-7 List Of Government Properties Proposed To Be Sold (Million Rs.)

Description	Size (in kanal)	Market Rate (per kanal) Millions)	Market Value (including structure)	Cost of transfer	Net receipts
District Jail	288	4	1187	474.8	712.2
Circuit House	46	5	250		250
Irrigation Department	17	5	95	51	44
Highway Department	23	5	127	46	81
Agriculture Farm	800	1	820		820
Shish Mahal Club	18	6	123	54	69
DCO House	18	7	136	54.4	81.6
DPO House	15	6.5	105.5	42.2	63.3
Unutilized land in cant. Area	450	2.5	1125	450	675
Land allocated for drain of Pak Arab Fertilizer	227	4.0	908		908
Land allocated for Stadium	163	6.0	978		978
Total					**4,682.1**

USAID Firms Project
info@epfirms.com