

District Development P R O F I L E 2 0 1 1

Musakhail



Musakhail - District Development Profile 2010



Planning & Development Department
Government of Balochistan, Quetta



United Nations Children's Fund
Provincial Office Balochistan, Quetta



Planning & Development
Department, Government of Balochistan
in Collaboration with UNICEF



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Message

In this age of knowledge economy, reliance on every possible tool available for decision making is crucial for improving public resource management, bringing parity in resource distribution and maximizing impact of development interventions. These District Development Profiles are vivid views of Balochistan in key development areas. The Planning and Development Department, Government of Balochistan is highly thankful to UNICEF Balochistan for the technical and financial support for this maiden initiative. Untiring hard work has gone into shaping the development profiles. Appreciate our efforts by using the profiles profusely.

Ali Zaheer Hazara
Additional Chief Secretary (Development)
June, 2011

Foreword

The Balochistan District Development Profile 2010 is a landmark exercise of Planning and Development Department, Government of Balochistan, to update district profile data that was first compiled in 1998. The profiles have been updated to provide a concise landmark intended for development planning, monitoring and management purposes. These districts profiles would be serving as a tool for experts, development practitioners and decision-makers/specialists by giving them vast information wrapping more than 18 dimensions from Balochistans' advancement extent. These profiles have been transformed by extracting and summarizing up-to-date, vast and comprehensive information on socio-economic status and resources of each district.

Development planning in Balochistan has always been challenging for planners due to its difficult and rugged terrain, remote and sparsely populated regions. This generally inhibits an informed planning process due to limited knowledge of the areas targeted for development. An effort has been made to collate and present information regarding socio-cultural, economic and demographic status, status of productive & social sectors and district resources. This effort can be considered unique for the Balochistan Province when seen in connection with GIS-based mapping in the form of detailed datasets. The contents of the profiles show linkages among populated areas and social sector amenities. The maps have been prepared to facilitate departments/agencies involved in development works in timely and effective decision making regarding provision of health, education and infrastructural facilities etc. to public at large. The atlas provides geographical view at the precincts of district and the level of detail goes up to Union Councils. The details involve spatial spread of population, health facilities and their coverage, status of education and literacy and overview of other social and productive sectors. The overall information encompasses essential graphical and alpha-numeric facets of geo-spatial content that can be deemed imperative for any kind of development activity.

The format of the profiles makes information easily understandable and readily accessible to a broad group of users, including decision makers, planners, amenity providers, researchers, and relevant stakeholders. The data selected for the purpose is considered vital for policy development, local area (district level) planning and for monitoring and evaluation of social sector services. It is also of major significance for suggesting improvements in resource allocation at the macro level, i.e., physical areas, services and population groups. Data has been collected from the line departments of each district, provincial reports, departmental MIS and major household surveys such as MICS and PSLM.

Presently, in the absence of any other single comprehensive information resource, the district profile will serve as a ready reference for decision-makers assisting them to carry out more informed decision making and subsequent planning for the provisioning of amenities to the people of Balochistan, and ultimately for the benefit of our country as whole.

Shahid Pervez
Chief Economist

Acknowledgement

We are highly indebted to a number of individuals and institutions that extended invaluable support and cooperation without which successful completion of this assignment would not have been possible.

Planning and Development Department of Government of Balochistan provided the overall leadership to this assignment. Mr. Arif Hussain Shah, Chief of Section (Federal Programming/ MICS), lead the conceptual design, reviewed and commented on outputs, and helped in obtaining spatial data from other departments; besides, providing technical guidance in preparing the District Development Profiles. Mr. Zamran Marri, Research Officer also reviewed and edited outputs.

Relevant government line departments at the district and provincial levels including: Education, Health, Livestock, C&W, PHE and Mines & Mineral that extended their full cooperation and provided necessary data. We are also thankful to the Commissioners and Deputy Commissioners for their invaluable support and guidance to the process.

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It fails to do justice too many things if the efforts of M/S Eycon (Pvt.) Ltd. and Innovative Development Organization (IDO) are not mentioned here. They performed conscientiously under tight deadlines and difficult circumstances to deliver quality outputs.

Aslam Shakir Baloch
Joint Chief Economist

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ACRONYMS AND ABBREVIATIONS

A. I.	Artificial Insemination
AD	(Anno Domini) after the traditional date of Christ's birth
ADB	Agriculture Development Bank of Pakistan
ADP	Association for the Development of Pakistan
AIDS	Acquired Immune Deficiency Syndrome
ALCs	Adult Literary Centers
ANC	Antenatal Care
API	Annual Parasite Incidence
ASI	Assistant Sub-Inspector
ASPL	Agriculture Sector Program Loan
BC	Before Christ
BCDA	Balochistan Coastal Development Authority
BEF	Balochistan Education Foundation
BEMIS	Balochistan Education Management Information System
BHUs	Basic Health Units
BLGA	Balochistan Local Government Act
BLGO	Balochistan Local Government Ordinance
BOS	Bureau of Statistics
BPS	Basic Pay Scale
C&W	Communication and Works
CBO	Community Based Organization
CCB	Citizen Community Boards
Cds	Civil Dispensaries
CDWA	Clean Drinking Water for All
CIPs	Community Implementation Partners
DDMA	District Disaster Management Authority
DDRRP	District Disaster Risk Reduction Plan
DEWS	Diseases Early Warning System
DFI	Development Financing Institutions
DFO	Divisional Forest Officer
DHIS	District Health Information System
DHQ	District Headquarter Hospital
DOH	District Officer Health
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DRRMP	Disaster Risk Reduction Management Plan
DSP	Deputy Superintendent of Police
DSV	District Superintendent of Vaccination
EC	Election Commission
ECCE	Early Childhood Care Education
EDO	Executive District Officer
EFA	Education for All
EmONC	Emergency Obstetric Natal Care
EPI	Expanded Program on Immunization
FBS	Federal Bureau of Statistics
FLCFs	First Level Care Facilities
FP	Family Planning
GEF	Global Environment Facility
GER	Gross Enrollment Rate
GO	Governmental Organization
GoB	Government of Balochistan
GPA	Gwadar Port Authority
GRAP	Gender Reforms Action Plan

HIV/AIDS	Hectares
HIV/STIs	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IT	Human Immunodeficiency Virus/Sexually Transmitted Infections
IUCN	Information Technology
JICA/SCC	International Union for Conservation of Nature
JVT	Japan International Cooperation Agency/State Customs Committee
K.M	Junior Vernacular Teacher
KESC	Kilo Meters
KPIs	Karachi Electric Supply Corporation
LG	Key Performance Indicators
LHWMIS	Local Government
LIEDA	Lady Health Worker - Management Information System
M.C.C.	Lasbela Industrial Estates Development Authority
MCB	Metallurgical Corp of China Ltd
MCHCs	Muslim Commercial Bank
MDGs	Maternal & Child Health Centers
MHI	Millennium Development Goals
MICS	Muslim Hands Informatics
MNA	Multiple Indicator Cluster Survey
MPA	Member National Assembly
MS	Member Provincial Assembly
MSA	Medical Superintendent
MSL	Maritime Security Agency
NADRA	Mean Sea Level
NAR	National Database and Registration Authority
NDMA	Net Attendance Ratio
NEP	National Disaster Management Authority
NGOs	National Education Policy
NHA	Non-Governmental Organizations
NOC	National Highway Authority
OPD	National Occupational Classification
PCD	Outpatient Department
PDMA	Passive Case Detection
PEC	Provincial Disaster Management Authority
PEMRA	Pakistan Engineering Council
PHED	Pakistan Electronic Media Regulatory Authority
PRCS	Public Health Engineering Department
PSDP	Pakistan Red Crescent Society
PSLM	Public Sector Development Program
PTA	Pakistan Social and Living Standards Measurement Survey
PTC	Pakistan Telecom Authority
PTCL	Pakistan Telecommunication Corporation
PVC	Pakistan Telecommunication Company Limited
QESCO	Polyvinyl Chloride
RHC	Quetta Electric Supply Company
SHO	Rural Health Centers
SI	Station House Officer
SME	Sub-Inspector
SP	Small and Medium Enterprise
SSP	Superintendent of Police
TB	Senior Superintendent of Police
TB DOTS	Tuberculosis
TMA	Tuberculosis Directly Observed Treatment, Short-course
U/C, Ucs	Tehsil Municipal Administration
UBL	Union Councils
UNDP	United Bank Limited
UNHCR	United Nations Development Program
UNICEF	United Nations High Commissioner for Refugees
WWF	United Nations International Children's Emergency Fund
	World Wildlife Fund

DISTRICT AT A GLANCE

Major Facts	
District Status	1 st January 1992
Geographical Area	7,552 Square kilometer (Census 1998)
Geographical Points	69°27'38"- 70°16'26" East longitudes and 30°17'28"- 31°28'53" North latitudes
Administrative Units	There are total 2 <i>Tehsils</i> and 10 Union Councils (LG Balochistan)
Archaeological Sites	Sali Archeological sites, Safari Valley, Sali and Torghar Forests,
Shrines	Shinghar and Surghar Wildlife, Toi Stream and Gokar Dam
Major Ethnic Groups	Data not found
Languages	Pathan, Balochs, Saraikis Pashto 85.1%, Balochi (7.8%), Saraiki 1.6%, (Jafri, Punjabi, Urdu, Sindhi and Brahvi, spoken are 5.6%)
Climate	The climate of Musakhail is semi-arid. It can be placed in the "warm summer and mild winter" temperature region. The summer is hot with mean temperatures ranging from 21°C to 32°C. June is the hottest month when maximum temperature exceeds 32°C and occasionally it rises above 38°C. In winter the temperature drops to 21°C, but even in the coolest month (January) the mean monthly temperature does not drop below 10°C.

Demography	
District Population in 1998	134,056 Total, 74,139 Male, 59,917 Female (Census 1998)
Projected Population in 2010	175,907 Total
Population Annual Growth Rate	2.29% (Census 1998)
Household size	7.0 (Census 1998)
Housing units	19104 (Census 1998)

Law & Order	1 Police Station, 1 District and Session Court, 1 <i>Qazi</i> Court (District Police Officer)
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Productive Sector	
Agriculture Ecological Zone	Temperate
Land Area Used for Agriculture	Current Fallow: 4,331 ha., Net Sown: 7,222 ha., Arable Land: 11,553 ha., Culturable Waste: 12,737 ha., Potential Area: 24,290 ha., (Agriculture Statistics 2008-09)
Major Crops	<i>Rabi</i> crops: Wheat, Barley, Rapeseed /Mustard, Vegetables and Fodder. <i>Kharif</i> crops: Sorghum (<i>Jowar</i>), Millet (<i>Bajra</i>), Maize, <i>Mung</i> bean, Mash Bean, Fruits, Onion, Potato, Vegetables, Melons, Chilies and Fodder.
Major Fruits	Almond, Apple, Apricot and Pomegranate

Total Livestock Population	1,683,391 (Livestock Census 2006) and 1,869,482 (Projected 2010)
Veterinary Institutions	4 Veterinary Hospitals, 55 Veterinary Dispensaries, 2 Artificial Insemination Centers, 1 Government Poultry Farm and 1 Dairy Farm
Major Diseases in Animals	Lung-Worm-Infestation, Wire-Worm-Infestation, Liver Fluke, Mange/Mites, Ticks, Contagious, Non-Contagious

Total Forest Area	4,173 ha
Wild Life	Mammals: Suleman Markhor (<i>Caparis falconery jerdoni</i>) Wild sheep (<i>Ovis vignie Cyclocerose</i>) Fox (<i>Vulpes cana</i>), Asiatic Jackal (<i>Canis aureus</i>), Hayena (<i>Hyaena hyaena</i>), Cape Hare (<i>Lepus capensis</i>), Mongoose, Stone Marten (<i>Martes foina</i>), Porcupine (<i>Hystrix indica</i>), Afghan Hedgehog (<i>Hemiechinus auritus megalotis</i>), etc. Birds: Chukar (<i>Alectoris chukar</i>), See-see Partridge (<i>Ammoperdix griseogularis</i>), Magpie (<i>Pica pica</i>), Houbara Bustard (<i>Chlamydotis undulate</i>), a number of Sparrows, Finches, Buntings, seasonal/migratory Waterfowls, Hawks and Sand Grouse etc. The area also provides corridor to the migratory bird species; the key species are Common Crane (<i>Grus grus</i>) and Demoiselle Crane (<i>Anthropoides virgo</i>). Reptiles: Afghan Tortoise (<i>Agrionemys horsfieldii</i>), Brown Cobra (<i>Naja oxiana</i>), Saw-scale Viper (<i>Echis carinatus</i>), Levantine Viper (<i>Macrovipera lebetina</i>), Goh (<i>Varanus griseus</i>), etc.

Major Mineral Deposits	Coal, Gypsum, Silica Sand
Major Mineral Production	Fluorite 102 M/tons, Lime Stone 225 M/tons (2009-10)

No. of Industries by Type	Data is not available
Handicrafts	Data is not available

Major Roads	Metalled/ Black Topped: 136 Km, Shingle: 306 Km
Tele-density	542 Telephone line connections users (2009)
Courier Services	4 Post Offices
Banks	1 Public Banks

Social Sector	
Drinking Water Sources	46% Improved, 54% Un-improved (MICS 2010)
Sanitation Facilities	27% Improved, 73% Un-improved (MICS 2010)

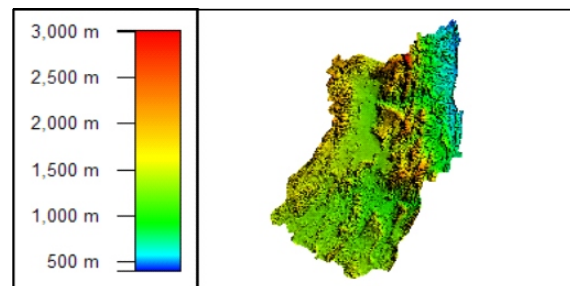
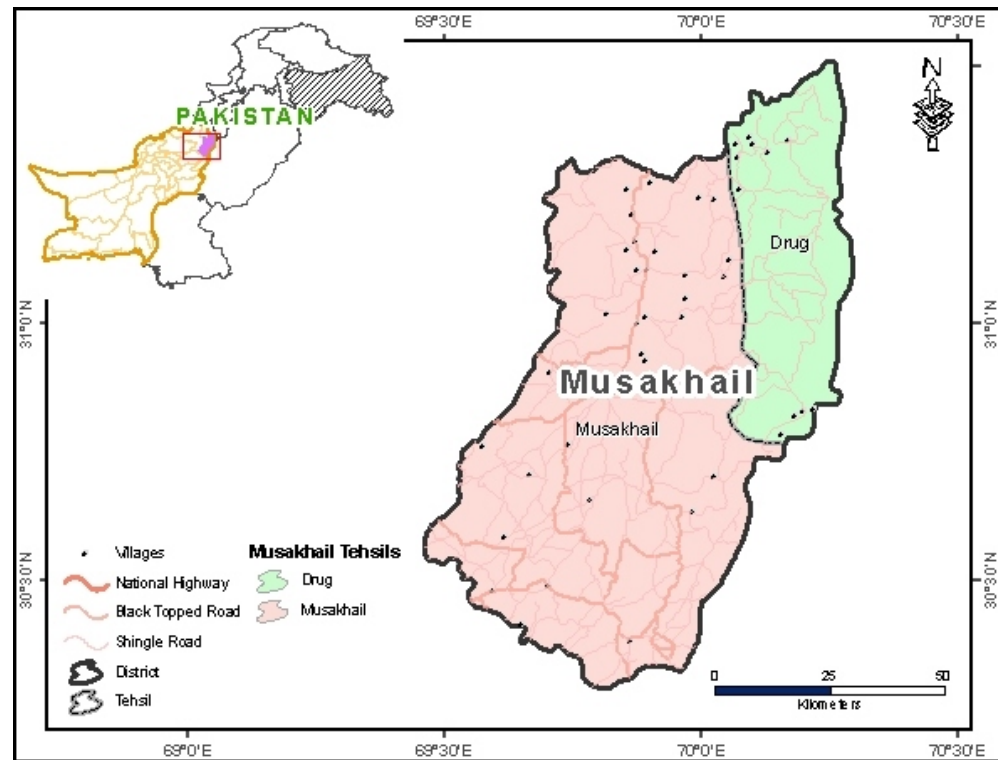
Health Facilities	1 Hospital (Public Sector), 1 RHCs, 6 BHUs, 15 CDs, 2 MCH centers
Health Facilities Staff	5 Doctors, 17 Para-medical staff
Antenatal Care (ANC)	0% (MICS 2010)
Skilled Birth Attendant (SBA)	2% (MICS 2010)
Deliveries at Home	96% (PSLM 2008-09)
Major Priority Diseases	ARI, Fever (Clinical Malaria) and Diarrhea / Dysentery.
Special Health Programs / Initiatives	Expanded Program on Immunization (EPI), TB Control Program, Malaria Control Program, Hepatitis Prevention and Control
Reporting and Surveillance Systems	HMIS and DHIS, LHW-MIS, Disease Early Warning System (DEWS)

Education	Literacy (10+): 23%, Literacy (15+): 20%, Primary GER: 40%, Middle GER: 20%, Metric GER: 11%, Population Ever Attended School: 24%, Completed Primary or Higher Level: 16% (PSLM 2008-09) Primary NAR: 30%, Secondary NAR: 15% (MICS 2010)
Number of Schools	Primary: 254, Middle: 10, High: 11 (BEMIS 2009-10)

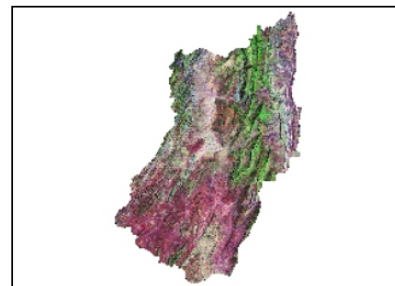
Disasters	Data is not available
District Accounts	PSDP Budget Allocation (2009-10) 277.5 million, Budget Release 277.5 million, Total Expenditures 65.6 million, Percentage Utilization 23.64%. (by the time when data was being collected).

DISTRICT MAP

Area-wise district Musakhail ranks 11th smallest district in Balochistan and has an area of 7,528 square kilometers, Musakhail district lies between 69°27'38"-70°16'26" East longitudes and 30°17'28"-31°28'53" North latitudes consisting of 2 *Tehsils* and 10 Union Councils. Location of Musakhail is at 435 km (aerial distance) south-west (225 degrees bearing) of Pakistan's Capital City Islamabad and 275 km east (74 degrees bearing) from Quetta City, the provincial capital of Balochistan.



MUSAKHAIL: TERRAIN (393m –3013m MSL)



MUSAKHAIL: SATELLITE IMAGE



SECTION I

- 1 Introduction and Background
- 2 Social Organization
- 3 Demography and Housing
- 4 District Government
- 5 Municipal Services
- 6 Law and Order

1

INTRODUCTION AND BACKGROUND

Musakhail was separated from Loralai after having been granted district status on 1st January, 1992. The district headquarter is in “Musakhail Bazar”. The district is located in the east of the Quetta City, the provincial capital of Balochistan, sharing its boundaries in the east with Punjab and Khyber Pakhtonkhwa provinces. Loralai and Barkhan Districts are on the south and Zhob in the west. Musakhail comprises of thick forest areas, hills and plains, high Mountains and huge grass lands with varying ground elevation between 393 - 3,013 meters above Mean Sea Level. (MSL)

Table 1.1: Tehsils and Union Councils of District Musakhail

Tehsil	Union Council
Drug	Drug, Kewan
Musakhail	Gharwandi , Ghuryasa , Kingri , Saddar Musakhail Sura Khawa , Toisar , Wah Hassan Khail , Zam
<i>There are total 2 Tehsils and 10 Union Councils in the district</i>	

(Local Government Balochistan, 2005)

1.1. Historical Background

It is hard to trace the historical account of Musakhail. However, by studying the history of Kandahar and northern Balochistan, some historical account can be ascertained regarding Musakhail. Accordingly, this area, being a part of Kandahar province, has been ruled by the Ghaznavids, Maliks of Kurat Dynasty, Amir Timur and his successors (1383-1470 AD), Sultan Husain Mirza of Herat (1470-1480 AD), and Amir Shuja-ud-Din Zunnun (1480-1504). In 1505 AD, the Mughals conquered the province of Kandahar and held it till 1559 AD, after which, the Safavid kings of Persia ruled. The Mughals regained the province in 1595 AD, and lost again in 1622 AD, to the Safavid kings of Persia.

This time, the Safavids, conferred the government of Pishin and its tribal dependencies upon Sher Khan Tareen. He, after seven years, refused to submit to the governor of Kandahar and became semi-independent, however, he had to retreat later on. In 1709 AD, the Afghan inhabitants rose under Mir Wais Ghilzai and established the Ghilzai power in Kandahar. The Ghilzai power was terminated by Nadir Shah in 1737 AD. After the assassination of Nadir Shah in 1747 AD, the first democratic government was established in Kandahar by the Afghans and they elected Ahmed Shah Durrani as their ruler. In 1826, the first Amir of Afghanistan, Dost Muhammad Barakzai, took hold of the area and annexed it to Afghanistan.

After the first phase of the Afghan war in 1878-79 AD, the British took control of northern areas of Balochistan under the treaty of Gandamak. During 1879-84 AD, efforts were made to extend the British influence over the Khetrans and Musakhails of the current Musakhail territory. The Musakhails' took part in atrocities committed by the Kakars under Shah Jahan in 1884, but surrendered to British government on the conclusion of expedition in same year. On 1st November, 1887, the whole area was declared a part of British India. Zhob Agency was formed in 1890 and Musakhail territory was annexed to it. Musakhail was made a *Tehsil* in 1892 and was transferred to Loralai District in October 1903.

In 1905, the Musakhail *Tehsil* comprised 61 villages and the total population, according to 1901 Census, was 15,537 (8,374 males and 7,163 females). The principal tribes represented were: Isot Afghans (1,941); Jafar Afghans (1,026); Panri Afghans (10,144) including the Musakhail clan (9,748) the principal divisions of which were the Belkhel (7,662) and Laharzai (2,086); and Saiads (271). The chief language spoken was Pashto.

Musakhail remained a *Tehsil* of Loralai district till 1st January 1992; when it was notified as a district as a result of dividing Loralai district into 3 districts, Loralai, Musakhail, and Barkhan.

i. Archaeological Sites

Although, Musakhail is an ancient settlement but there is no remarkable archaeological site. Some sites in the area are:

- Sali Archeological sites,
- Safari Valley and Archeological sites,
- Sali and Torghar Forests,
- Shinghar and Surghar Wildlife,
- Toi Stream, and
- Gokar Dam for game and Migratory birds.

1.2. Tribes, Ethnic Groups and Languages

Main and dominant ethnic group in Musakhail District is Pushtoon. They mainly belong to Kakar tribe and are a peaceful and united race - also have been friendly to the British. Their enmity exists with Khetrans and Baloch tribes, who are to the south of the country. Other tribes residing in minority in the area are Balochs and Punjabis.

Pushto is main spoken language of the area, followed by Balochi and then by Saraiki. Other languages, includes Jafri, Punjabi, Urdu, Sindhi and Brahvi. Although, Jafars are ethnic Pashtons, they speak Jafarki, which is a mixture of Pashto, Balochi, and Saraiki. (Musakhail - A District Profile, 2003)

1.3. Climate

The climate of Musakhail is semi-arid and can be placed in the "warm summer and mild winter" temperature category. Summer is longer than winter and lasts for about 7 months from April to-October. Rainy season is mostly in the months of April and August.

Due to non-availability of weather station at Musakhail District, Climate data of the area has been adopted from neighboring district, Barkhan, which is given in the table below:

Table 1.2: Rainfall (mm) and Temperature (°C)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	Total
Rainfall	17.9	9.8	8.8	134.1	n/a	37.1	136.4	69.6	n/a	7	n/a	9	47.8	429
Maximum Temp.	16	16	22	27	34	39	35	33	34	30	25	17	28	-
Minimum Temp.	4	7	10	15	22	25	25	23	21	17	10	6	15	-

(RMC Karachi, 2008)
n/a: Data not available

1.4. Topography

The district is mountainous for most part with two principal ranges running from north to south direction, which are known as Surghar and Torghar (branches of Sulaiman range). Main valley in the area is Musakhail Sahra. The ground elevation varies in the west; Satyara (2,405 m), Khiazah (2,187 m), Charkundae (2,316 m), and Kakal (1,807 m). The Torghar lies in the east and includes the Nashtarghar or MizriRoh (3,109 m), Chappar, Salai, Narai, Tiar (2,329 m), Buj (2,323 m), Hazargat (2,455 m) and Behu (2,429 m).

The valley of Musakhail Sahra lies from south-west to north-east surrounded with hills; It is divided into two parts by the Tang or Vihowa stream, the northern portion being called the Bar and the southern, LarSahra. Besides the Sahra, it has a number of smaller valleys, which drainage uniting below Khan Muhammad Kot, forms Luni River or northern branches of the Sanghar. The Bar Sahra comprises tract of Taláo, Ghund, Baha, Talai, and Ulmai. LarSahra, which is much smaller than Bar Sahra, is divided into two unequal portions by Razana Stream, which joins Toi near its exit from Gat defile. The western

portion contains Loghai and Dámán tracts. The general elevation of the Sahra Valley varies from 900-1,200 meters.

The general drainage of the valley is from west to east and is carried by three main streams: the Toi, Luni, and Sanghar. In the north-east, the Zamarai country is drained by smaller hill torrents: the Ramak and Guzai. The Toi is formed by the junction of Razana, Tang, and Kharspún or TangiSar and is known beyond the boundaries of the district as Vihowa River. The Sanghar, which as its sources are known as Lang and Zarni, and in its further course, where the two tributaries meet, as Drah, drains the Drug valley. The important affluent of the Lúni are Rod, Lori Tang (made up of Dab and Khajúri), Kingri, and Sarin. (Musakhail - A District Profile, 2003)

2 SOCIAL ORGANIZATION

2.1 Introduction

The principal ethnic group of the district is Pushtoon while the remaining minor groups include Baloch and Jaffars. The Jafars of Drug have a distinct culture, which has traces of the Baloch culture of people in Dera Ghazi Khan. The *sardars* are the privileged personalities; although, their influence over people is now fading over time. Although educational expansion and media exposure has introduced some changes in society, the majority of the population is following centuries old codes of conduct.

The people are predominantly dependent on agriculture and livestock.

2.2. The Family

Joint and extended families are common in the district. In most of the cases, as long as parents are alive, male siblings, even after their marriage, live together with their parents in single house. Although media have much propagated the blessings of the nuclear family system, socio-cultural norms and economic compromises restrain the people from adopting this type of family system. It is considered the duty of children to take care of old-aged parents and, in addition, living together in a big family is considered good from an economic as well as a defensive point of view. However, a few nuclear families are found in Musakhel.

2.3. Marriage

In District Musakhail, Marriage generally takes place after puberty and when the bridegroom is able to pay the *Vulvur* (the bride's price). Marriages are arranged by the parents. The father of the boy accompanied by a few relatives and elder members of the family pay a visit to the girl's family. If their proposal is accepted, *Dua Khair* (welfare prayers) is said for welfare of the new couple two days before the marriage. A few days before the wedding, the *Ukkaré* (formal engagement) is performed. The marriage date is fixed with the consent of girl's parents. Certain ceremonies which are more of a social than a religious nature are performed. On the marriage day, the bridegroom with his relatives and friends proceeds to the bride's house or at the place where the arrangements for the wedding have been made on the expense of bridegroom and the *Nikah* is performed. *Valima* ceremony is arranged on the same day.

Endogamy is common practice, while bride-exchange is also observed. Sometimes marriages are arranged to mediate a rivalry in which a girl belonging to the aggressor's family is wedded to the victim's family-member. Elopement is a taboo and both the girl and the boy are murdered, if found by the relatives. Punishment for adultery likewise is death.

2.4. Social Organization

In Musakhel, society is structured on kinship basis. Tribal identity is still important and the people use the name of their clan as their last name. The *sardars*, whose political and social power used to be hereditary in the past, have reshaped their influence, which now has become based on their economic prosperity. Important decisions, especially in case of mediation, are made at clan level. Communal leadership is in the hands of elder male members of the community. Sometimes, educated individuals are accepted as community leaders, especially in collective welfare and development

activities. Wealth does play some role in social prestige, but the family background is considered to be more important. Sometimes, the Syeds of the area are accepted as mediators. Political decisions are made on the clan level. If the clan has decided to support someone, rarely anybody violates the decision. However these patterns are changing nowadays.

In case of conflict, parties first try to mediate through *sardars* or the Syeds. The aggressor offers a goat or sheep to the sardar to show his willingness to accept the decision of the *sardar* or the clan. Sometimes, the people go to a court of law for their complaints but mostly the conflicts are decided within the community.

2.5. Customs of Co-operation

As activities and engagements of people increase at individual or family level, degree of cooperation appears to be weakening. In rural setups, people do get spare time and hence can cooperate with each others in agriculture related tasks particularly (sowing, reaping and thrashing).

Where there is common interest, extending cooperation is inevitable. For instance, cooperation is management of water supply schemes by the community. These schemes have been completed by the Public Health Engineering Department and have been handed over to the Water Management Associations – committees formed amongst the community. These associations fix tariffs for water consumers, operate and manage the schemes and arrange for minor repairs, if needed.

2.6. Religious Beliefs

The majority of the people of the area are *Sunni* Muslims. They are regular in their prayers and fast in the month of *Ramazan*. The religious leaders (*Mullahs*) are the most influential people in the rural areas however their popularity diminishes in the urban areas. Main festivals celebrated are *Eid-ul-Fitar* and *Eid-ul-Azha*.

Minority sects (only 0.4% according to 1998 Census) include Christians, Ahmadis, Hindus, Parsis, Sikhs, Buddhists and others. In Musakhail, sectarian violence is minimal as most of the people belong to the *Sunni* sect of Islam and believe in the *Hanfi* interpretation of *Shariah*.

2.7. Conflict Resolution

In Musakhel, people try to solve their conflicts at community level by involving *sardars* or other influential people. According to the tradition, the aggressor presents a goat or sheep to the mediator which is an indication that the aggressor will accept the decision of the arbitrator. The arbitrator calls upon the elder and wise men of the clan, sometimes the Syeds and also invites the victim for a lunch or dinner. After listening to both sides, a decision is made and usually accepted by all parties involved. Otherwise the aggrieved party can go to a court of law.

2.8. Arms

Almost in all rural areas of the districts, including Musakhial, carrying arms is part of tradition. From young to the old, men carry arms in public. In far flung areas, there may no arms license at all. There is no check on carrying arms without license. In the rural areas, they are carried frequently. Particularly, the tribal chiefs move with several bodyguards carrying weapons such as rifles, klashinkovs and kalakovs. Carrying weapons reflects their tribal power and position in the tribe and the society.

2.9. Role, Position and Status of Women

A few women have joined the formal sector through government jobs, especially in the field of education and health. Through opportunities such as these women strive towards economic independence. However, most women are either deprived of income generating activities or being exploited by being underpaid or not paid at all. The help they offer through grazing livestock is unaccounted for and is considered of no economic value.

The economic independence of women in Musakhel does not fully translate into social independence. Sometimes, her performance is restricted to the limits, which suit her husband, father or other male family members. For example, she is free to move around, but just to graze her livestock or to fetch water and collect fuel wood. She makes many of the routine domestic decisions, but decisions regarding major issues, like the children's marriages, are made by the men in the family, while the women may only give their advice. Girls have no say in the decisions about their marriages. Although purdah is not very strictly practised in Musakhel, very few women are seen in Musakhel Bazaar. It is not decent for women to go outside their homes alone, even for a medical check-up. She needs to be accompanied by a male family member. With regard to health facilities, meant for women and children, situation has not changed much in the last 10 years or so. In 1998, there were 2 mother and child health care centres and today this figure is the same.

2.10. Apprenticeship and Child Labor

All those activities which deprive a child of his or her right to get education may be termed as child labour. According to this definition, all the grazing tasks performed by the children in Musakhel can be termed as child labour. On the other hand, these children not only share the economic burden of their family by herding the livestock, but also learn their family trade in the form of apprenticeship. Very few children work at hotels, auto and engineering shops, bicycle repair shops, blacksmith shops, tannors (loaf makers), hair cutting saloons, and tailoring shops. In most of the cases children work here as apprentices and are paid a little amount as stipend.

2.11. Some Key Findings

Musakhel is a kinship based society where the tribal system prevails. Decision making is at community level for most of the time and conflicts are resolved through mediation at the community level or by a court of law. Arms are frequent and crime rates are increasing. Child labour is defined as training in family trades and apprenticeship. The educational expansion and media exposure has not done much for the acceleration of socio-cultural change.

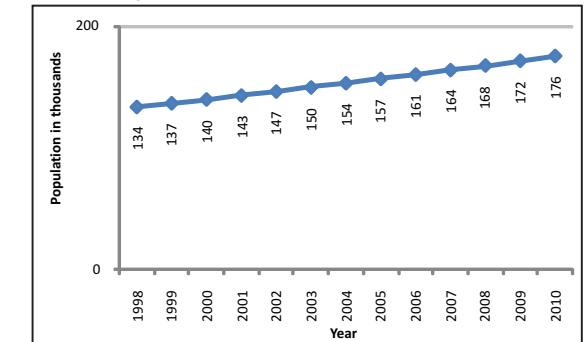
Women are socially, economically and politically marginalised. Women are subject to male domination. Health is a major problem for women, as there is no single lady doctor available in the entire district. However, women in Musakhel district do have the right to inheritance according to Islamic laws.

3

DEMOGRAPHY AND HOUSING

Demography details 2010 (Projected Population)	
Total Population (in thousands)	176
- Male	97 (55%)
- Female	79 (45%)
- Urban	15 (9%)
- Rural	161 (91%)
Sex Ratio (males/ 100 females)	124
Dependency Ratio	120
Population Density (person per sq. km)	31
Area Square Kilometer	5,728
Census 1998	
Total Population (in thousands)	134
Population Density (person per sq. km)	23
Average Household Size	7
Housing Units & Rooms	
Housing Units in thousands	19
Rooms per housing unit	0.5
Housing Tenure	
Owned	96%
Rented	1%
Rent Free	3%
Marital Status	
Never married	25%
Married	72%
Widowed/ Divorced	3%
Other	
N.I. Card Obtained	37%
Muslim	100%
Non-Muslim	1%

District Population Growth 1998 - 10



(Census, 1998)

3.1. Population

Since independence, five population Censuses have been conducted in the years 1951, 1961, 1972, 1981 and 1998. The population reported in last four Censuses is presented in table 3.1 below while list of villages (rural area) with population and number of households is given in annexure K:

Table 3.1: Census Wise Population Population (In '000')

	1961	1972	1981	1998	2010 (Projected)
Total Population	24	39	91	134	176
Male Population	n/a	n/a	n/a	74 (55%)	97 (55%)
Female Population	n/a	n/a	n/a	60 (45%)	79 (45%)
Urban Population	0.4 (2%)	1 (2%)	0 (0%)	12 (9%)	15 (9%)
Rural Population	23.9 (98%)	38 (98%)	91 (100%)	122 (91%)	161 (91%)
Sex Ratio (Males per 100 females)	n/a	n/a	n/a	124	124
Number of households (in '000')	n/a	n/a	11	3	n/a

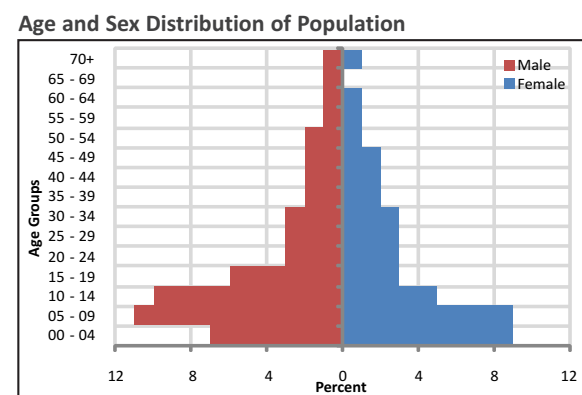
(Population Census Organization)
n/a: Data not available

3.2. Population Growth Pattern

According to the Census of 1998 the reported population of District Musakhail was 134 thousand and the designated annual growth rate was calculated to be 2.29%. Historically, the population growth has been on a higher side in the district in contrast to other districts of Balochistan. Between the Censuses of 1961 and 1972 the population increased by 63%, between 1972 and 1981 it increased immensely by 133% and between 1981 and 1998 it increased by 47%. By applying the annual growth rate (2.29%) of Census 1998, the projected population in 2010 is estimated to be 176 thousand, which is an increase of 3%. This computes a modest increase of about 42,000 in population over a period of last 12 years.

3.2.1. Population Distribution by Gender and Age

The population is characterized by high growth rate (2.29% per annum) with 51.4% population under 15 years, 45.5% is working age (15-64 years) and 3.1% of the population is 65 years or older. The largest cohort of population is of age group 5-9 years, which decreases with each subsequent 5 year interval. A relatively higher decline in the female population is observed. The age group of 0-4 years is the only exception, where female population has outnumbered the male. There is significant difference between the male and female population of age 10-14 years. It supports the assumption that poor health care strikes girls more harshly than boys. The other most plausible explanation would be concealing and underreporting the number of females. About 72% of the women of reproductive age (15-49 years) were married, and of these married women, 88% had children.



(Census, 1998)

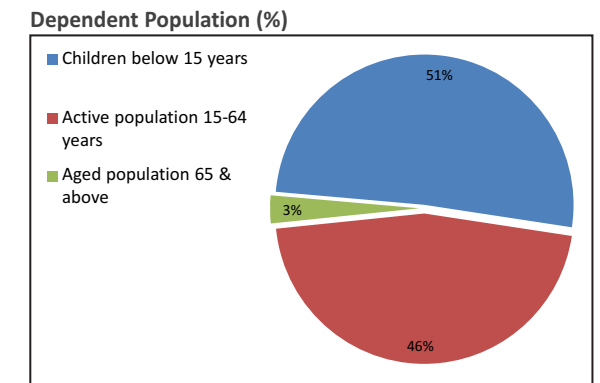
Sex ratio was clearly lopsided towards male population, where for every 100 females, there were 124 males.

3.3. Dependent Population

The economically dependent population is considered to be less than 15 years of age and 65 years and above. In addition the widowed or divorced women are also considered dependent. According to the Census 1998, over half (54.5%) of the

population in the district was dependent including youth (< 15) dependency of approximately 51% and old age dependency at 3%, including 3% dependent population of widowed or divorced women.

The proportion of dependent population in the district is quite high, which has increased burden on the productive part of the population to support the upbringing of the young, economically dependent part of population.



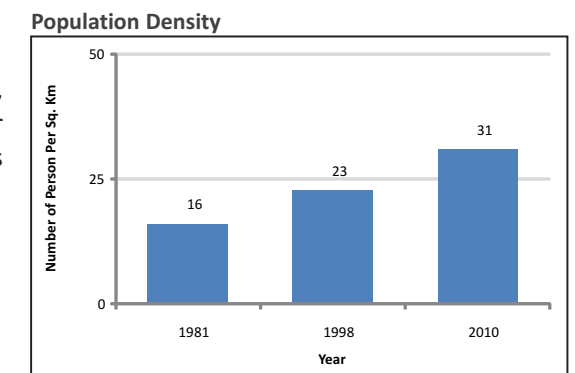
(Census, 1998)

3.4. Population Share by Urban and Rural

Over the period of time, 8.6% of the population lived in urban areas in Census of 1998 while a greater portion of the population lives in rural areas (about 91.4%). The male-female ratio in urban areas was 122:100, whereas in rural area it was 124:100. There is no substantial difference between the gender ratios between both the areas.

3.5. Population Density

In 1998, approximately 23 people resided per square kilometer area, whereas, in 2010 only about 31 persons lived per square kilometer area, a marginal increase over the last 12 years, i.e., only two persons per three year.



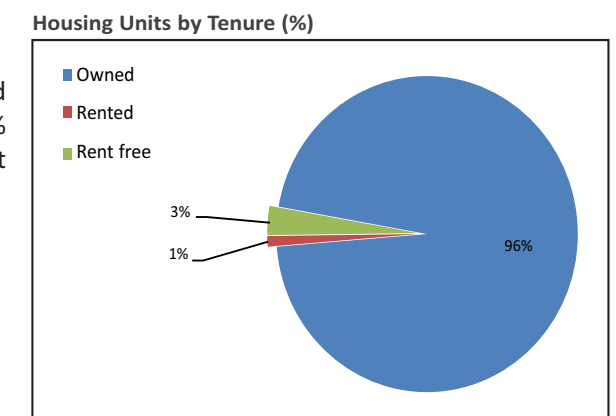
(Census, 1998)

3.6. Average Household Size

The average household size was 7 persons per household according to the Censuses of 1998. According to the latest Census, only 0.5% of the population had a provision of living in separate room, which is very low.

3.7. House Tenure

According to 1998 Census, most of the houses (96%) were owned by the residents. The percentages of rented and rent-free were 1% and 3% respectively. However, it has been observed that almost 2.8 percent of the houses are rented in the urban areas.



(Census, 1998)

4 DISTRICT GOVERNMENT

4.1. Administrative Division

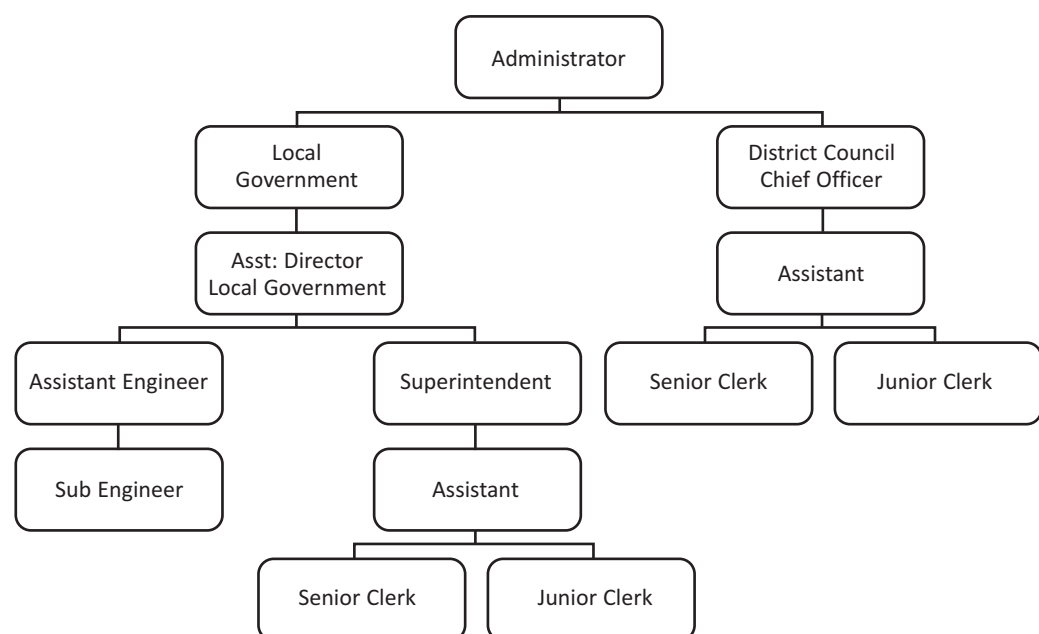
Musakhail was notified as a district on 1st January 1992 when Loralai District was divided into three districts, named Musakhail, Barkhan, and Loralai. Previously, Musakhail was one of the 4 sub-divisions of Loralai District. For administrative purposes, the whole district is one sub-division, i.e., Musakhail, and is further divided into one *Tehsil* (Musakhail) and one sub-*tehsil* (Kingri). Musakhail *Tehsil* is divided into 3 *qanungo* circles, Saddar Musakhail, Toisar, and Drug which are the *patwar* circles as well. The whole of Kingri sub-*tehsil* is one *qanungo* circle and *patwar* circle.

4.2. A Brief History of Local Government Institutions

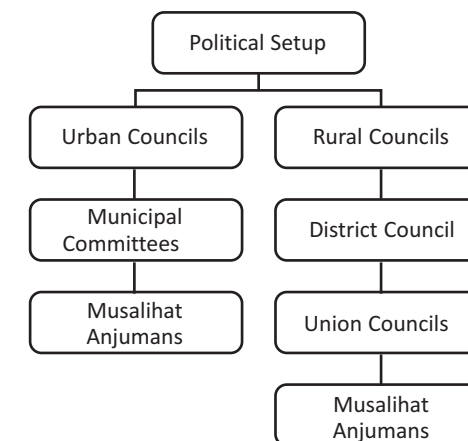
The first ever local community development system introduced in Musakhail was the Village Aid Program, initiated in the entire of Loralai District in July 1957. A total of 40 Village Councils were formed with a total strength of 545 members. The first Local Government program was called Basic Democracies Order, which was introduced in 1959. Under the Basic Democracies system 20 Union Councils were established in the whole of Loralai District. In 1969, all these local government institutions were suspended and later on were totally abolished on 22nd January 1972. A new Local Government system was introduced in 1975 under the Balochistan Local Government Act 1975. This law could not be enforced in its true sense, as the elections proposed under this act were never held.

Balochistan Local Government Ordinance (BLGO) of 1980 was replaced by BLGO 2001 with the concept of district Government. Under BLGO 2001 district Musakhail had 2 *Tehsils* and 10 Union Councils. The district was administrated from a single line of administration covering both the rural as well as the urban areas. The system remained intact for two tenures and later was modified through the approval of BLGA 2010. The present system under the Local Government Act 2010 is similar to BLGO 1980 and stresses upon the rural-urban division.

Local Government Administration Organogram (Administrative Setup)



Local Government Organogram(Political Setup)



4.3. Local Government Administration

The local government institutions in urban areas of district Musakhail include the Municipal Committees, headed by chairman and ward members and its size depend on the number of people living in the area. The Government is represented by one Chief Officer, who assists the chairman and members in routine working. There is a special representation of women, peasant/workers and minorities in the district.

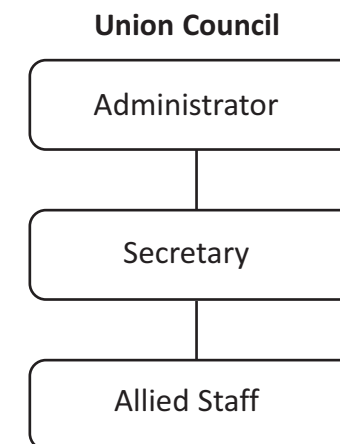
Under BLGA 2010, there are 10 Union Councils in Musakhail. The Union Councils constitute a District Council, in which each Union Council is represented by one member in the District Council. In addition, there is special representation of women (33%), worker and peasants (5%).

4.4. Functions of Local Government

4.4.1. Union Council

There are 10 Union Councils in the district, each Union Council serves a population ranging from 1,000 to 1,500 persons. Women representation, in each Union Council, is 33% and that of peasant/worker is 5%. This percentage is based on the number of general seats in the Council.

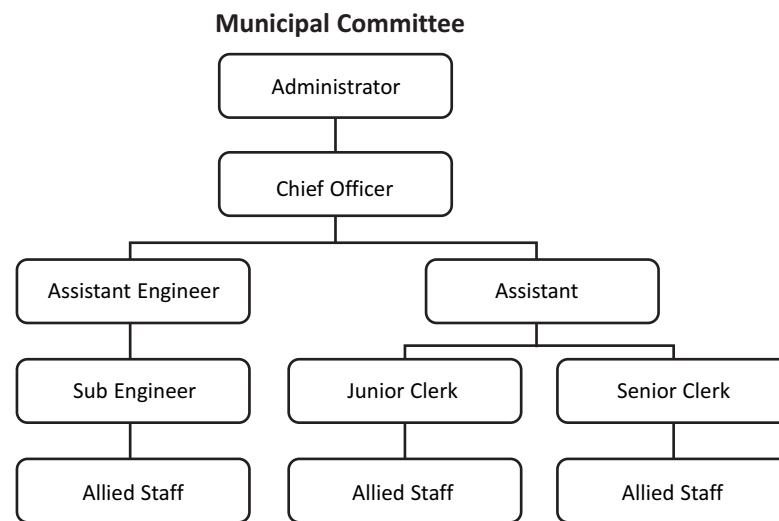
The Union Councils are supposed to undertake the development works regarding public health, education, agricultural development and economic welfare, articles of food and drink besides issuance of birth and death certificates. At present, they are not functioning as Local Government elections have not been held under BLGA 2010. Every Union Council is allowed to generate its own sources of revenue by levying taxes and fee as specified in the second schedule of the BLGA 2010. They also resolve conflicts among the villagers through *Musalihat Anjumans* and are independent to make decisions within their jurisdiction. However, some of decisions pertaining to finances have to be formally approved by the District Council. The administrative structure of Union Council is given in bottom right.



4.4.2. Municipal Committee

The only municipal Committee working in the urban areas of Musakhail is Municipal Committee Musakhail.

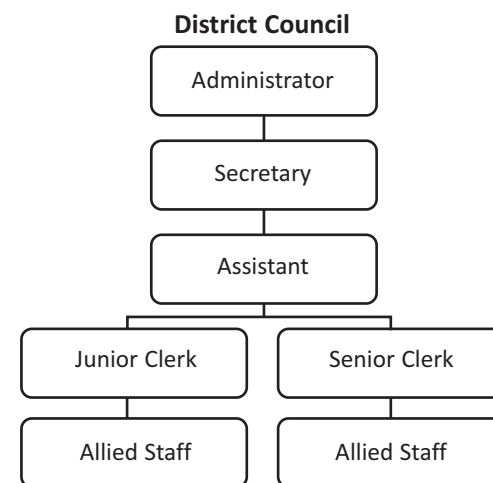
According to the rules of BLGA, Municipal Committees have been constituted in the areas, where population ranges from 2,000 to 2,500. Women and workers/peasants have 33% and 5% representation respectively. The minorities' representation is determined through government's notification, based on the population of minorities living in the area. The Municipal Committees are responsible to provide services related to public health, water supply, drains, articles of food and drink, animals and Cattle, education, public safety, town planning, building control, streets and arboriculture. The Municipal Committees collect taxes and rates as determined under part III of the second schedule of BLGA 2010. The administrative setup of Municipal Committee is given above:



4.4.3. District Council

There are 10 Union Councils in District Council of Musakhail, one from each Union Council. Special seats are allocated to representatives of worker/peasants (5%), women (33%) and minorities' representation is notified by the government on the basis of population. All elected chairmen of the Municipal Committees are also members of the District Council.

The District Council is concerned with rural development activities and functions such as: public works, public health, education, agricultural development and economic welfare, articles of food and drink, drainage, livestock and dairy development, culture and public safety. The District Council can generate revenue through levying fee and taxes as given in part II of second schedule of BLGA 2010. The administrative structure of District Council is as given above:



4.5. Local Government in Musakhail

The Balochistan Local Government Act 2010 provides the constitution of local government institutions for rural and urban areas and is mainly responsible for local level development and provision of municipal services to people. The institutions will be in place following the announcement of the Local Government elections by the Provincial Government.

4.6. Electoral System

4.6.1. Elections

The total number of registered voters as per Local Government elections 2005 list was 3,976,278. The number of male registered voters was 3,945,715, whereas, the female registered voters were 30,563. The figure reflects a significant gender gap in the number of registered voters at the district level with the male registered voters out-numbering the female voters by a large proportion. The voter turnout during the Local Government elections was however very low. Only 27% of the male voters and 10% of the female voters came out to cast their vote that is almost less than half of the total.

4.6.2. Provincial and National Assembly Seats

The district has one Provincial Assembly seat PB-15. The National Assembly representation is through the combined constituency (NA-263) of Musakhail, Barkhan and Loralai.

4.6.3. Number of Polling Booths during Last LG Elections

A total of 160 polling stations were set up at the district level to provide facilitation to the voters for casting their votes in their nearest vicinity during the last Local Government elections. There is variance in the number of male and female voters in the district and same is reflected in the number of polling booths set up in the area. However, this arrangement may require females to travel longer distances to cast their vote.

4.7. Federal and Provincial Government Services

A number of Federal and Provincial Government departments are providing services at the district level

Table 4.1: Federal and Provincial Government Services

Offices and Departments	Number of Offices	Location
Federal		
Election Commission (EC)	1	District Headquarter
NADRA ¹	1	Jaffarabad Road near PHE Office Musakhail
Post Office	1	Loralai road near Model High School Musakhail
Provincial		
Population Welfare	1	Jaffarabad Road near old treasury Office Musakhail
Zakat	1	District Headquarter

(DC office, Election Commission of Pakistan, 2010)

4.8. Complaints and Accountability Mechanism

The district has no complaints and accountability mechanism. The office of Ombudsman is not devolved to provide services at the district level. Similarly, District Public Safety and Police Complaints Commission to be established under Police Order have also not been notified yet.

¹ NADRA: National Database and Registration Authority

Municipal services reported in the district include public health, water supply, sanitation, articles of food and drinks, public safety, town planning, building control, streets maintenance, car parking, bus stands, display and hoardings. However, these services are not fully functional. Due to on-going changes in the LG structure, availability of data from the appropriate source also suffered, which is a limitation. The findings, however, are presented in the following sections.

5.1. Administration of Municipal Services and Assets

5.1.1. Assets

Municipal Administration of district Musakhail is not reported to have any property at all. In the year, 2009-10, information on revenue was also reported.

5.1.2. Public Health

The most important duty of Municipal Committee is to provide services regarding public health, proper sanitation system, supply of clean drinking water and control of infectious diseases, hygiene and building control facilities.

5.1.3. Water Supply

Clean drinking water supply is another necessary and important mandate of the municipal services, working under the Water Regulatory Authority.

5.1.4. Articles of Food and Drink

There are no reported public facilities for article of food and drink in the district.

5.2. Town Planning

Like other districts of Balochistan, town planning in Musakhail is also an unknown subject. Towns are growing on their own.

5.3. Building Control

There is non-availability of data regarding map approval and regulation of construction building in the district.

5.4. Projects Concerned with Municipal Services

The project reflected in the PSDP 2009:

- Development of Musakhail Town.

This chapter intends to report information on law enforcement agencies' resources, major cognizable crimes, judicial services, prison and jail facilities and the development schemes.

6.1. Geographical Coverage

In District Musakhail there are two main law enforcement agencies, regular police and a paramilitary police force named "levies". The reported data shows that there is 1 police station and 3 levies *Thana*. For further details please see table B1 Annexure B.

6.2. Human Resource

There are a total of 181 police personnel, including 1 SP, 2 DSPs, 3 SHOs, 5 SIs, 26 ASIs and 167 Constables. As most of the district is controlled by the levies forces, their strength is much bigger than that of police. The Provincial Levies got the strength of 90, including 3 *Tehsildars*, 11 *Hawaldars*, 1 *Jamadar*, 72 *Sipai(s)* and 3 *SI(s)*. Total strength of Federal Levies is 145, including, 3 *Risaldars*, 17 *Hawaldars*, 7 *Jamadar*, 79 *Sipai(s)* 30 *Sawar*, 8 *Mohrar* and 1 tracker. For further details please see table B2 Annexure B.

6.3. Resources

The police force in the district is equipped with 12 vehicles, 94 arms, 1,780 ammunitions and 01 tear gas. For further details please see table B3 Annexure B.

6.4. Major Cognizable Crimes

In the last five years, the reported cases of explosions were 4, that of murder 17 and 4 of rioting. For further details please see table B4 Annexure B.

6.5. Judicial Services

The judicial services available in the district are: 1 District and Session court, 1 Judicial Magistrate court, 1 *Qazi* court and 1 *Majlis-e-Shoora*. The High Court bench, Anti-terrorist court, Juvenile court, Banking court and Bar Association do not exist in the district. For further details please see table B5 Annexure B.



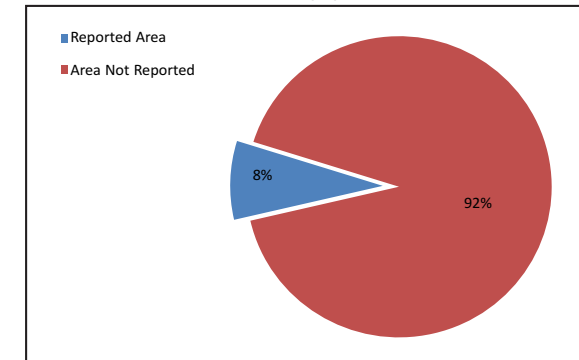
SECTION II Productive Sectors

- 7 Agriculture and Horticulture
- 8 Livestock
- 9 Fisheries
- 10 Forestry
- 11 Mining
- 12 Industry and Manufacturing
- 13 Economic Infrastructure and Communications

7

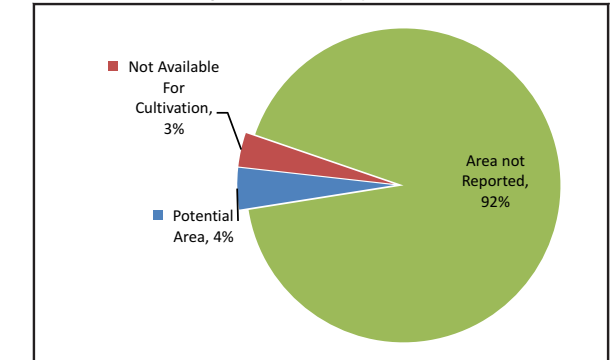
AGRICULTURE AND HORTICULTURE

Distribution of District Area (%)



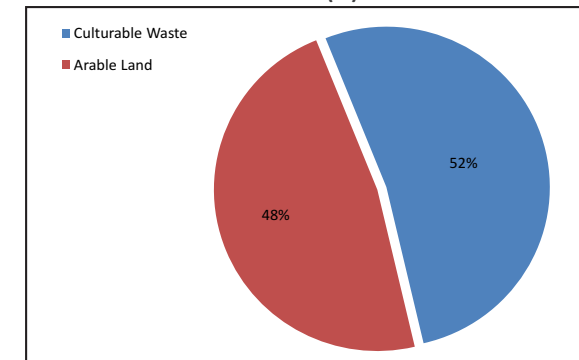
(Agricultural Statistics Balochistan, 2008-09)
Total reported area of the district is 8%

Distribution of Reported Area (%)



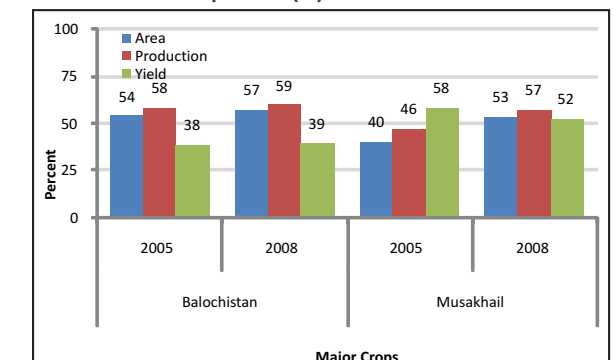
(Agricultural Statistics Balochistan, 2008-09)
Total potential area of the district is 4%

Distribution of Potential Area (%)



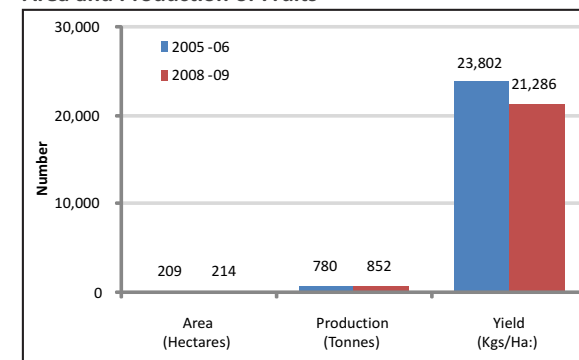
(Agricultural Statistics Balochistan, 2008-09)
Total arable land of the district is 48%

Growth Rate Comparison (%)



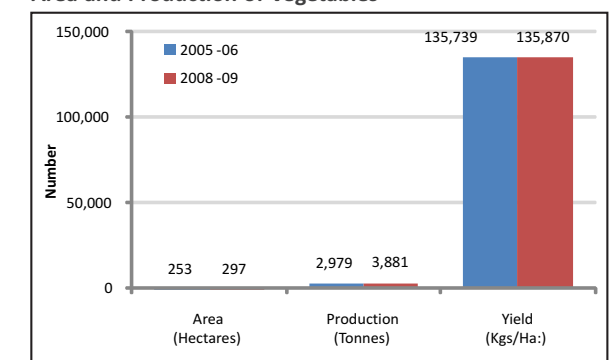
(Agricultural Statistics Balochistan, 2008-09)

Area and Production of Fruits

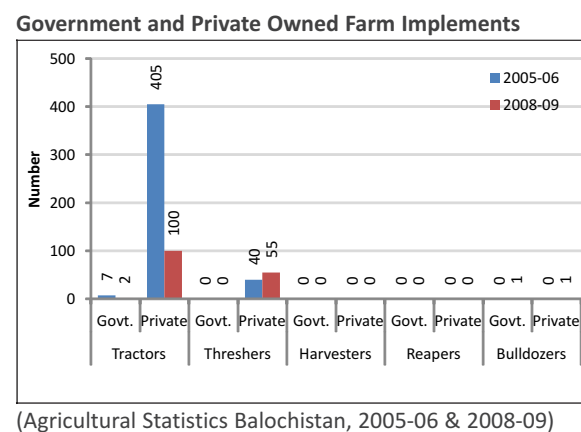


(Agricultural Statistics Balochistan, 2005-06 & 2008-09)
The fruits production increased in 2008-09

Area and Production of Vegetables



(Agricultural Statistics Balochistan, 2005-06 & 2008-09)
The vegetables production increased in 2008-09.



Sector Highlights

- Potential area available for cultivation was 24,290 of the total geographical area reported (Agricultural Statistics 2009).
- The Current Fallow Land increased slightly from 36% to 37% between 2005 and 2009, which means little more area was made available for cultivation. Net Sown Area was reduced from 64% to 62.5% between 2005 and 2009.
- Major Rabi crop was wheat followed by barley sharing 88.7% and 5.1% of the total Rabi crop area respectively.
- Major Kharif crop was maize followed by millet sharing 30.7% and 18.0% of the total Kharif crop area respectively.
- The fodder production was 1,375 tons and it remained the highest for the year 2008-09 followed by maize at 1,045 tons.
- Other major fruit produce was almond, apple, apricot and pomegranate.
- Major irrigation sources include tube wells (38.7%), canals (29.6%), wells (24%) and dug karezes / spring (7.7%).
- There are 10 tube wells installed by government and 110 were installed privately.

7.1. Introduction

7.1.1. Agro-Ecological Zone

Musakhail falls in the temperate agro-ecological zone bearing a total potential agricultural area of 24,290 hectares (Agriculture Statistics, 2008-09), which is approximately 4.2% of the total geographical area of district Musakhail. The recommended crops for the district, according to its ecological zone, are given in the table below:

Table 7.1: Agro Ecological Zone and Recommended Crops

Ecological Zones	Name of district	Altitude (Feet)	Recommended Crops
Temperate	Panjgur, Khuzdar, Loralai, Barkhan, Musakhail, and Kharan, Washuk.	3000-4500	Wheat, Barley, Cumin, Gram, Mutter Pulse, Masoor, Vegetables, Fodders, Sunflower, Safflower, Rice, Jowar, Maize, Pulses, Onion, Potato, Melons, Chillies, Coriander, Garlic, Cotton, Almond, Apple, Apricot, Grapes, Peaches, Plum, Pear, Pomegranate, Cherry, Pistachio, Dates, Citrus, Banana, Guava, Chickoo and Fig.
Cold	Quetta, Pishin, Mastung, Kalat, Killa Saifullah, Zhob, Loralai and Musakhail, Sherani.	4500-6000	Wheat, Barley, Rape seed & Mustard, Tobacco, Canola, Cumin, Mutter Pulse, Masoor, Vegetables, Fodders, Sunflower, Safflower, Jowar, Bajra, Maize, Pulses, Onion, Potato, Melons, Chillies, Coriander, Garlic, Cotton, Almond, Apple, Apricot, Grapes, Peaches, Plum, Pear, Pomegranate, Cherry, Pistachio and Fig.

(Agricultural Statistics Balochistan, 2008-09)

7.2. Land Utilization

The share of land used for agriculture in district Musakhail is gradually increasing every year, which shows that the agricultural sector is growing gradually. Overall land utilization of district Musakhail is tabulated below:

Table 7.2: Land Utilization by Year

Land Utilization	Area In ('000') Hectare				
	2004-05	2005-06	2006-07	2007-08	2008-09
Total Geographical Area	573	573	573	573	573
Total Arable land	10 (43%)	10 (43%)	10 (43%)	11 (45%)	12 (48%)
Total Potential Area for Cultivation	24 (4%)	24 (4%)	24 (4%)	24 (4%)	24 (4%)
Net Sown Area	7 (64%)	5 (52%)	6 (62%)	7 (63%)	7 (63%)
Current Fallow Land	4 (36%)	5 (48%)	4 (38%)	4 (37%)	4 (37%)
Culturable Waste	14 (57%)	14 (57%)	14 (57%)	13 (55%)	13 (52%)
Forest	4 (1%)	4 (1%)	4 (1%)	4 (1%)	4 (1%)
Area Unavailable for Cultivation	20 (3%)	20 (3%)	20 (3%)	20 (3%)	20 (3%)

(Agricultural Statistics Balochistan, 2008-09)

7.2.1. Land Classification

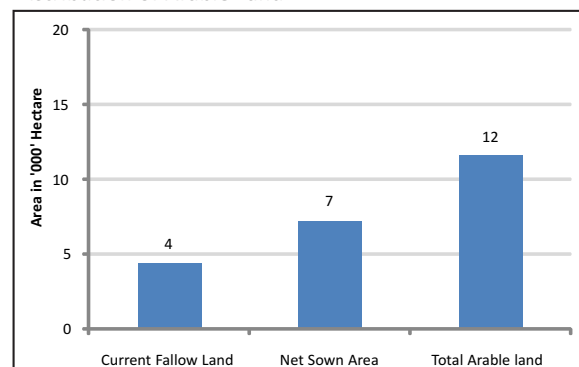
The geographical area of district Musakhail is 573 thousand hectares out of which 3.5% (19,850 hectares) is not available for cultivation. The potential area of 4.2% available for agricultural crops cultivation is 24,290 hectares. For future agriculture sector growth and development there are possibilities but water scarcity is a major constraint. If flood water is conserved for irrigation, the uncultivable area can be brought into cultivation for increasing the cropping area but building dams for flood water storage is yet another costly affair. The number of tube wells, installed by the government (10) is 8.3% as against the private installations i.e. (110) having a share of 91.7%. From the given data, it is quite evident that the trend of Mean Fallow Land had been at 39.2% for a five year period. Similarly, the trend of Mean Net Sown Area had been below 60.8%.

The area under Culturable Waste Land has decreased during 2005-06 to 2008-09 period from 57.2% to 52.4%. Most

probably this indicates the non-availability of irrigation water that the ratio of cropping intensity decreased during both *Rabi* and *Kharif* seasons. Increase in the Culturable Waste Land ranged from 12,737 hectares to 13,898 hectares during year 2004-05 to 2008-09.

Out of total potential area for cultivation (24,290 hectares), arable land for five years ranged from 10,392 (42.8%) to 11,553 (47.6%) during 2004-2009. At the availability of total Arable Land, the share of Current Fallow Land for the last five years decreased from 47.7% to 36%. The net sown area during 2008-09 decreased nearly 2% as compared to the previous four years. The area under total arable land increased almost 47.6%.

Distribution of Arable Land



(Agricultural Statistics Balochistan, 2008-09)

Crops

District Musakhail has two cropping seasons:

- Rabi Crops:** *Rabi* crops include Wheat, Barley, Rapeseed /Mustard, Vegetables and Fodder. These crops are sown in winter or during early summer and harvested in the late summer. For further details, please see table C1 Annexure C.
- Kharif Crops:** *Kharif* crops include Sorghum (*Jowar*), millet (*Bajra*), Maize, *Mung* bean, Mash bean, Fruits, Onion, Potato, Vegetables, Melons, Chilies and Fodder. All these crops come under cash crops and they are sown in summer and harvested in late summer or early winter. For further details, please see table C2 Annexure C.

7.2.2. Major Crops, Area and Production

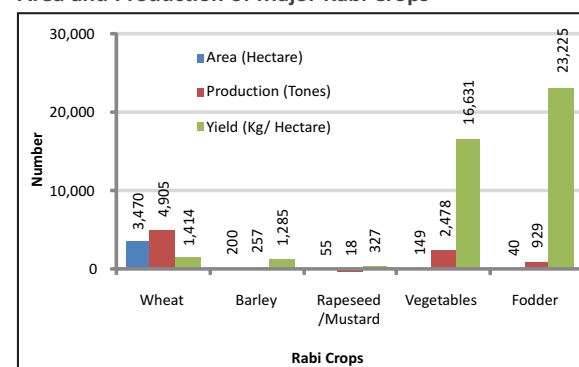
Under the area of major *Rabi* crops wheat occupied a maximum area of 3,470 hectares which is 89% of the total area at (3,914 hectares) followed by barely having shared 5% of the area. More than 65% area of wheat is under un-irrigated condition in district Musakhail. The area under vegetables and fodder remained at 4% and 1% respectively. Among the *Rabi* crops, rapeseed/mustard had only 1.4% (55 hectares) contribution.

The production (4,905 tons) of wheat crop at 1,414 Kg/hectares for the year 2008-09 was at the top followed by vegetables at (2,478 tons). The production of fodder crop stood 3rd with 929 tons. However, rapeseed /mustard produced (18 tons/hectares) i.e. the yield of 327 kg/hectares was at the bottom production wise. The data shows that the yield of 1,414 Kg/hectares of wheat in Musakhail better when compared with the average yield of high yielding wheat genotypes for un-irrigated wheat in Balochistan (1,168 Kg/hectares).

Under the area of major *Kharif* crops maize occupied the maximum area of 1,025 hectares, which is 30.7% of the total area (3,342 hectares) followed by millet (*Bajra*) having shared 18% of the area. The area under vegetables and fodder remained at 2.8% and 2.1% respectively. Data from the list of major *Kharif* crops showed that contribution of fruits for the year 2008-09 remained at 6.4% area (214 hectares).

However, among the *Kharif* crops melons had only 0.7% (23 hectares) contribution followed by onion having (30 hectares) 0.9% contribution. 3.2% of the irrigated area was under fodder production.

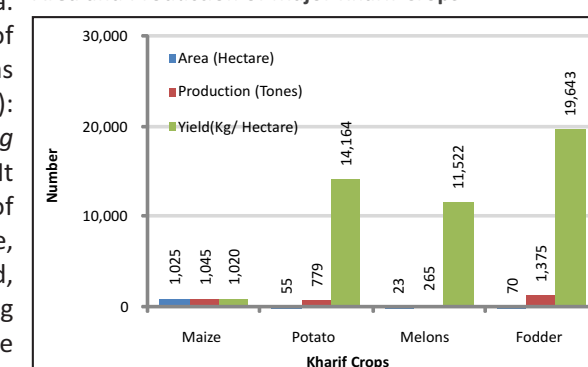
Area and Production of Major Rabi Crops



(Agricultural Statistics Balochistan, 2008-09)

Fruit production occupied 6.8% of the total irrigated area. Almond, apple, apricot and pomegranate are the leading fruits of district Musakhail. The data, showed that 1,020 Kg/hectares was yield of Maize, Sorghum (*Jowar*): 765 Kg/hectares, Millet (*Bajra*): 628 Kg/hectares, Mash bean: 507 Kg/hectares followed by *Mung* bean: 471 Kg/hectares. These yields are very low at Musakhail. It seems that the *Kharif* crop varieties being grown are either not of certified seed or may be the agronomic practices like sowing time, balanced fertilizer application plus type of fertilizer to be applied, seed bed preparation, irrigation intervals, hoeing and weeding operations, and proper insect and disease control measures are not fully and properly followed.

Area and Production of Major Kharif Crops



Agricultural Statistics Balochistan, 2008-09

Detailed research is needed to ascertain exact causes of low yields as getting maximum yield will not only raise income levels of the growers but will also help in getting maximum of the existing potentials. For further details please see table C2 Annexure C.

The Provincial Seed Certification Department may be addressed to survey the area for monitoring and identification of crop sown varieties, because this is the only concrete method to curb the prevailing trend of sowing of mixed and uncertified seeds. Moreover, both Agriculture Research and Extension Wings must participate in the field days and provide updated information to farmers of the area on how to follow the crop husbandry. Effective dissemination of written guidelines, pamphlets and newsletters about proper management and handling of various crops must be ensured and activated in the best interest and economic prosperity of growers.

7.2.3. Discussion on Production Trends

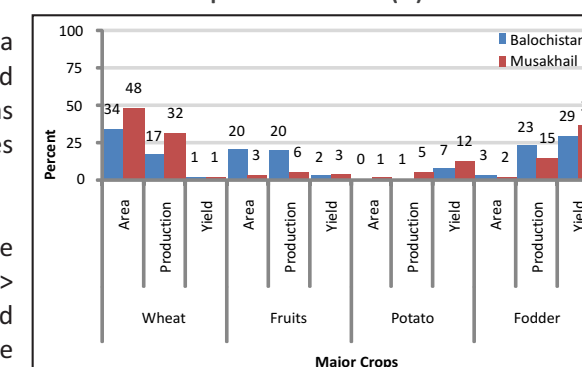
a) Wheat: At the district level, wheat contributed to 88.7% of the area under *Rabi* crops. More than 65% of wheat was grown under un-irrigated condition during the year 2008-09. Growth rate yield Kg/hectares remained at 1.2% against the 1.0% at the provincial level.

b) Fruit: At the district level, fruits contributed to 6.4% of the area under *Kharif* crops. The area growth rate of 2.9% < 20.1% and production growth rate of 5.5% < 19.7% for fruit remained low as compared to wheat crop. However, the growth yield Kg/hectares was at 3.3% as against the 2.0% at the provincial level.

c) Potato: At the district level, potato contributed to 1.6% of the area under *Kharif* crops. However, the area growth rate of 0.8 > 0.2% and production growth rate of 5.1 > 0.7% for potato remained lower at the district level as compared to wheat and fruits. The growth rate for yield Kg/hectares remained at 11.8% as against the 6.9% at the provincial level.

d) Fodder: At the district level, fodder contributed to 1.5% of the area under both *Rabi* and *Kharif* seasons. However, the area growth rate of 1.5 < 3.1% was lower than fruits but higher than potato with a production growth rate of 15.0 < 22.5 for fodder remained higher than fruit and potato at the district level. The growth rate for yield Kg/hectares remained at 35.8% as against the 29.1% at the provincial level. For further details please see table C3 C.

Growth Rate Comparison - 2008-09 (%)



(Agricultural Statistics Balochistan, 2008-09)

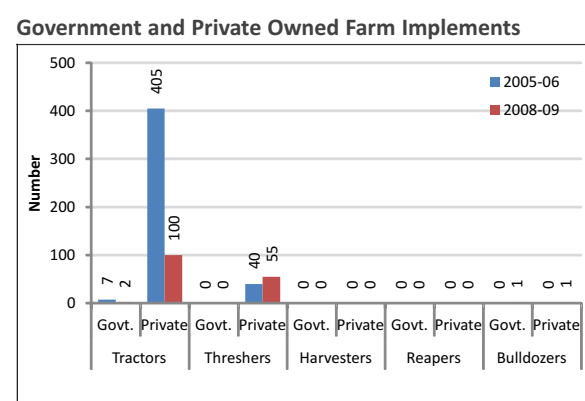
7.2.4. Discussion of Cropping Patterns

In district Musakhail single cropping pattern is practiced to cultivate wheat, barley, rapeseed /mustard, sorghum (*Jowar*), millet (*Bajra*), maize, *mung* bean, mash bean, fruits, onion, potato, vegetables, melons, chilies and fodder. Fodders like

Lucern, *Berseem* or *Shaftal* and some vegetables like peas, tinda, bottle gourd, bitter gourd, pumpkin or cucumber are Inter-cropped in the fruit orchards of Almond, apple, apricot, and pomegranate etc., but not on a large scale only in some of the areas of the district. Mixed cropping is not practiced. Crop rotation is another practice being followed in which the crop harvested for a year is not grown on the same field or plot the following year, rather some other crop(s) is raised instead of the previous crop. This practice is also very helpful in maintaining and enhancing the soil fertility status. Some of the fields/plots remained uncultivated as a fallow land with the reason to maintain the soil fertility status that might have been exhausted during in the past under crop husbandry.

7.3. Farm Implements and Inputs

Farm implements are privately owned. Increased number of tractors and threshers may help in the farmers to increase farm output. For further details, please see table C4 Annexure C.

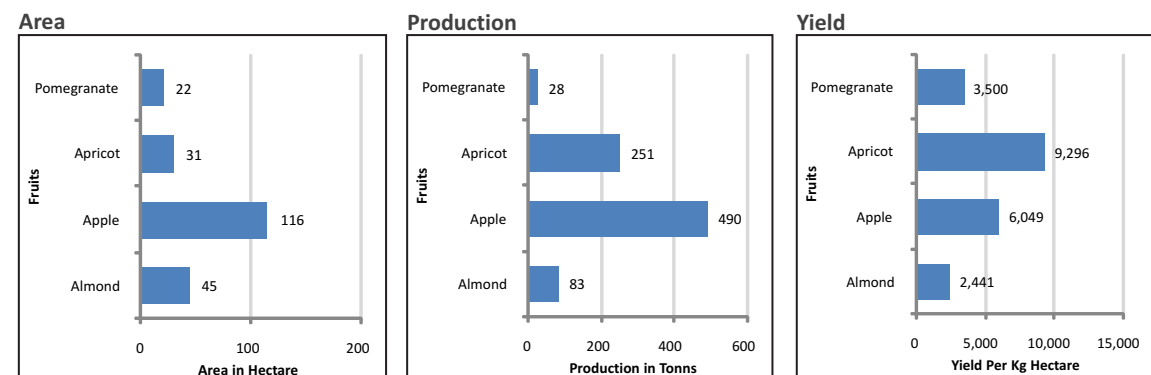


(Agricultural Statistics Balochistan, 2005-06 & 2008-09)

7.4. Horticulture Inputs

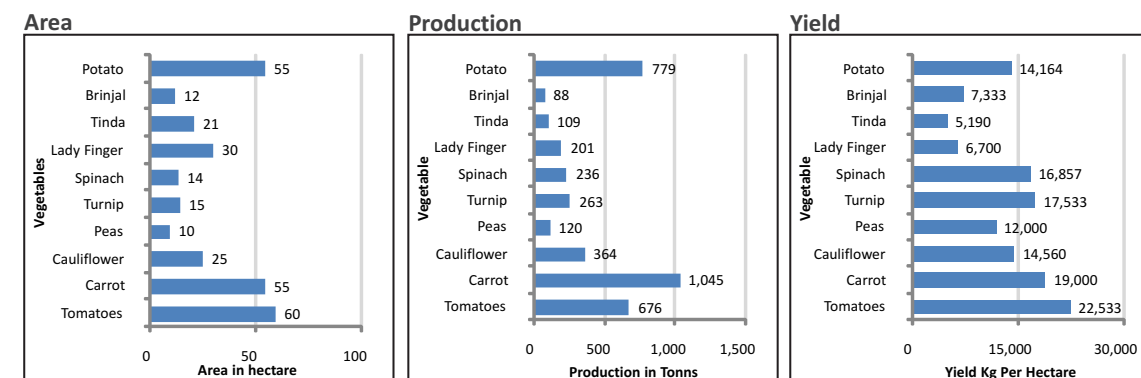
7.4.1. Area and Production of Fruits and Vegetables

The district has great potential for fruit farming. Presently, almond, apple, apricot and pomegranate are the major fruits produced in the area. For further details please see table C5 Annexure C.



(Agricultural Statistics Balochistan, 2008-09)

Tomatoes occupied a maximum area (60 hectares) followed by potato and carrot, each having 55 hectares of area in the district. However, lady finger remained 3rd with 30 hectares area. Production wise, carrot remained on top with the lowest area of 5 hectares among all the vegetables grown at the district level. For further details, please see table C6 Annexure C.



(Agricultural Statistics Balochistan, 2008-09)

7.5. Land Ownership and Tenure System

The total Arable Land (47.6%) recorded for the year 2008-09 was 11,553 hectares. This land comes under the ownership of the growers. The Culturable Waste Land was 52.4% during the year 2008-09. However, during the cropping season laborers are hired by the owners for cultivation activities either on cash payment or by sharing crop produce in an agricultural.

7.5.1. Discussion on Land Patterns in Land Ownership and Tenure System

Shared Tenancy

Under this system the cost of land preparation, seed, fertilizer and pesticides, irrigation, harvesting and threshing charges; all these expenditures are to be met by the landowner. However, the crop produce is then divided between the owner and the tenant based on a set formula.

Cash Tenancy

Land from the owner on lump-sum basis is undertaken for an agricultural year and all the expenses right from land preparation to harvesting and threshing are to be met by the tenant.

Crop Sharing System

This is almost the reverse form of the cash tenancy. The land owner gives his land to the cultivator and all cost of production has to be borne by him. Normally, 20% of the production is given to the landowner.

7.6. Agriculture Marketing

The proclivity of farm producers is divided to marketing system at varying angles. As the prices fixed for different agricultural commodities by the government do not seem to be effectively implemented throughout the province, varying prices of the same commodity are noticed in different parts of the district.. The majority of the farm produce is directly sold into the hands of brokers/ *dala*/ *beopari*/ contractors or intermediaries. These are the same type of middle men with different nomenclatures at different locations. Normally, the following options are available on how to sell the produce by the growers:

- Sale of produce at farm gate, however, this kind of sale obviously does not bring a lot of income to growers.
- Sale of produce to the nearest market -if available-at the district level: This kind of sale incurs certain transportation charges which have to be met by the growers. In the market again there is a hold of intermediaries etc. They buy the farm produce on the spot and resell to the wholesalers at their own set price interest. The wholesaler in turn sells to the merchandisers, dealers, brokers or retailers then it comes to shopkeepers from where the end user is able to purchase these commodities. Every entity involved in this sale cycle fix their own their profit margins. Sale of produce across the boundaries of district or province. Onwards same intermediaries

are to be faced by the producers/growers again.

- c) Another way of earning more money/profit is that the produce is purchased from the growers and is hoarded in ware houses and stores for increased profit under demand and supply tactics.

7.6.1. Share of Population Employed in Major Agricultural Activities

Agricultural production decision are made by the male members of the household. During peak seasons, when the need for casual laborers, additional hands are hired on daily wages or on a special contract for the entire time. In the district, most of the agricultural work is done through machinery: tractors are used for the ploughing of land. Need for manual labourer is reducing to a great extent with increased use of machinery.

7.6.2. Role of Women in Agricultural Activities

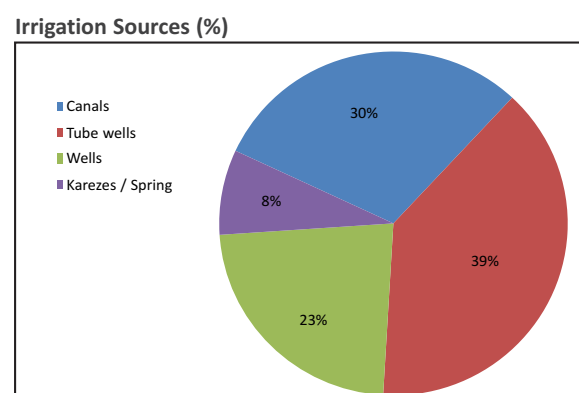
Female labor involvement in the agriculture/ horticulture sector is negligible. Due to the tribal set-up, female labor is not involved in both *Rabi* and *Kharif* seasons.

7.7. Irrigation

7.7.1. Irrigation System and Sources

Four sources of irrigation including canals, tube wells, Karezes/ springs and wells are commonly used in the district. Most of the tube wells are privately owned and are managed by the owners themselves. While, the government installed tube wells are maintained by the Irrigation Department.

Majority of the crop cultivation with an area of (1,080 hectares) is irrigated by means of tube wells, encompassing the 38.7% of the total irrigation sources followed by canal irrigation which covers (828 hectares) at 29.6% of the total irrigation sources in District Musakhail. There are a number of wells which cover 670 hectares of area contributing 24% to the source of irrigation. Karezes/springs contribute to 7.7% of the area (215 hectares) in total. Potential for exploiting more water resources exists. For further details, please see table C7 Annexure C.



(Agricultural Statistics Balochistan, 2008-09)

7.8. Structure and Functions of the Department

Table 7.3: Structure and Functions of Department

Structure	Number of Agriculture Extension Departments
Number of Sub Offices	2
Sanctioned Strength in various Categories (Total)	81
Actual Filled Posts	71
Vacant Posts	10

(Agriculture Department)

7.9. Development Projects

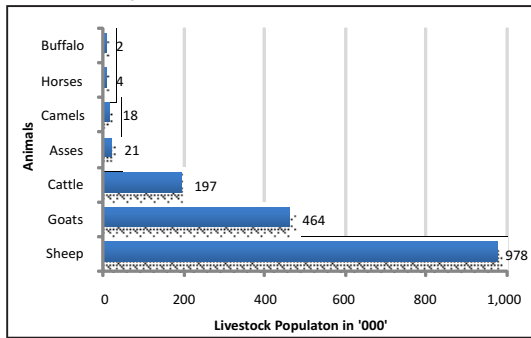
Following were the projects reflected in the PSDP2009:

- Kot-Khan Muhammad Irrigation Scheme Musakhail.
- Small Irrigation Schemes.

7.10. Some Key Findings

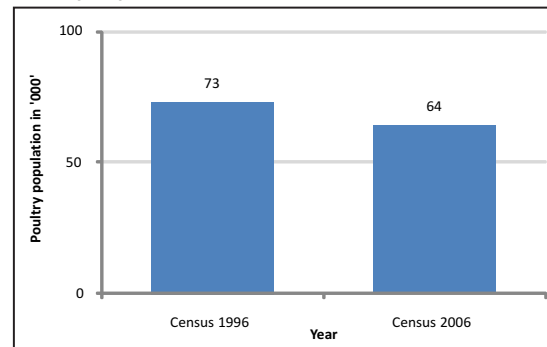
- In each year's provincial PSDP, some projects of irrigation and agriculture be reflected to support agriculture activities in the district as this will help masses earn their livelihood.
- Supply of certified seeds of all major crops at subsidized rates will work as an incentive to the farmers to grow more.
- Agricultural loans on easy installments for purchase of farm implements can add to agriculture produce of the district.
- Arrangements for field days, seminars, lecture on pest management and demonstration of improved package of technology plots by the concerned department will improve overall condition of agriculture in the district.
- Wherever resources allow, key farm to market road be black topped.

Livestock Population



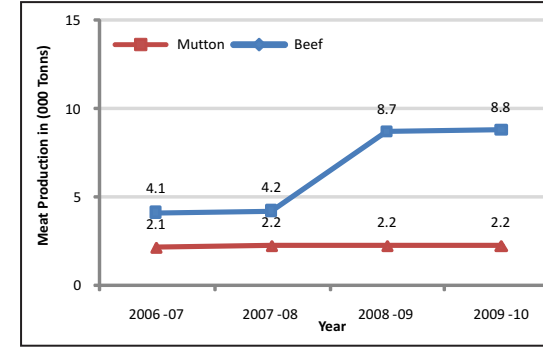
(Livestock Census, 2006)
Livestock Census comparison indicates that the population of livestock in the district has increased by a large percentage.

Poultry Population



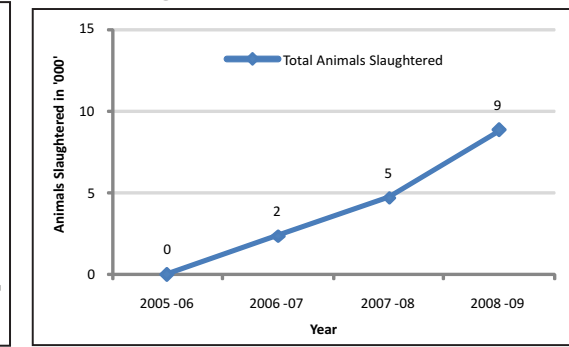
(Livestock Census, 1996 & 2006)
Poultry Population decreased in 2006

Meat Production in the District



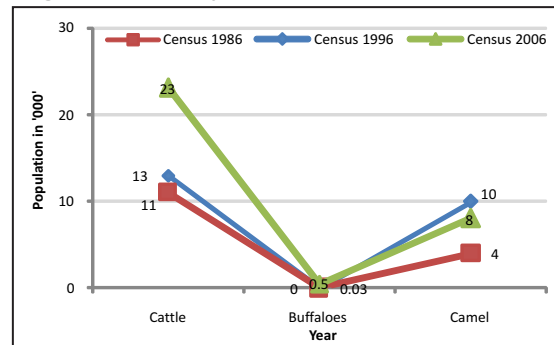
(District Statistics, 2008-09)
Government share in meat and dairy production is almost negligible.

Animals Slaughtered 2005-2009



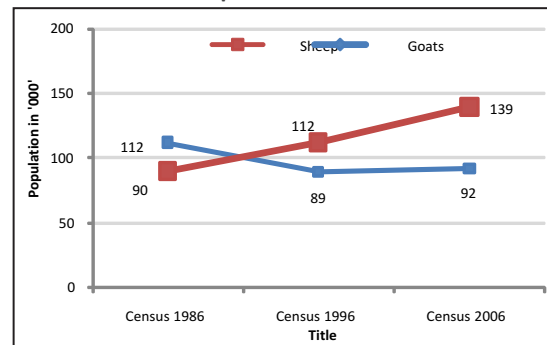
(District Statistics, 2008-09)
Slaughtering of Animals in Public and Private sector is almost identical

Large Ruminants Population



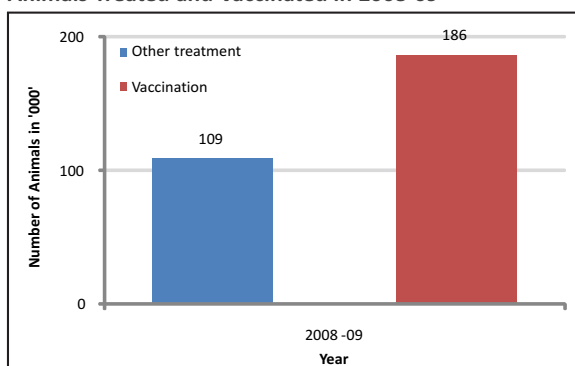
(Livestock Census, 1986, 1996 & 2006)
Quite a few numbers of buffalos and camels are present.

Small Ruminants Population



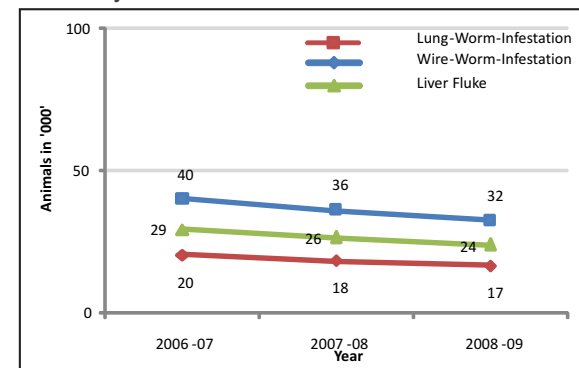
(Livestock Census, 1986, 1996 & 2006)
Goats and sheep constitute the major share of livestock population in the district.

Animals Treated and Vaccinated in 2008-09



(District Statistics, 2008-09)

Three Major Animal Diseases in the District



(District Statistics, 2008-09)
The incidence of major diseases is on decline.

Sector Highlights

- Livestock census comparison indicates that the population of livestock in the district has increased by a large percentage.
- According to Livestock Census, 2006, the highest reported population, among all the ruminants in Musakhial, was that of goats (139 thousand) and that of sheep was 29,000. A network of Public Sector Veterinary Institution, comprising 4 Veterinary Hospitals, 55 Veterinary Dispensaries and 2 Artificial Insemination Centers, is present in the district.
- Demand for poultry product has been increasing gradually
- Government share in meat and dairy production is almost negligible.

8.1. Introduction

A vast majority of the population in Musakhail is involved in livestock-raising. Also the population involved in agriculture and horticulture raise cattle and small ruminants to fulfil their milk and meat requirements. In 2006, last Livestock Census was conducted and now projections are made based on figures of 2006.

Mostly, the women and children graze their animals. Women help feeding animals at home if fodder is available and do the milking. By grazing the animals women and children share in the economic burden of the household. On the other hand, it deprives the children of getting education which is a basic constitutional right of every child.

The size of herds varies from one hundred to 150 heads of small ruminants and 5-20 cattle. Other animals like horses, donkeys, and camels are also raised. The livestock farmers follow a regular pattern of seasonal migration. Livestock raising communities live throughout the district, especially in the mountainous areas of Musakhail valley, Drug and Toisar.

Livestock department, headed by the Deputy Director along with its staff, manages and controls all the activities pertaining to livestock including animal health coverage and husbandry. Vaccination is being carried out free of cost, whereas, the treatment is provided at 50% subsidized rates.

8.2. Livestock Population

According to Livestock Census, 2006, the highest reported population, among all the ruminants in Musakhail, was that of goats (139 thousand). This shows goats are the preferred farm animals that people like to keep and rear as compared to any other livestock species, probably due to the suitable weather conditions and the ease of keeping it. The livestock population reported over the last three decades of all categories is presented in the table below:

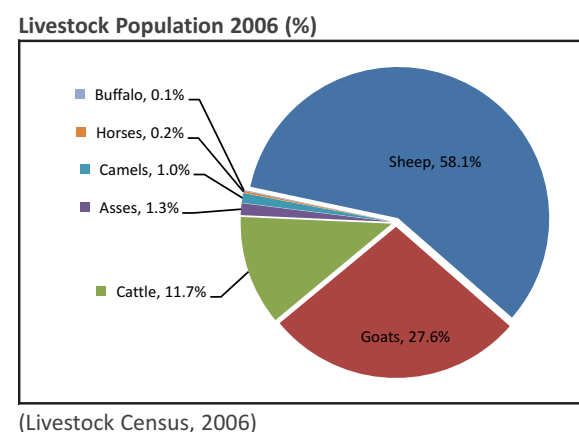
Table 8.1: Number of Livestock ('000' Numbers)

Livestock Type	1986	1996	2006
Sheep	112	89	92
Goats	90	112	139
Cattle	13	11	23
Buffaloes	Less than 1000	Less than 1000	Less than 1000
Camel	10	4	8
Poultry	n/a	73	64

(Livestock Census, 1986, 1996 & 2006) n/a: Data not available

8.3. Large Ruminants

Among the large ruminants cattle, buffaloes and camels are found in district Musakhail. The cattle are 11.7% followed by camels' share of 1%, whereas, buffaloes are only 0.1% of the total livestock. The male cattle are mostly slaughtered and their beef is sold to fulfill food requirement. People also prefer cattle for sacrifice on the occasion of *Eid-ul-Azha*. The Cattle prices go very high during the *Eid* days. People in Musakhel raise cows for their milk production. Buffaloes are relatively rare. Bullocks and camels are raised for farming as well as for fulfilling nutritional needs. The meat from these animals is not only consumed locally, but in neighbouring districts as well.



8.4. Small Ruminants

As shown in the pie chart above, sheep and goats constitute an overwhelming majority of the livestock population. Even agricultural households have considerable herds of small ruminants. These are raised throughout the district, as there are enough pasture lands in Musakhel. Sheep and goats are raised for multiple purposes like milk, mutton, and for their wool and hides. Apart from the meat, their hides and wool give reasonable income to the owner.

8.5. Poultry

There is one government poultry farm and small scale private/commercial poultry farms of broiler and layer breeds exist in the district. Enormous potential has been observed in rural poultry as demand for meat keeps growing with increase in population. Poultry farming can become a significant economic activity for many households, if masses are made aware of this potential with support from Livestock department. As poultry farming needs great care, professional support of staff of Livestock department can attract people to invest in the poultry farming business.. The eggs and poultry meat is usually consumed domestically. Occasionally some sale the eggs in the market as "*Desi Eggs*" which are sold at higher price than that of farm's eggs.

8.6. Livestock Population Growth Rate

Per year average growth rate factor for each category of livestock has been calculated on the basis of livestock census conducted in 1996 and 2006. The applied growth rates and projected population is presented in the table below:

Table 8.2: Projected Livestock Population (Numbers)

Livestock Category	Growth rate (%)	2006	2007	2008	2009	2010
Cattle	6.8	197,318	210,736	225,066	240,370	256,715
Buffalo	9.9	1,650	1,813	1,993	2,190	2,407
Sheep	1.8	977,748	995,347	1,013,264	1,031,502	1,050,070
Goats	2.6	464,126	476,193	488,574	501,277	514,310
Camels	1.5	17,639	17,904	18,172	18,445	18,721
Horses	4.3	3,588	3,742	3,903	4,071	4,246
Mules	10.7	96	106	118	130	144
Asses	2.4	21,226	21,735	22,257	22,791	23,338
Poultry	2.6	227,770	233,692	239,768	246,002	252,398

(Livestock Census, 2006)

8.7. Veterinary Institutions

There is a network of 4 Veterinary Hospitals, 55 Veterinary Dispensaries, 2 Artificial Insemination Centers, 1 poultry farm and 1 dairy farm all owned by the government. Local NGOs, private clinics and dispensaries are involved in providing animal veterinary support. Under a Federal Project "Fight against Congo Virus" dipping stations were established, where animals are dipped for medication of external ticks and ecto-parasites. The artificial inseminations are also being experimented, particularly for such breeds that can gain maximum milk production. An extended coverage of veterinary services would lead to rapid progress in milk and meat yields and would add substantially to the income of livestock farmers.

The physical condition of the government veterinary institutions' buildings and equipment is not promising. There is an

immediate need to renovate the buildings and provide latest equipment for appropriate health services. Detail of veterinary institutions in district Musakhail is presented in the table 8.3:

Table 8.3: Veterinary Institutions (Numbers)

Name of Health Services	2009-10
Veterinary Hospitals	4
Veterinary Dispensaries	55
Artificial Insemination Center	2
Dairy Farm	1
Government Poultry Farm	1

(Directorate of Animal Husbandry)

8.8. Livestock Diseases

The disease control activities are well-known in the district to provide veterinary services through veterinary hospital and veterinary dispensaries. Mobile veterinary camps are also organized at various places, particularly on the route of migrants during the migratory seasons. Vaccination services are provided free of cost by the Government Livestock Department, whereas, the other needed medication is facilitated at 50% subsidized rates to the livestock owners.

8.8.1. Major Diseases

The most prevalent diseases among the livestock in district Musakhail are:

- Worm Infestation
- Liver Fluke
- Mange
- Ticks

Internal worm infestation, Liver Fluke, Mange and Ticks are the commonly found diseases in the livestock of District Musakhail. The ecto-parasites causing these diseases not only reduce the reproductively and breeding efficiency of the animals, but also affect the animal's skin, which then cannot be sold at market price. Various reported diseases among livestock are presented in the table 8.4:

Table 8.4: Major Livestock Diseases (Numbers)

Name of Diseases	2005-06	2006-07	2007-08	2008-09
Lung-Worm-Infestation	44,446	40,042	36,073	32,499
Wire-Worm-Infestation	22,628	20,386	18,366	16,546
Liver Fluke	32,590	29,360	26,451	23,829
Mange/Mites	24,890	22,424	20,202	18,200
Ticks	37,618	33,890	30,531	27,506
Contagious	946	852	768	692
Non-Contagious	21,368	19,251	17,343	15,624
Others	4,694	4,229	3,810	3,432

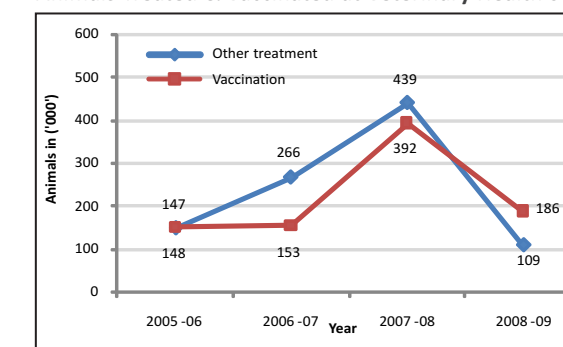
(Civil Veterinary Hospital)

8.8.2. Disease Control Activities and Mortality

The livestock department is continuously involved in animal convenient health coverage activities. It usually performs vaccination and medication in order to save animal lives. The most number of livestock treated and vaccinated during the

last five years were reported in the year 2007-08; whereas, after that the trend was on the lower side, which could be due to many reasons. For further details please see table D1 Annexure D.

Animals Treated & Vaccinated at Veterinary Health Services



(District Statistics, 2008-09)

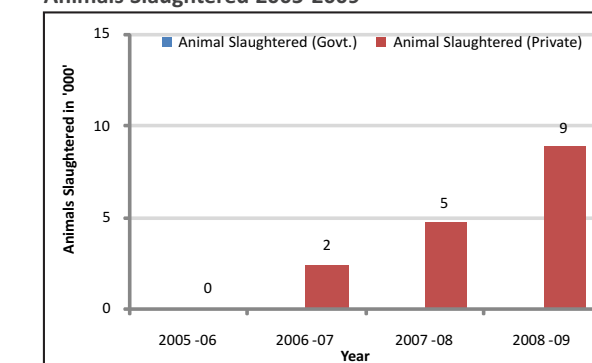
8.9. Meat and Dairy Production

The mutton production in the district is on a high rise after 2007-08, there was a significant rise from 3,000 tons to 6,800 tons. Beef production has remained between 1,800 tons to 1,900 tons in the last five years. Milk production has risen gradually along with the increase in population of large ruminants. Similarly poultry meat and egg production has also gradually increased, as there was no significant change seen in the last five years. For further detail please see table D2 Annexure D.

8.10. Slaughtering

The most number of animal slaughtering was performed privately in the year 2008-09. However, the animal slaughtering performed by the government remained unknown.

Animals Slaughtered 2005-2009



(District Statistics, 2008-09)

8.11. Functions and Structure of Livestock Department

The Livestock Department at district level is led by a Deputy Director Livestock, assisted by a veterinary doctor with supporting staff including compounder, stock assistant technicians and other structural staff to carry out the day to day activities of the field.

The government cattle and poultry farms are headed by a manager with supporting staff. The details of the actual strength of the staff in different categories are listed below in a table:

Table 8.5: Structure and Functions of Department

Structure	Numbers
Number of Sub Offices	n/a
Sanctioned Strength in various Categories (Total)	n/a
Actual Filled Posts	210
Vacant Posts	n/a

(Livestock Department)

8.12. Some Development Projects

The projects funded by sources are:

Table 8.6: Livestock Projects

Project	Funded By	Start Year	End Year
Development of Rural Poultry	ASPL-II	2004-05	2007-08
Fight Against Congo Virus	ASPL-II (Federal)	2005-06	2007-08
Strengthening of Livestock Services	Asian Dev. Bank	2004-05	2008-09

(Directorate of Livestock Planning, 2010)

8.13. Some Key Findings

- Livestock sector has good potential but facilities like civil veterinary hospital and artificial insemination center are yet to be established in the district.
- Like many other districts of Balochistan, provision of medicine for animal treatment remains insufficient
-
- Research is needed to be carried out over the breed and genetics potential of livestock's health and growth.
- There is a need of computerized monitoring and evaluation system at district and provincial level for timely reporting and decision making.
- Together with ensuring provision of veterinary services, advocacy to raise awareness regarding timely vaccination is much needed
- Livestock department should emerge as lead role player in livestock promotion in the district

9

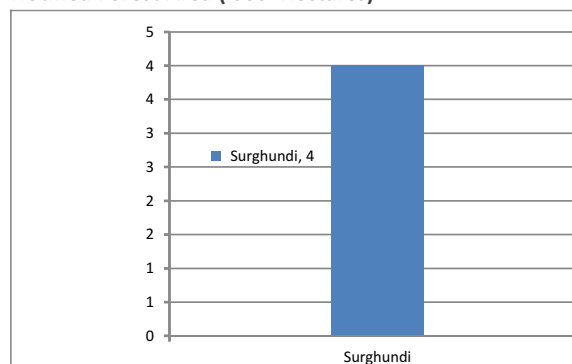
FISHERIES

This sector is not applicable in this district.

10 FORESTRY

Total Forest Area	4,173 h/a
Number of Sub Offices	1
Total Sanctioned Posts	29
Filled Posts	29

Notified Forest Area ('000' Hectares)



(Forest Department)

Sector Highlights

The district geography is typical of a mountain eco-system, where the livelihood of inhabitants/communities mainly depends on livestock and rain fed agriculture. The natural Sub Tropical Broadleaved Evergreen Scrub forests of Olive and Phulai, which occupy large area in the district, play pivotal role in this regard. These forests act as grazing grounds by providing forage to a large number of livestock and also serves as water harvesting areas for supporting the rain fed agriculture. Further, local community members also depend upon these forests for fulfilling their requirements of fuel wood and small timber.

In addition to the grazing and fuel wood, local community members also make use of some of the Non Timber Forest Products (NTFPs) for household consumption and sometimes also for sale in the local market. However, the most important role that these forests are playing in the economy of the district is serving as major watersheds for the low altitude areas.

In addition, a large number of bird and mammal species are also dependent upon these forests as their habitat while some species use these forests as migratory sites. Therefore, role of these forests is important in the wildlife management and biodiversity of other associated flora and fauna.

The district has a good forest cover but a negligible area has been conserved as State Forest. The only Notified forest is Surghundi or Sukandai (4,173 hectare.). The remaining forest area is community owned, but these forests are not under proper management regime. The entire district is covered mostly by Olive (*Olea cuspidate*) or Phulai (*Accacia modesta*) trees which are at the mercy of stakeholder communities. Members of the community brutally cut these trees for local consumption or for sale in the neighboring towns of Loralai, Barkhan, Zhob and Mekhter.

The waste land and forests are also rangelands which serve as feeding and foraging grounds for the livestock; thus contributing considerably to support the livestock production system. It may be noted that Musakhail is the district that produces major chunk of the total livestock of the province, especially sheep.

The district also falls in the route of migratory birds; but there is no designated protected area in the district. Among wildlife, the Cranes are highly important but they are being hunted and trapped in large numbers in the district. For Cranes hunting, hunters from neighbouring Khyber Pakhtunkhaw province regularly flock to the area during bird migratory seasons. Local residents due to their hospitality, associations or sometimes minor financial gains allow them to capture these migratory birds. Since there is no protected area in the district, therefore, the protection of resident wildlife and safe resting grounds for migratory birds are not available at present.

10.1. Introduction

Forests play an important role in the maintenance of environmental balance. It is a well-established fact that life on earth is a function of a number of direct, indirect, tangible and intangible naturally active forestry factors; these may include emission of life-sustaining oxygen and absorption of poisonous carbon-di-oxide. Forests are the main source of food, timber, firewood, shelter and a variety of medicinal herbs and also serve as baseline for food-web, thereby sustaining life on earth. It should be noted that forests are instrumental in the rehabilitation and development of rangelands, water management, wildlife management and soil conservation. In view of their multitasking function, we should protect and rehabilitate forests for our own existence.

The type of forests in the area is 'Sub Tropical Broad leaved Evergreen Scrub' forests of Olive and *Phulai*.

10.2. Major Vegetation

The major forest type is Sub Tropical Broad Leaved Evergreen Scrub forests. These forests occupy the altitudes between 2500 to 5500 feet elevation. Main tree species that dominate these forests include natural Olive (*Olea ferrugenea*) and *Phulai* (*Acacia modesta*) associated occasionally with edible *Gurgara* (*Reptonia buxifolia*). The edible Pine (*Pinus gerardiana*) and Pine (*Pinus excels*) are found only in Torghar of the district. *Tamarix* (*Tamarix articulate* and *Tamarix orientalis*) are found in stream beds and the dwarf Palm, Mazri (*Nannorrhops ritchiana*) is commonly seen in valleys and ravines. *Sanatha* (*Dodonea viscosa*) is usually found on degraded sites. Besides these species, a number of other trees, shrubs and herbs are also present in these forests as associates; these may include *Gymnosporia spinosa*, *Ber* (*Zizyphus jujube*), *Pistacia cabulica*, *Jangli Ber* (*Zizyphus nummularia*), *Zizyphus oxyphylla*, *Anabasis multiflora*, Willd almond (*Prunus ebernea*), *Spulmae* (*Calotropis procera*), *Urgalam* (*Rhazya stricta*), *Khamazurae* (*Withania cougulans*), *Pamangi* (*Bouceros Aucheriana*), *Karkana* (*Zizyphus nummulariana*), *Bushka* (*Lepidium draba*), *Berberis vulgaris*, *Shung* (*Fraxinus xanthoxyloides*), *Barhara* (*Periploca aphylla*), *Plawan* (*Salvadora oleoides*), *Zoze* (*Alhaji camelorum*), *Spandae* (*Peganum Harmala*), *Heteropogon contortus*, Wild garlic (*Allium sphaerocephalum*), *Gangu* (*Orthonnopsis intermedia*), *Gandarae* (*Narium odorum*), *Malaghunae* (*Daphe oloides*), *Ghuzera* (*Sophora grifithii*) and *Makhi* (*Caragana ambigua*). The ground cover is constituted mainly by *Stipa pennata*, *Pennisetum orientalis*, *Chrysopogon aucheri* and *Cymbopogon jwarancusa* and *Sorghum halepensis*.

Vegetation zones of the district consist mainly of the following categories:-

Table 10.1: Vegetation Zones

Vegetation Zone	Brief description
Hills	Olive (<i>Olea ferrugenea</i>), <i>Phulai</i> (<i>Acacia modesta</i>), <i>Shung</i> (<i>Fraxinus xanthoxyloides</i>), Pine (<i>Pinus gerardiana</i>) and Pine (<i>Pinus excels</i>), <i>Gurgara</i> (<i>Reptonia buxifolia</i>) <i>Sanatha</i> (<i>Dodonea viscosa</i>), <i>Pistacia cabulica</i> , <i>Gymnosporia spinosa</i> , <i>Ber</i> (<i>Zizyphus nummularia</i>), and <i>Mazari</i> (<i>Nannorrhops ritchiana</i>).
Plains	<i>Phulai</i> (<i>Acacia modesta</i>), <i>Gymnosporia spinosa</i> , <i>Ber</i> (<i>Zizyphus nummularia</i>), and <i>Mazari</i> (<i>Nannorrhops ritchiana</i>), Willd almond (<i>Prunus ebernea</i>), <i>Spulmae</i> (<i>Calotropis procera</i>), <i>Urgalam</i> (<i>Rhazya stricta</i>), <i>Khamazurae</i> (<i>Withania cougulans</i>), <i>Pamangi</i> (<i>Bouceros Aucheriana</i>), <i>Karkana</i> (<i>Zizyphus nummulariana</i>), <i>Bushka</i> (<i>Lepidium draba</i>), <i>Berberis vulgaris</i> , <i>Shung</i> (<i>Fraxinus xanthoxyloides</i>), <i>Barhara</i> (<i>Periploca aphylla</i>), <i>Plawan</i> (<i>Salvadora oleoides</i>), <i>Zoze</i> (<i>Alhaji camelorum</i>), <i>Spandae</i> (<i>Peganum Harmala</i>), <i>Heteropogon contortus</i> , Wild garlic (<i>Allium sphaerocephalum</i>), <i>Gangu</i> (<i>Orthonnopsis intermedia</i>), <i>Gandarae</i> (<i>Narium odorum</i>), <i>Malaghunae</i> (<i>Daphe oloides</i>), <i>Ghuzera</i> (<i>Sophora grifithii</i>) and <i>Makhi</i> (<i>Caragana ambigua</i>). The ground cover is constituted mainly by <i>Stipa pennata</i> , <i>Pennisetum orientalis</i> , <i>Chrysopogon aucheri</i> , and <i>Cymbopogon jwarancusa</i> , and <i>Sorghum halepensis</i> .
Stream beds	Commonly found in the entire district where <i>Tamarix</i> (<i>Tamarix articulate</i> and <i>Tamarix orientalis</i>) and <i>Saccharam</i> sp. are commonly seen.

(Provincial and District Forest Departments, IUCN, UNDP, WWF, GEF)

10.3. Forestry Land use

10.3.1. Notified Forests

There is only one notified forest area in the district at is Surghundi or sukandai measuring 4,173 hectares. For further details, please see table E1 Annexure E.

10.3.2. Notified Protected Areas

There is no notified protected area in the district.

10.3.3. Rangelands

The type of rangeland present in the district is classified as Eastern Balochistan Ranges. It has species like: *Stipa pennata*, *Pennisetum orientalis*, *Chrysopogon aucheri*, and *Cymbopogon sp.* etc. The productivity is good to fair with average productive capacity of 190 kg/hectare.

The rangelands in the district belong to communities living around them. Due to communal ownership, usually these are accessible to all members of the community and also to nomads passing through the area on their traditional routes of migration to new areas. On the management side, no one assumes the responsibility for undertaking any activity aimed either at restoration of depleted areas or for improvement to increase the forage production and other tangible and intangible benefits. There is no limit on the number, type, season and period/duration of grazing. This free access to range resource by everyone and absence of responsibility on management side has led to what could be termed as the "Tragedy of Commons".

Traditionally, there is also a system in place for the management of rangelands but this system is mostly limited to the grazing management, whereby grazing on the rangelands is regulated through the traditional system of declaring rangelands open and close for grazing. Locally, this system is called as "Pargore" in Pashto, whereby rangelands in one growing season, i.e. spring or monsoon, are declared as close for grazing and at the onset of next growing season it is declared as open for the herding. However, there is no limit on the number of grazing animals and period (duration) of grazing. Similarly, range readiness and other facilities necessary for grazing are also not taken into account.

10.4. Forest Production

Timber is not produced on commercial basis. The plants useful for people fall mainly in the categories of fodder for livestock; fuel wood for energy purpose and construction wood for roofing and small implements, wood and branches for livestock fencing and medicinal plants for people and livestock.

10.5. Non-Timber Forest Produce

Resident communities also make use of some of the Non Timber Forest Products (NTFPs), mostly medicinal plants, for household consumption and sometimes also for sale in the local market. The important species are:

- *Kamazurae* (*Withania cougulans*).
- *Wargalam* (*Rhazya stricta*).
- *Zralg* (*Berberis lyceum* and *Berberis vulgaris*).
- *Spandae* (*Peganum Harmala*).
- *Zarga* (*Prunus ebernea*).
- *Malaghuni* (*Daphne oleoides*).
- *Pamangi* (*Boucerosia aucheriana*).

10.6. Wildlife

Wildlife habitat type is sub-tropical. There are no historical bench marks to determine the status of wildlife in the area. However, according to the community, the number of wildlife species has declined; which could aptly be attributed to casual attitude for hunting and habitat degradation. Among key species are the following:

Table 10.2: Wildlife Common Species

Wildlife Type	Common Species
Mammals	Suleman Markhor (<i>Caparis falconery jerdoni</i>) Wild sheep (<i>Ovis vignie Cyclocerose</i>) Fox (<i>Vulpes cana</i>), Asiatic Jackal (<i>Canis aureus</i>), Hayena (<i>Hyaena hyaena</i>), Cape hare (<i>Lepus capensis</i>), Mongoose, Stone Marten (<i>Martes foina</i>), Porcupine (<i>Hystrix indica</i>), Afghan Hedgehog (<i>Hemiechinus auritus megalotis</i>), etc.
Birds	Chukar (<i>Alectoris chukar</i>), See see partridge (<i>Ammoperdix griseogularis</i>), Magpie (<i>Pica pica</i>), Houbara Bustard (<i>Chlamydotis undulate</i>), a number of sparrows, Finches, buntings, seasonal/migratory waterfowls, hawks, and sand grouse etc. The area also provide corridor to the migratory bird species; the key species like Common Crane (<i>Grus grus</i>) and Demoiselle Crane (<i>Anthropoides virgo</i>).
Reptiles	Afghan Tortoise (<i>Agrionemys horsfieldii</i>), Brown Cobra (<i>Naja oxiana</i>), Saw-scale viper (<i>Echis carinatus</i>), Levantine viper (<i>Macrovipera lebetina</i>), Goh (<i>Varanus griseus</i>), etc.

(Provincial and District Forest Departments, IUCN, UNDP, WWF, GEF)

10.6.1. Wildlife Statistics

There is no census report available regarding status of key wildlife species in the district.

10.7. Wetlands

There is no wetland of national or international importance located in the district. However, three main streams (Toi, Luni, and the Sanghar) are important wetlands. These provide corridor to the migratory bird species. The key species include Common Crane (*Grus grus*) and Demoiselle Crane (*Anthropoides virgo*).

10.8. Commercial Forestry (Plantations)

Tree species planted for farm forestry purpose comes under this category, which are mostly planted along water channels, water storage ponds, around farmlands, marginal farm lands, and household compounds. *Eucalyptus sp.* is extensively planted by the farmers on marginal lands due to wood demand in Chamalang Coal mines. The species give immediate returns within 5-6 years.

10.9. Bee Keeping

Bee-keeping is not an economic activity in the district. Local people collect it from waste lands and forest areas for their own use.

10.10. Marketing and Processing

Wood obtained from the forests and wastelands is mainly used for fuel purposes, construction wood for roofing and making of small implements. There is no data available about the quantity of wood exploited or transported from the district to other places.

Leaves of Dwarf Palm *Nannorrhops ritchieana*, locally called *Mazri*, are used for weaving floor mats, bags, roofs for the huts (*Gedan*), and even for shoes. There is no knowledge or application of more advanced weaving patterns and coloring

of materials and of more market oriented handicraft products. Mainly, the raw materials (bundles of *Mazri* palm leaves) are sold while the processed products are used locally.

10.11. Structure and Functions of the Forest and Wild Life Department

The Forest Department in the district is under the administrative control of the Divisional Forest Officer (DFO), who comes under the Chief Conservator of Forest-North in the province. The table given below reflects details of administration of the Forest Department in Musakhail district. For more details, please see table E2 Annexure E.

Functions of the Balochistan Forests and Wildlife Department in the district are listed as under:

- Forest conservation and management.
- Rangeland development.
- Wildlife conservation and protected areas management.
- Watershed management.
- Soil conservation and desertification control.

Table 10.3: Structure and Functions of Department

Structure	Numbers
Number of Sub Offices	1
Sanctioned Strength in various Categories (Total)	29
Actual Filled Posts	29
Vacant Posts	0

(Provincial and District Forest Departments, IUCN, UNDP, WWF, GEF)

10.12. Currently in Progress Projects

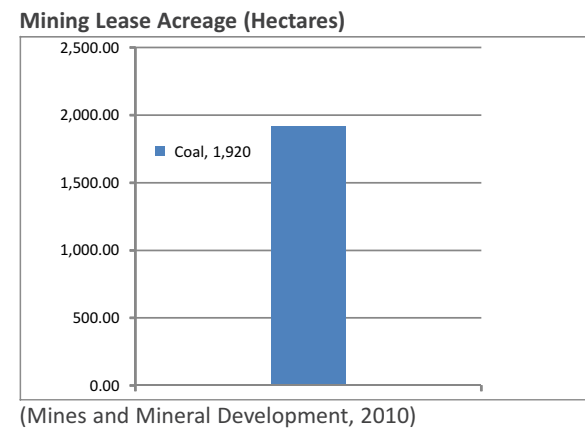
A component of provincial PSDP funded project namely "Afforestation of 1000 acres in Balochistan" is under implementation in the district. There was a Federal PSDP project namely "Development of Forestry Sector Resources for Carbon Sequestration in Balochistan", but after devolution of subject of environment to the provinces, it is suffering due to lack of funding as the provincial government did not reflect it in its own PSDP. Its scope is mainly focused on raising dry afforestation and farm forestry activities on farm lands involving farmers.

10.13. Some Key Findings

- Area under state forest reserves in District Musakhail is very small.
- Female involvement in forestry activities is rare and limited to some jobs like collecting herbs, bushes and shrubs. Sometimes, they also collect fuel wood.
- Recently, due to immediate returns, the farmers are taking keen interest in farm forestry activities but it is limited only to planting of eucalyptus trees.
- Wildlife management is very poor and needs substantial improvement.
- The institutional capacity of Forestry Department needs restructuring. Management needs vigor so that effective control on the degradation of overall environments might be possible.
- Lack of awareness and aptitude towards conservation of forests, rangelands, and wildlife exclude people's positive role.
- Farm forestry activities have potential in the district but require motivation and subsidy to spur interest of farmer.
- Considerable waste land is available, where tree planting activities could be initiated to optimally use such lands.
- To conserve wildlife, some initiative like establishment of community or state protected areas is must.

11 MINING

Name of the Mineral	Acreage
Agglomerate	-
Amythest	-
Anarthosite	-
Antimony	-
Asbestos	-
Barite	-
Basalt	-
Calcite	-
Chromite	-
Coal	1920
Diorite	-
Dolomite	-
Gabro	-
Granite	-
Granodiorite	-
Hametite	-
Iron_Ore	-



Sector Highlights

- Opportunities of Investment in Mineral Exploration at grass root level are there.
- Possibility of setting up tile factories and other mineral based industries exist: feasibility studies need to be conducted

11.1. Introduction

The exposed sedimentary sequence comprises of shale, sandstone, limestone, marl and conglomerate. The occurrence of carbonaceous matter has an economic significance as a source for coal and hydrocarbon generation in this area. Petroleum prospecting was carried out by Oil and Gas Development Company in Musakhail: different feasible structure for oil resources has been reported. Coal concessions are granted to the private sector but tribal disputes and poor roads are the main constraints in the development of mining. Three different seams ranging from one foot to two and half foot in thickness of good quality have been reported.

11.2. Major Minerals Production and Leases

Thirteen concessions for coal have so far been granted. Occurrence of Gypsum, Silica sand and other minerals in the area is also reported. Only one mining lease and 12 prospecting licenses are granted for mining of coal over total area of 21,771 acres to the private sector. The details of mineral concessions in the district are as under:

Table 11.1: Major Minerals and Production

Name of Minerals	No of Prospecting Licenses 2009-10		No of Mining Leases 2009-10		Production (In Metric Tons)				
	Number	Acreage	Number	Acreage	2005-06	2006-07	2007-08	2008-09	2009-10
Coal	12	19850.8	1	1920	n/a	n/a	n/a	n/a	n/a

(Mines and Mineral Department, 2010) n/a: Data not available

11.3. Some Key Findings

There is a considerable potential for further development of the coal in the district. These minerals may serve as major source of income to the owners and laborers engaged in mining. Initiation of new projects would increase population's engagement in mining. Two factors are main hurdles for exploitation and development of minerals: (i) lack of infrastructure like roads, water, power and gas, and (ii) high cost of estimating the proven reserves and preparation of feasibility reports.

Most of the minerals are exported in raw form and no value-added processing is done at the provincial level. Therefore, the employment and income generation is limited. For socio-economic development and economic prosperity, it is necessary to resolve the tribal issue and start the mining in order to overcome the energy crisis.

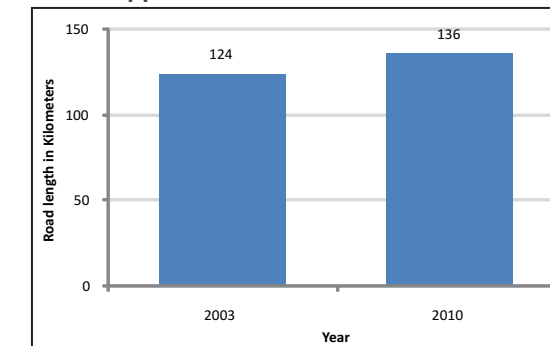
12 INDUSTRY AND MANUFACTURING

This sector is not applicable in this district.

13 ECONOMIC INFRASTRUCTURE & COMMUNICATIONS

Economic Infrastructure and Communications	
Total Length of metalled roads	136 Km
Total Length of shingle roads	306 Km
Number of Telephone connections	542
Internet Users	n/a
Mobile phone providers / connections	n/a
Number of post offices	4
Hotels	n/a
Motels	n/a
Guest Houses	n/a
Rest Houses	3
Public Banks	1
Private Banks	n/a

Black Topped Roads



(District Development Statistics, Balochistan, 2008-09)

13.1. Introduction

Roads, electricity, telecommunication facilities and IT infrastructure are pre-requisites for accelerated economic growth in any area. Like other districts of the province, Musakhail is also mostly rural. It is connected with other parts of the province and the country with black topped as well as shingle roads. There is no railway and airport in the district. Telecommunication facilities are also very limited. No registration record of the vehicles in the district is available. Interior parts of the district lack access to electricity and gas. Limited banking facilities were available in the district. Black topped road density per square kilometer is 0.02 and that of shingle road is 0.05.

13.2. Roads and Highways with Surface Classification and Length

The total length of road in Musakhail is 442 km, out of which, 136 km is black topped road (metalled road). The major portion of the total roads comprises of shingle roads. The black topped roads are maintained by the National Highway Authority and provincial government. Musakhail has inadequate road structures as compared to many other districts of Balochistan. Unavailability of transportation linkages in the districts can be attributed to insufficient allocations, along with improper utilization, of development budget in the district. The table given below shows the length of various roads.

Table 13.1: Road Type and Length (Kilometer)

Length by Surface Type	Black Topped	Shingle	Total Length
2003	124	306	430
2010	136	306	442

(District Development Statistics, Balochistan, 2008-09)

Major road of Musakhail connects Loralai to Dera Ghazi Khan via Kingri (a town of Musakhail district).

13.3. Transport

There is no registration record of vehicles in the district. Illegally imported vehicles can also be seen in Musakhail.

13.4. Railway, Harbor and Airports

There are no railways and airways services available in the district.

13.5. Radio and Television Stations

Musakhail has no radio station. There is no record of the number of television and radio set. People listen to radio broadcasts from the Dera Ghazi Khan, Loralai and Quetta stations.

13.6. Telecommunication and IT Services

Pakistan Telecommunication Corporation (PTC) has established a network of telephones in the district. Musakhail has 3 exchanges in the district. The data given in the table below shows a gradual increase in number of telephone exchanges and telephone lines in the district. Fax and internet facilities are also available. No information about mobile phone service providers is available.

Table 13.2: Telephone Line, Exchange and Internet Users (Numbers)

Category	2004-05	2008-09
Telephone Lines /connections	472	542
Exchange and Tele -density	4	3

(Pakistan Telecom Authority)

13.7. Post Offices / Courier Services

In district Musakhail, there are 4 post offices but no courier service.

13.8. Banking and Financial Institutions

There is one commercial bank branch (National Bank of Pakistan) at Musakhail town. It provides banking services to residents and functions as a treasury bank on behalf of State Bank of Pakistan.

Agriculture Development Bank of Pakistan (ADBP) has a branch office. Main function of ADBP is to provide loans, on easy installments, to farmers and land owners to promote agricultural activities. Loans are also provided for small business activities. There used to be one branch of the Agricultural Development Bank of Pakistan at Musakhail, but it has been closed since 1st July 1996 due to poor performance. However, Loralai branch still provides loans to the farmers of Musakhail, if required.

In order for a loan to be sanctioned by the Agricultural Development Bank of Pakistan, agricultural land is mortgaged and a loan up to 66 percent of its value can be provided on which 14.5 percent mark-up is charged. Sometimes, a personal guarantee is accepted, if the required loan does not exceed 30 thousand rupees. Usually, the loan is used to purchase a tractor or to install a tube well. Any type of agriculture based industry can be financed under the bank's policy. Credit is also given for things like seeds and fertilizers. There is no women bank in the district.

Table 13.3: Number of Bank and Branches (Numbers)

Year	Banks			Branches		
	Govt. Owned	Private Owned	Foreign	Govt. Owned	Private Owned	Foreign
2004-05	1	n/a	n/a	n/a	n/a	n/a
2009-10	1	n/a	n/a	1	n/a	n/a

(State Bank of Pakistan, 2010)

13.9. Energy

13.9.1. Electricity (Supply and Demand)

Electricity is provided by the WAPDA with only one diesel power generation plant at Musakhail, which provided electricity to only one town, i.e. Kingri, for a limited number of hours per day. In the beginning of 1997, somebody fired upon one of the transformers and destroyed it partially. Although the damage was not severe, WAPDA decided to suspend its operation. Overall realization of the assessed revenue from Musakhail District was 35-40 percent.

Estimates about the load requirement of the area are not available. However, development work for laying high tension 11 KV transmission lines from Kingri grid station to Musakhail was in progress.

13.9.2. Gas (Supply and Demand)

Musakhail does not have natural gas supply and there isn't any agency for provision of liquid petroleum gas (LPG). However, some well-off people buy gas cylinders from Loralai or Dera Ghazi Khan. Most of the people use fuel wood and dung cakes for cooking and heating.

13.10. Hotels and Resorts

The total number of rest houses in the district was 3, at Kingri, Musakhail, and Drug. These rest houses provide accommodation for occasional visitors. Though the district has dense forest but no efforts to promote tourism has been made.

13.11. Some Development Projects

Following were the development projects reflected in the PSDP 2009:

- Construction of official residencies at District Head Quarter, Musakhail.
- Black topped of Road Tangisar to Kewan 29.5 KM.
- Construction of Road Punjab border remaining portion Musakhail 18 KM.
- Construction of Road Chapper Marghani Road 14 KM.
- Black topping of Musa Khail Drug Road (Tangi Sir Portion) 7.5 KM.
- Construction of Kangri Chaap Sadozai Road Musakhail.
- Construction of Mughal Kot Palsan Wawa Road.
- Construction of Musa Khail Bazar to Kajoori Road 30 KM.
- Construction of black topped road Lawara to Musakhail (30 KM).

13.12. Major Development Issues

Development of any area is hardly possible without adequate development of roads, bridges, public utilities, communication facilities and financial infrastructure. Economic infrastructure and communication services were highly deficient in the district. There is an urgent need for sufficient investment in the building of black topped roads so that the district can actively participate in economic development of the province and the country. Electricity, a prerequisite of industrial and agricultural development, is not available in most of the district. Coal fired power plants and alternate sources of energy may also be used for extending electricity coverage as modern age it has become easier to disseminate information and knowledge though electronic means.

Postal services also need improvement and expansions.



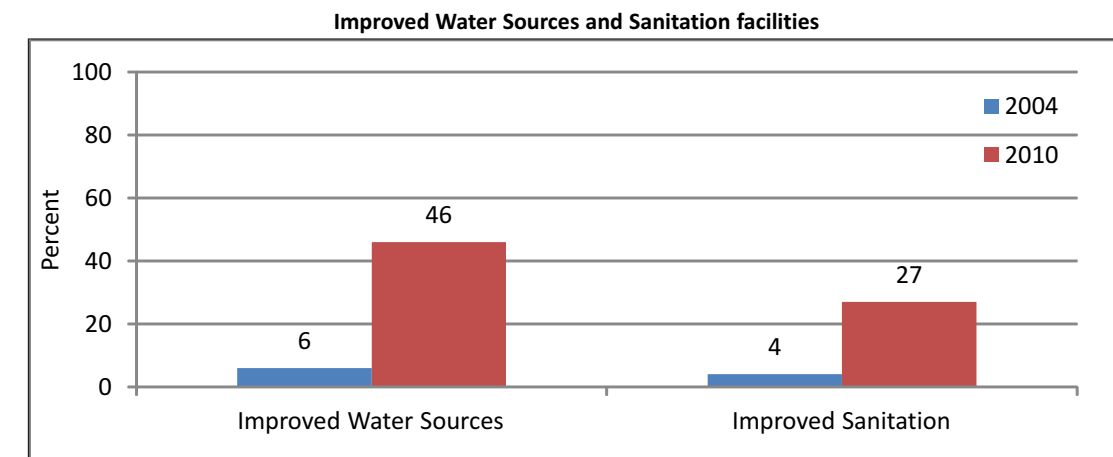
SECTION III Social Infrastructure

- 14 Water Supply and Sanitation
- 15 Health and Nutrition
- 16 Education

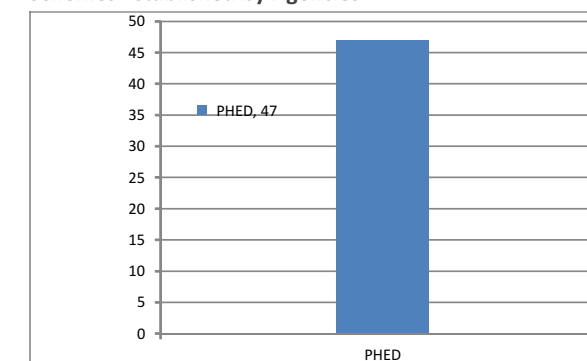
14 WATER SUPPLY AND SANITATION

MDG Indicators	
Goal 7: Environmental Sustainability	
7.8: Proportion of population using improved water source	46%
7.9: Proportion of population using an improved sanitation facility	27%

Water Schemes (numbers)		Purification Plants	
Functional	34	Functional	4
Non-functional	7	Non-functional	0
Total	41	Total	4
Water sources		Sanitation Schemes	
Tube well	36	Latrines	n/a
Spring	3	Sewerage Schemes	n/a
Open Sources	8	Solid waste Management	n/a
Canal	n/a	Others	n/a



Schemes Established by Agencies



(Public Health Engineering Department, 2010)

Sector Highlights

- Access to improved drinking water has improved in the recent years while quality and quantity of drinking water remains an issue yet to be uncovered and addressed.
- PHED, under its CDWA program, is the only role player in water supply schemes.
- Under the Clean Drinking Water project, 4 water filtration plants have been installed at various locations, all of which are functional.
- There has been significant improvement in the use of sanitary toilets by households.

14.1. Introduction

Most of the ground water in Musakhel is potable, though in some villages the water is slightly saline. Drinking water is obtained from open surface wells, tube wells, and even from brooks. Though access to improved sources of water has increases, still there is quite a big gap. Investment in drinking water has multiplier effect as lean drinking water reduces incidence of water borne diseases. Balochistan government faces huge challenges as it has to finance numerous sectors but the financial resources are limited. A problem that constantly pinches is operation and maintenance weaknesses that cast sustainability of water supplies in doubt. Data shows that there are non-functional water supplies in Musakhail.

The water and sanitation indicators for Balochistan are far lower compared to the national average while this disparity increases further in the rural areas. Situation in District Musakhail is relatively poor when compared with rest of the province. Recent surveys have shown marked increase in the use of drinking water and sanitation facilities in the recent years. A profile of the water and sanitation situation in the district is shown in the table below:

Table 14.1: Water and Sanitation Indicators (Percent)

Indicator	2004	2010
Use of Improved water sources	6	46
Access to safe means of excreta disposal	4	27

(Multiple Indicators Cluster Survey, 2004 and 2010)

Musakhail ranks 26th with regard to having improved water source and improved sanitation (MICS Balochistan 2010).

14.2. Drinking Water

A household survey² conducted in 2010, has shown that 46% population has access to one or more improved water sources, of which, protected dug wells (20%) constitute major portion, followed by rain water (16%) and piped water (8%). Other minor improved sources include: protected springs (1%) and public stand pipe (0.5%). Major unimproved sources are unprotected springs (34%), approximately 8% of unimproved water source belonged to other categories, cart with small tanker/ drum (5%) and unprotected dug wells (5%) as mentioned in the graph. For further details, please see table G1 Annexure G.

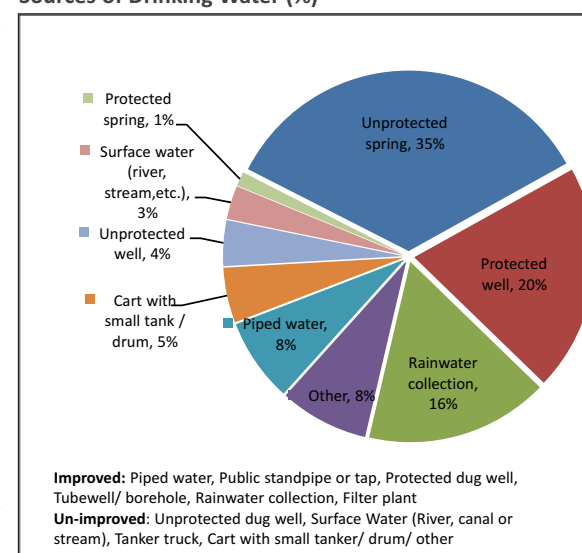
About 64% household population have no water on their premises and have to travel distances to fetch water, which is usually the responsibility of women or children of the household.

The drinking water data presented here reflects the use of particular type of water source. It does not represent quality or quantity of water which is also of major concern. Drinking water from improved sources is vulnerable to contaminations through pipe leakages and underground arsenic. Therefore, there is an immense need to carry out water quality testing for bacteriological and chemical contamination in drinking water sources.

14.3. Water Supply Schemes

Overall use of improved drinking water sources has improved since 2003-04, when the improved water sources were 6%. This improvement is due to the water supply schemes established in the district by the Public Health Engineering

Sources of Drinking Water (%)



Improved: Piped water, Public standpipe or tap, Protected dug well, Tubewell/ borehole, Rainwater collection, Filter plant
Un-improved: Unprotected dug well, Surface Water (River, canal or stream), Tanker truck, Cart with small tanker/ drum/ other

(Multiple Indicators Cluster Survey, 2010)

Department (PHED), Government of Balochistan. The table below shows the number of schemes implemented by PHED:

Table 14.2: Schemes Established by Institutions

Type of Agency	Total Schemes
PHED	47

(Public Health Engineering Department, 2010)

All of these schemes were implemented by PHED, of which, as per recent information, 7 schemes were reported as non-functional. The types of schemes implemented by PHED are shown in the table below:

Table 14.3 : Type of Water Schemes

Type of Schemes	Total Schemes
Tube Well	36
Spring	3
Open Surface	8

(Public Health Engineering Department, 2010)

The sources of the schemes are mainly dependent on ground water tank as mentioned in the table below:

Table 14.4 : Distribution of Schemes by Sources

Type of Sources	Total Schemes
Groundwater Tank	36
Overhead Tank	2
Combine (Gravity / Pump)	1
Direct Pumping From Dam Or Water	2
Gravity	2
Other	4

(Public Health Engineering Department, 2010)

The above mentioned schemes are being run using various energy sources. Out of total 47 PHED schemes, 18 are being run using electricity, whereas, in electricity shortage areas around 29 schemes are being run on diesel pumps.

14.4. Water Purification Plants

PHED is implementing "Clean Drinking Water for All" program that aims to install water purification plant in every Union Council and some *Tehsils* of the district. I So far 4 water purification plants have been installed, all of which are functional as shown in the table below:

Table 14.5: Number of Water Purification Plants

Water Purification Plants	Status		Total
	Functional	Non Functional	
Water Purification Plants Established by CDWA-PHED	4	0	4
Water Purification Plants Established by NGOs	n/a	n/a	n/a
Water Purification Plants Established by Others	n/a	n/a	n/a

(CDWA) n/a: Data not available

²Balochistan Multiple Indicators Cluster Survey (MICS), 2010. Planning and Development Department, GoB

14.5. Development Projects

There are two projects in the PSDP 2011-12.

- Water Supply Schemes at Musakhail (cost: Rs. 59.68 million), and
- Construction of Water Supply Schemes in district Musakhail (cost: Rs. 20.0 million)

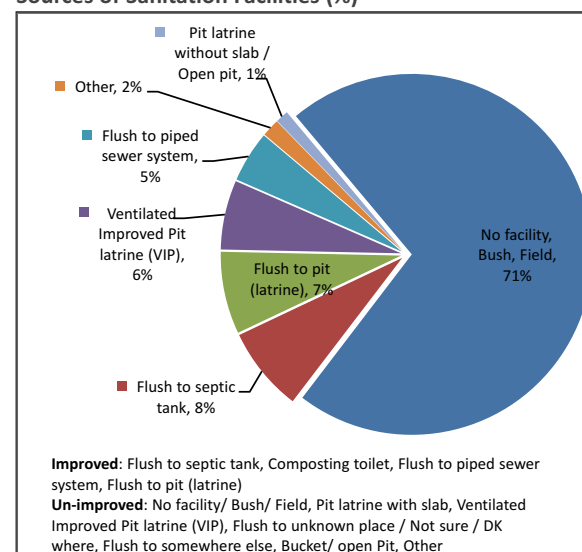
14.6. Sanitation

According to WHO and UNICEF, sanitation facilities interrupt the transmission of much fecal-oral disease at its most important source by preventing human fecal contaminating water and soil. Epidemiological evidence suggests that sanitation is at least as effective in preventing disease as improved water supply. Often, however, it involves major behavioral changes and significant household cost. Adequate facilities for excreta disposal can help reduce transmission of diseases like diarrhea and polio. The improved sanitation facilities include flush or pour flush to a piped sewer system, septic tank, or latrine; ventilated improved pit latrine, pit latrine with slab, and composting toilet

14.6.1. Use of Sanitary Means of Excreta Disposal

About 27% households in the districts are using improved sanitary toilets for human excreta disposal. Of those having access to improved sanitary facilities, only 20% have any flush system, while others are using different types of pit latrines. About 71% have no toilet facility and defecating in the open fields/bushes, is raising the risk of disease transmission through air, insects/fly or other means. For further details, please see table G2 Annexure G.

Sources of Sanitation Facilities (%)



(Multiple Indicators Cluster Survey, 2010)

15 HEALTH AND NUTRITION

Maternal, Newborn and Child Health	
Antenatal Care	0%
TT2 Vaccination	2%
Vaccination (BCG. Fully)	0%,0%
Institutional deliveries	2%
Skilled attendants at birth	2%
Diseases (MICS 2010)	
Suspected pneumonia <5 yrs	0%
Diarrhea in last 2 weeks<5 yrs	2%
Health Services Infrastructure	
Hospitals	1
Rural Health Centers (RHCs)	1
Basic Health Units (BHUs)	6
Dispensaries	15
MCH Centers	2
TBC	0
Others	n/a
Human Resource for Health	
Doctors	5
Nurses	n/a
Paramedics	17

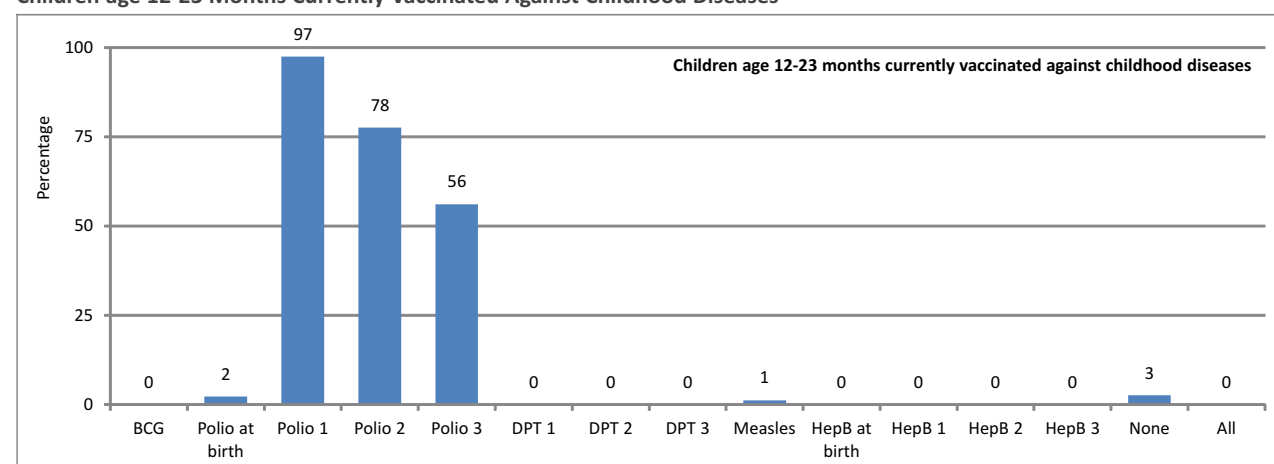
(MNCH and diseases indicators, MICS, 2010) And
(Health Facilities and Human Resources, 2010)

MDG Indicators	
<u>Goal 1: Eradicate Extreme Poverty and Hunger</u>	
1.8: Underweight (<5 yrs) – 45%	(2004)
<u>Goal 4: Reduce Child Mortality</u>	
4.1: Under-five Mortality Rate (Zhob Division) – 110	
4.2: Infant Mortality Rate (Zhob Division) – 87	
4.3: Measles Immunization Coverage – 1%	(2010)
<u>Goal 5: Improved Maternal Health</u>	
5.2: Skilled Attendants at Childbirth – 2%	(2010)
5.3: Contraceptive Prevalence Rate – 2%	(2010)
5.4: Adolescent Birth Rate – 40%	
5.5: Antenatal Care Coverage – 0%	(2010)
5.6: Unmet need for FP – n/a	
<u>Goal 6: Combat HIV/AIDS, Malaria and Other Diseases</u>	
6.3: Correct knowledge of HIV/AIDS among young women (15 -24y) – 5%	(2010)
6.6: Children <5 sleeping under ITN – 0%	
6.8: Children treated with Anti-malarial Drugs – 0%	
6.9: TB Case Detection Rate – 13%	(2009)
6.10: TB Treatment Success Rate – 90%	(2008)

(Infant and Under-five mortality figures are regional)

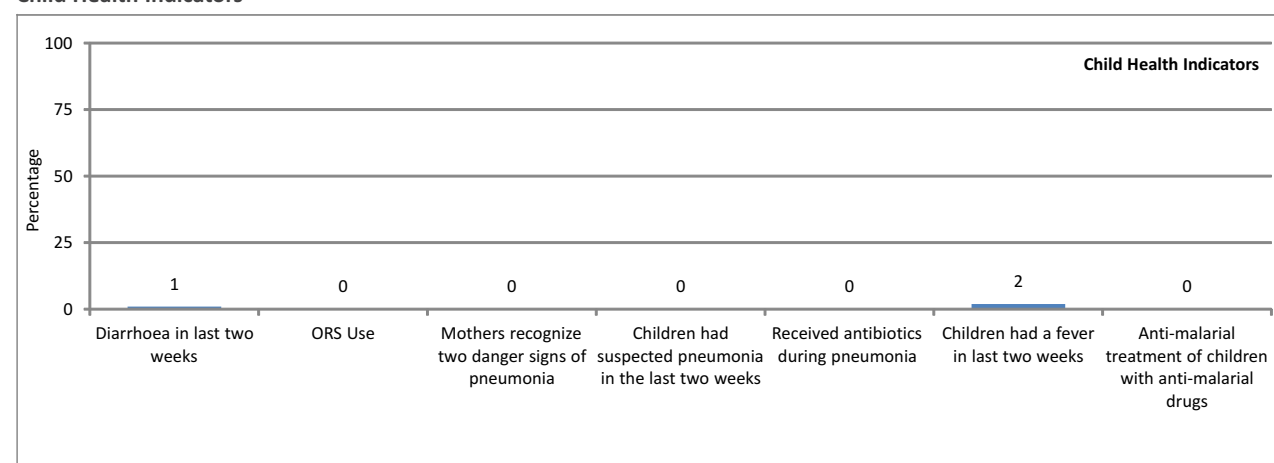
Following are the MICS Balochistan 2010 Indicators

Children age 12-23 Months Currently Vaccinated Against Childhood Diseases



(Multiple Indicators Cluster Survey, 2010)

Child Health Indicators



(Multiple Indicators Cluster Survey, 2010)

Sector Highlights:

- Overall condition of health services is poor in the district
- Women and children suffer the most
- Existing facilities are not being used to their full capacity
- Presence of health staff, including doctors remains irregular
- Supply of medicine and provision of health equipment is less than the requirements
- TB Control Program has made significant achievement under its TB-DOTS strategy with an overall achievement of 13% and 90% of Case Detection Rate (CDR) and Treatment Success Rate (TSR).
- Hepatitis B&C prevalence is high in the district indicating need for immediate intervention and health awareness campaign.

15.1. Health Needs

Provision of health services is unsatisfactory in Musakhel. Common prevalence of malaria, ARI, and gastrointestinal diseases indicates lack of preventive measures and an inefficient primary health care system. The situation is even worse for women than for men. On the one hand women are culturally deprived of free movement outside their house and consequently they always need some male member of the family to accompany them. On the other hand, health facilities exclusively for women are almost non-existent and there is severe shortage of female health care staff, medical and paramedical. Malnutrition of females is a cultural phenomenon in Pakistan. This not only results in poor health of females, but also increases the burden on secondary health care facilities.

For every 1,000 live births, 87 babies do not survive up to their first birthday and another 23 die before reaching the age of 5 years. Similarly, women, who experience a fertility rate of TFR: 1.2 as compared to the provincial average TFR: 4.7 have poor access to skilled health service providers for antenatal check-ups and delivery assistance.

According to Health Management Information System (HMIS) reports, a total of 60,127 new cases of common illnesses visited the government health facilities during 2009-10. Respiratory tract infections, gastro intestinal, diarrhea/ dysentery were the most common diseases reported from health facilities. Other communicable diseases included malaria, meningitis, fever and scabies.

Note: No hospital OPD, Indoor and Outdoor data reported.

15.2. Health System and Resources

15.2.1. Health Facilities

The highly subsidized public healthcare system is major provider of curative and preventive care services to the local population. The health facility infrastructure includes: 1 hospital, 1 rural health center, 6 basic health units, 15 civil dispensaries, 2 maternal and child health centers. There are 35 beds out of which 10 are situated in RHC. One mobile dispensary is also functioning in the district to cover the far flung areas. Apart from the above health facilities, there is one leprosy clinic in the district.

15.2.2. Human Resources

There were 5 doctors for a population of about 175,907 i.e. one doctor for 35,182 persons, posted in the three hospitals of the district. The ratio of bed/population and staff has been calculated in the following table:

Table 15 .1: Health Staff and Facilities (Numbers)

Health Facilities	Health Staff and Facilities in 2010				Units
	Doctors M/F	Nurses M/F	Para-medical M/F	Beds M/F	
Hospitals	n/a	n/a	n/a	25	1
RHC	n/a	n/a	n/a	10	1
BHUs	n/a	n/a	n/a	n/a	6
CDs	n/a	n/a	n/a	n/a	15
MCH Centres	n/a	n/a	n/a	n/a	2
Total	4/1=5	n/a	15/2	35	25
Unit/population ratio	35,182	n/a	10,348	5,026	7,036

(Balochistan Health Department) n/a: Data not available

15.2.3. In Service Training :

Following training sessions for capacity building of health personnel (medics and paramedics) have been arranged in the district.

Table 15.2: Training of PHC staff

Topic	Participant NOs	Organized by
Evidence based decision making	8	Human Resource Development
Zinc Sulphate& MIS tools	15	National program for family planning & primary health care.

(Balochistan Health Department)

15.2.4. Administration of Health:

The District Health Department is headed by Executive District Officer Health (EDOH) assisted by the Deputy District Officer Health (DOH) Preventive, Deputy District Officer Health Curative and Medical Superintendent (MS) of the District Headquarter (DHQ) Hospital.

15.2.5. Reporting and Surveillance Systems

A computerized Health Management Information System for First Level Care Facilities (HMIS/FLCF) was implemented in the district in early 1990's. Since then, the system is being used to collect monthly data on priority health problems, services provided and availability of resources.

In addition, the National Program for Family Planning and Primary Health Care (NPFP and PHC) has also setup a comprehensive management information system to monitor performance of Lady Health Workers deployed at the community level. The system collects data from each LHW, consolidate and send up in the management hierarchy.

Diseases Early Warning System (DEWS) is a weekly epidemiological surveillance and outbreak control reporting system for selected communicable diseases. Fifty sentinel sites in the district are participating in the system and submitting their weekly reports.

15.3. Health Services / Activities

According to the HMIS report the utilization pattern varies amongst the 23 reporting facilities throughout the district. The aggregated average new patients for whole district was 10.5/day, while for three fourth of total facilities (78% of total 23), average daily OPD was less than 10 patients per day.

Overall 4% of expected pregnancies were registered for Antenatal Care (ANC), whereas, 1% of reported deliveries were assisted by trained personnel in the whole district. No postnatal care visit has been reported during the whole year. Data also shows that out of 75 family planning visits, 57% were new clients. Growth monitoring services have not been extended to children despite the district target (4750 < 1 year population).

15.4. Special Health Programs / Initiatives

15.4.1. Expanded Program on Immunization (EPI)

District Superintendent of Vaccination (DSV), under the supervision of the EDO (H) and DOH, manages the EPI services in the district. DSV coordinates and supervises the affairs of EPI staff and activities at all fixed centers and outreach teams. Vaccination of children under 1 year and pregnant ladies is low, according to program data, antigen-wise coverage during 2009 has been:

BCG: 68%, Penta-3: 56%, Measles: 41% and TT-2+: 23%.

15.4.2. TB Control Program

The district is running Tuberculosis Directly Observed Treatment Short-course (TB-DOTS) Program that screens sputum smears and puts under treatment all TB cases. This program is managed by a doctor under the supervision of EDO Health. The number of TB patients registered under TB DOTS program is given below:

Table 15.3: Number of Registered TB Patients

Year	No. of TB Patients Registered
2006	88
2007	59
2008	36
2009	22
2010 (up to 3 rd qtr)	14
Total	219

(Balochistan Health Department)

The success of the program is measured by two indicators: TB Case Detection Rate (CDR) and Treatment Success Rate (TSR). These are also MDG indicators related to Goal 6. According to Program's reported data, the CDR and TSR during 2008-09 were 13% and 90% respectively.

15.4.3. Malaria Control Program

District Malaria staff is under the control of Executive District Officer Health. The objective of this program is to keep the Annual Parasite Incidence (API) at 0.5 cases per 1000 population, Falciparum rate below 40% of all the Malaria infections, increase Passive Case Detection (PCD) more than 70% of all slides collected. During 2009, Annual Parasite Incidence was 1.34 and Falciparum Rate was 54.4.

15.4.4. Hepatitis Prevention Control Program

Viral hepatitis is a serious global public health problem. At present, five distinct type of pathogenic hepatitis virus have been identified including: A, B, C, D, and E. In Pakistan, Hepatitis E remains endemic, mainly affecting the adult population. The program for Hepatitis prevention and control has been launched in 2005 and providing Hepatitis B vaccination and treatment of Hepatitis B & C through a sentinel site established at DHQ Hospital. *Achievement report not provided.*

Accordinging to a surey³ conducted in 2008, the prevalence of Hepatitis B in the district was estimated at 14.7% and of Hepatitis C at 5.3%. This high level prevalence may be attributed to unsafe use of syringes/needles, blood transfusion or unsafe use of razors at barber shops. This indicates need for raising public awareness about prevention of Hepatitis B and C.

15.4.5. AIDS Control Program

AIDS Control Program started in Balochistan Province in 1994 to raise awareness and to prevent and control HIV/AIDS among general population and vulnerable groups. Since then, many studies have been carried out for identification and location of vulnerable groups in different areas of the province. To reduce transmission of HIV/STIs Screening Centre has been established at DHQ Hospital after imparting training on screening methodology, quality assurance and monitoring to the laboratory staff (pathologist, laboratory technician/ assistant). Provincial AIDS Control Program supplies screening kits with all accessories and centre submits quarterly feedback reports regularly.

³Prevalence of Hepatitis B & C in Pakistan, Pakistan Medical and Research Council (PMRC), 2008

15.4.6. National Program for Family Planning & Primary Health Care

National Program for Family Planning and Primary Health Care addresses the missing link between health care outlets and health services users. The linkage is provided through a network of community-based Lady Health Workers (LHWs), who are especially trained in PHC, family planning and community organization and deployed in their neighborhood to deliver services. There are 144 LHWs working under supervision of 5 Lady Health Supervisors (LHSs) in the district theoretically covering 34% of the population of the district.

15.4.7. National Maternal, Newborn and Child Health (MNCH) Program

This project aims to improve the Health of Women and Children with focus on the following components:

- Improve accessibility of quality health services.
- Provision of 24/7 Comprehensive and Basic EmONC Services.
- Child and Neonatal Health Strategy.
- Comprehensive Family Planning Services.
- BCC, Advocacy and Demand Creation.
- Management and Organization Reforms.
- Monitoring and Evaluation Framework.

DHQ Hospital is providing Basic EmONC Services.

15.5. Nutritional Status

The situation with regards to nutritional status among children under-five years is not very promising, as the MICS 2003-04 has reported 45% children under-five as moderately or severely malnourished. According to MICS 2010, 99% infants were on breast milk while just 22% were exclusively breastfed. Similarly, only 0.3% households were found consuming adequately iodized salt.

15.6. Development Projects

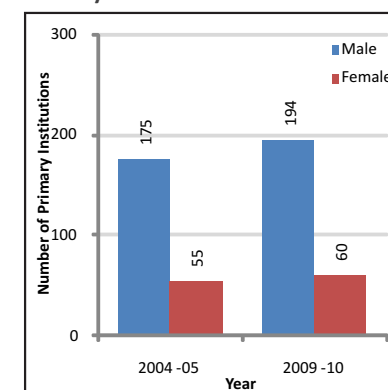
- Construction of BHU at Killi Haji Hazar Khan Alizai, Musakhail, PSDP 2009-10
- Construction of 3 BHUs in Musakhail (Cost Rs. 20 million), PSDP 2011-12

15.7. Some Key Findings

- Health sector indicators in Musakhail show that present health facilities are not sufficient to meet requirements.
- Mother and child health care need special attention
- There is need to raise awareness regarding child nutrition
- Health service provision targets be set keeping in view status of various health indicators
- Preventive measure be strengthened to avoid expensive curative services

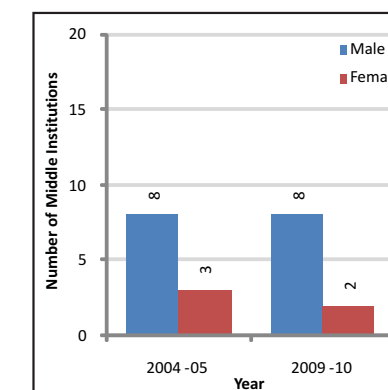
16 EDUCATION

Primary Schools



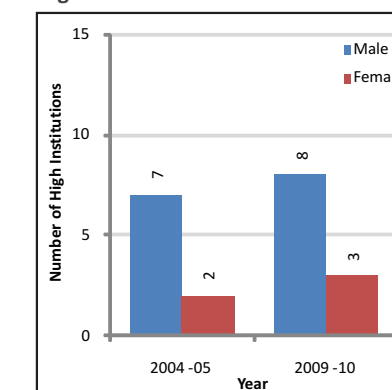
(BEMIS Statistical Profile, 2004-05 & 2009-10)

Middle Schools



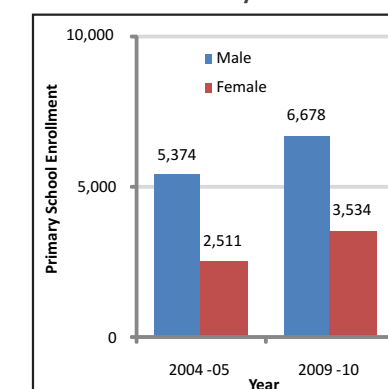
(BEMIS Statistical Profile, 2004-05 & 2009-10)

High Schools



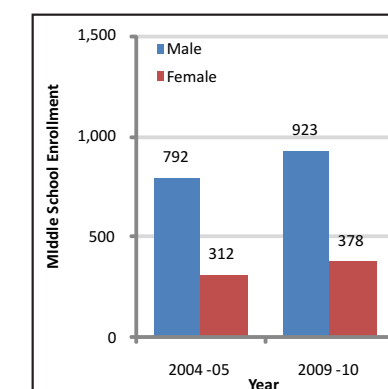
(BEMIS Statistical Profile, 2004-05 & 2009-10)

Enrollment in Primary Schools



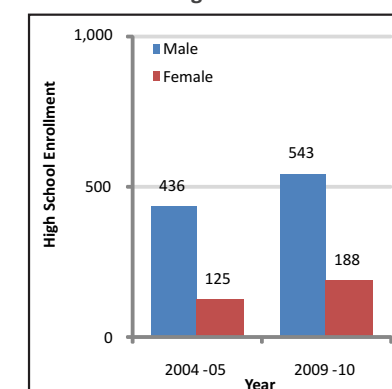
(BEMIS Statistical Profile, 2004-05 & 2009-10)

Enrollment in Middle Schools



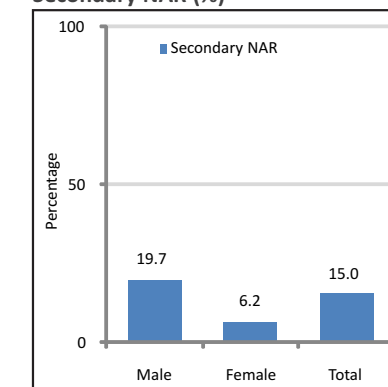
(BEMIS Statistical Profile, 2004-05 & 2009-10)

Enrollment in High Schools



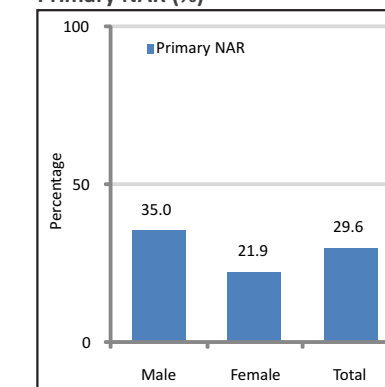
(BEMIS Statistical Profile, 2004-05 & 2009-10)

Secondary NAR (%)



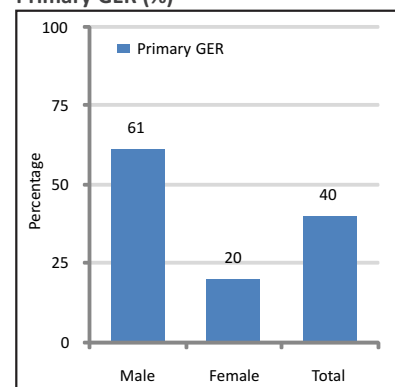
(Multiple Indicators Cluster Survey, 2010)

Primary NAR (%)



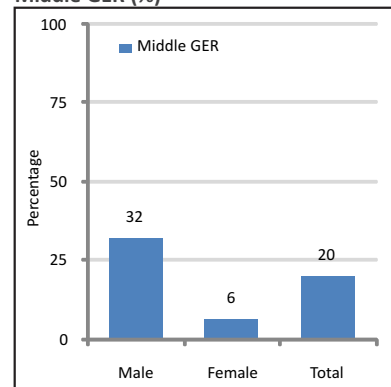
(Multiple Indicators Cluster Survey, 2010)

Primary GER (%)



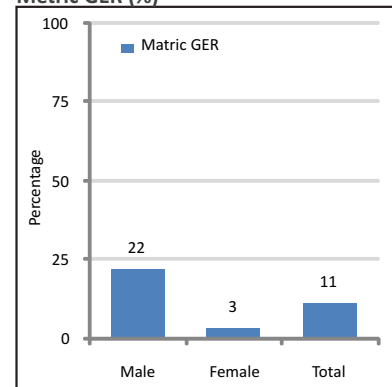
(PSLM, 2008-09)

Middle GER (%)



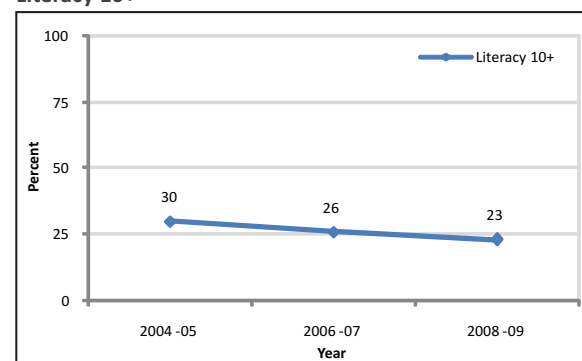
(PSLM, 2008-09)

Matric GER (%)



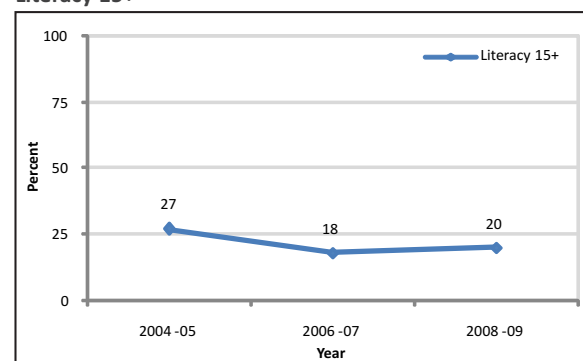
(PSLM, 2008-09)

Literacy 10+



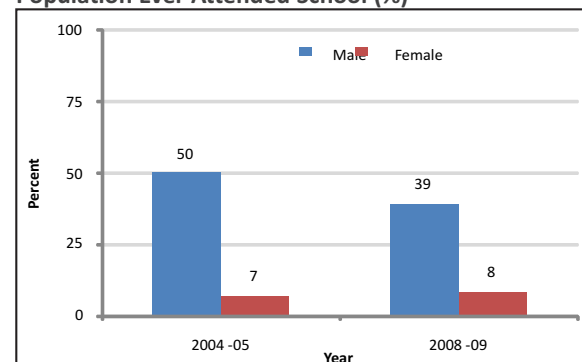
(PSLM, 2004-05 & 2008-09)

Literacy 15+



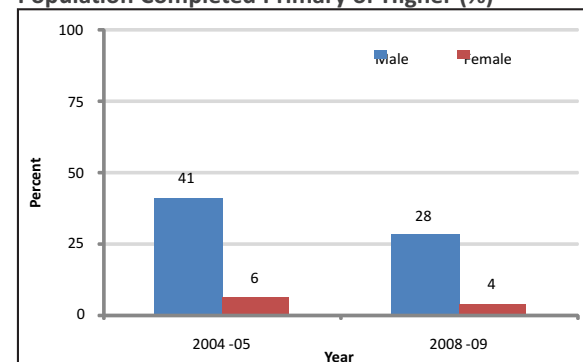
(PSLM, 2004-05 & 2008-09)

Population Ever Attended School (%)



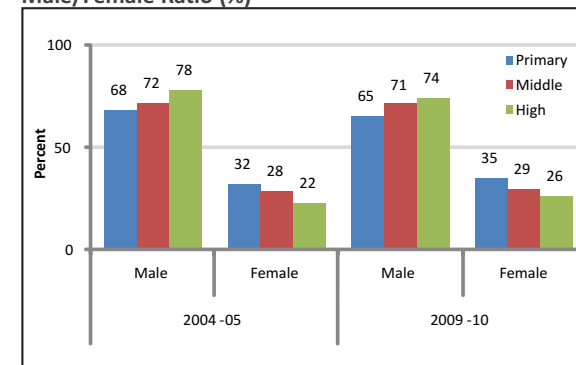
(PSLM, 2004-05 & 2008-09)

Population Completed Primary or Higher (%)



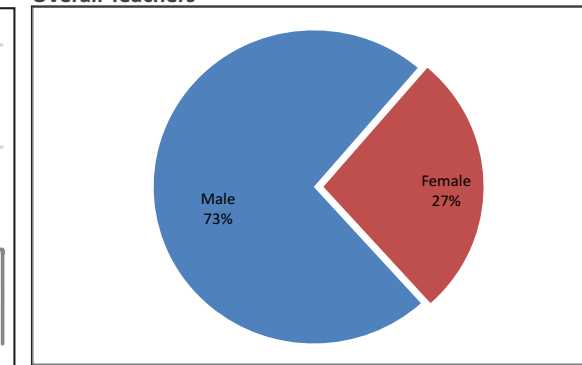
(PSLM, 2004-05 & 2008-09)

Male/Female Ratio (%)



(BEMIS Statistical Profile, 2004-05 & 2009-10)

Overall Teachers



(BEMIS Statistical Profile, 2009-10)

MDG Indicators

Goal 2: Achieve Universal Primary Education

2.1: Net primary enrolment ratio – 30% (2010)

2.2: Primary Completion rate – 31% (2010)

2.3: Literacy rate (10+ yrs) – 23% (2009)

Goal 3: Promote Gender Equity & Women Development

3.1: Gender Parity Index (GPI) for primary – 0.62 (2010)

3.2: Gender Parity Index (GPI) for secondary – 0.46 (2010)

3.3: Youth Literacy GPI – n/a

Sector Highlights

- Gaps in infrastructure facilities at various levels means disparities at gender level as well as at education facility level
- Female literacy⁴ is alarmingly low (8.8%) as compared to male literacy (34.4%) for age 15 years and above, which is also not very promising.
- Existing education facilities are insufficient to accommodate various age groups of children
- Non-formal education needs special attention to enhance literacy rates
- One of the major reasons for low enrollment in secondary levels is unavailability of schools. Against 254 primary schools in the district, there are only 10 middle and 11 high schools.
- Primary school completion is also very low (31%).

⁴ MICS Balochistan 2010

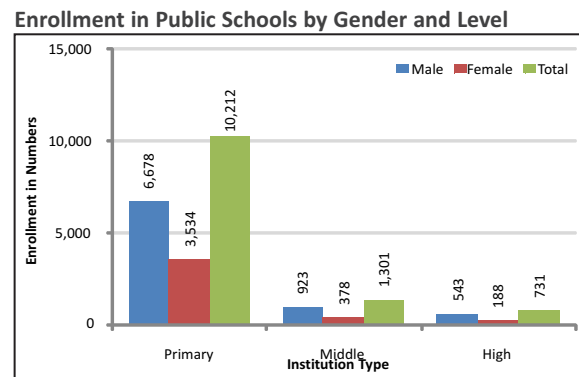
16.1. Introduction

16.2. School Enrollment and Participation Rates

According to official statistics collected through Annual School Census, the overall student population in 275 public primary, middle and high schools is 12,244, whereas, 366 students were enrolled in colleges, of which 293 were boys and 73 were girls.

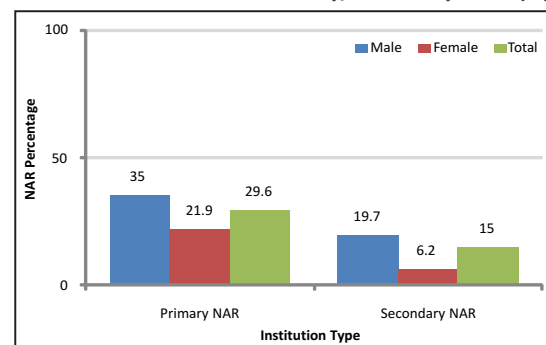
16.3. Enrollment Rates

MICS Balochistan, conducted in 2010, has reported primary Net Attendance Ratio of school-going age children at 30% with girls significantly lower than boys (22% versus 35%). This indicates that 70% children were still out of school, which will either join late, or probably will never enroll. Significant decline in secondary school NAR (total: 15%, boys: 20%, girls: 6%) shows that most children do not continue education beyond primary level (grade 1-5). Similarly, Gross Enrollment Rates of primary and middle schools were also very low (at 40% and 20% respectively).



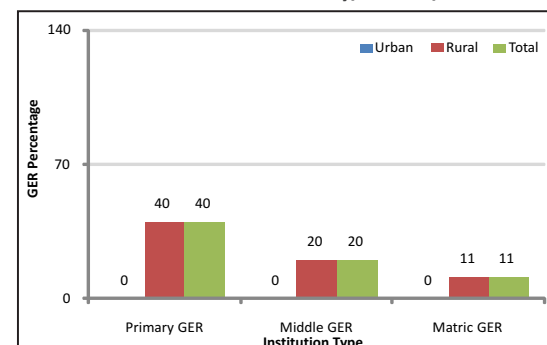
(BEMIS Statistical Profile, 2009-10)

Net Attendance Ratio at Primary/Secondary Level (%)



(Multiple Indicators Cluster Survey, 2010)

Gross Enrollment Rate at Primary/Middle/Metric Level (%)

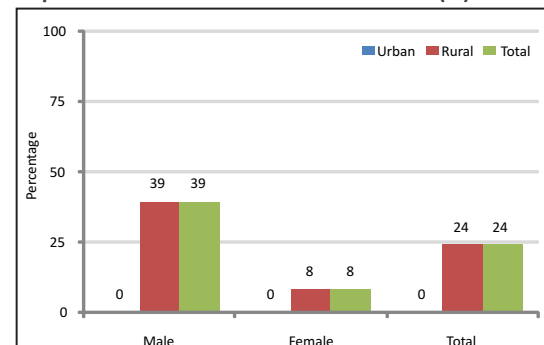


(PSLM, 2008-09)

16.4. Educational Attainment

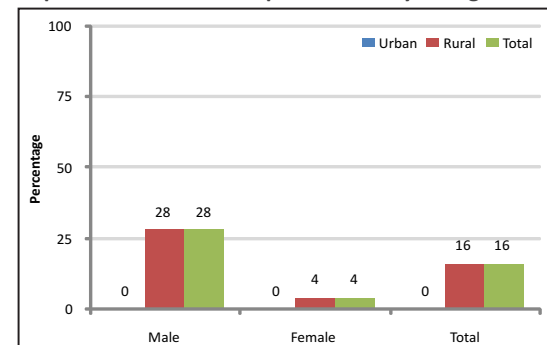
Educational attainment is also very low in the district. PSLM 2008-09 data suggests that about 76% population aged 10 years and older never attended any school while only 16% reported having completed this level. This is more pronounced for rural females, where only 8% had ever-attended any school and only 4% graduated from primary or higher levels. The best opportunities seem to lie with rural males, where nearly 39% ever attended and 28% completed primary levels. For further details, please see table H5 Annexure H.

Population that has Ever Attended School (%)



(PSLM, 2008-09)

Population that has Completed Primary or Higher Level

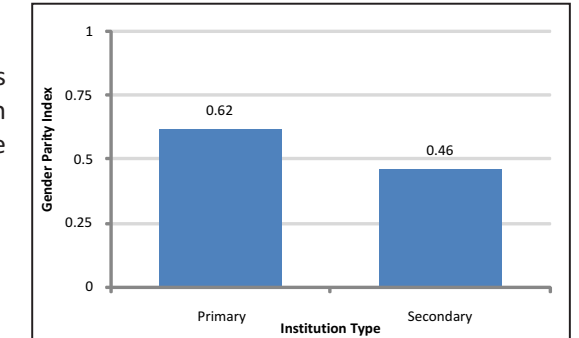


(PSLM, 2008-09)

16.5. Gender Disparities

The graph above gives the percentage of male and female students by school level, which shows that the gender gap is increasing with years of schooling. Most girls drop out or are unable to continue education beyond primary and/or middle levels.

Gender Parity Index - School enrollment(girls per boy)

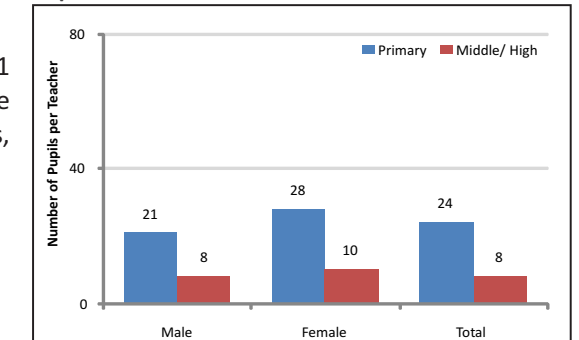


(Multiple Indicators Cluster Survey, 2010)

16.6. Pupil Teacher Ratio

Pupil-teacher ratio shows that there is one teacher each for 21 primary school boys and 28 primary school girls whereas there are sufficient teachers per students for middle level. For further details, please see table H7 Annexure H.

Pupil Teacher Ratio



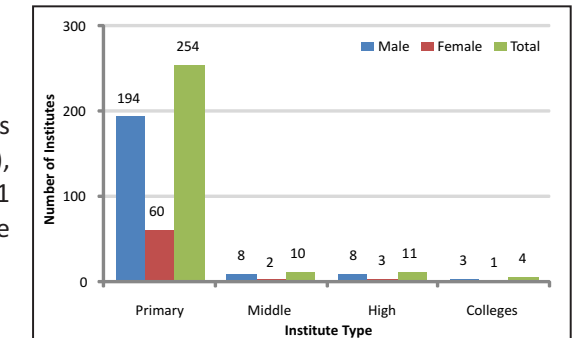
(BEMIS Statistical Profile, 2009-10)

16.7. Institutions

16.7.1. Government Institutions

As per BEMIS school census 2009-10, there are 254 primary schools (194 male and 60 female), 10 middle schools (8 male and 2 female), 11 high schools (8 male and 3 female), 3 inter colleges (2 male and 1 female) and 1 degree college (male only). For further details, please see table H8 Annexure H.

Number of Institutions



(BEMIS Statistical Profile, 2009-10)

16.7.2. Primary Schools

Primary schools comprise of six classes. In 2009, there were 254 Primary schools in Musakhail, 194 for boys and 60 for girls. The total enrollment for primary classes up to December, 2009 was 10,212, of which 6,678 were boys and 3,534 girls, which means that 65.3% of primary school students were boys. In each primary school, a senior Junior Vernacular Teacher (JVT) is assigned the charge of Head Master or Head Mistress. The costs of primary schools are borne by government in the case of government run schools. They have a uniform curriculum and examination system.

As per Government of Pakistan's National Education Policy (NEP), now redundant after 18th Amendment, the primary education will be provided to all the children in the age group of 4-9 years. School facilities will be provided to every child within a radius of 1.5 kilometer, so that no child is deprived of basic education. Promotion of girls' education will be assigned high priority. However, considering the geographic spread, this policy may not be applicable in letter and spirit as it would require 3,818 instead of 254 schools to cover the district map. Balochistan Education Support Program has opened 13 community schools to promote primary education in Musakhail. The table on the following page computes the budget based on the information provided by the Provincial Education Department for establishment of new primary schools in the district⁵.

⁵ District EFA Plan, Musakhail 2011-2015, NCHD

Budget -Establish New Primary Schools

Description	2011	2012	2013	2014	2015
Boys' Schools					
Establish New Primary Schools	28	28	28	27	27
Budget					
Establish New Primary Schools	59.528	59.528	59.528	57.402	57.402
New Schools-Teachers Salary	10.080	20.160	30.240	39.960	49.680
Total (Rs. in millions)	69.608	79.688	89.768	97.362	107.082
Girls' Schools					
Establish New Primary Schools	25	25	25	25	25
Budget					
Establish New Primary Schools	53.150	53.150	53.150	53.150	53.150
New Schools-Teachers Salary	9.000	18.000	27.000	36.000	45.000
Total (Rs. in millions)	62.150	71.150	80.150	89.150	98.150

16.7.3. Middle Schools

Middle schools comprise of grades 6 to 8, with the primary section included. In 2009, there were 10 middle schools in Musakhail, of which 8 were for boys and 2 for girls. The total enrollment for middle classes up to December 2009 was 1,301, which included 923 boys and 378 girls. This means that 70.9% of middle school students were boys. The Government has sanctioned 15 posts for a middle schools, of which one post is of SST (Gen), SST (Sc), JAT, PTI, D.M, M.Q each; two posts of JET, JVT and 4 posts of *Naib Qasid*. A senior secondary school teacher, SST (Gen), is posted as Head Master/ Head Mistress of the middle school. The district has 10 middle schools functioning against 254 primary schools, which means that 25 primary schools feed into one middle school and this explains the low continuation rates.

16.7.4. High Schools

High schools comprise grades up to 10 classes with primary and middle classes included. Humanities and sciences are taught in these schools. When a middle school is upgraded from Middle level to High level, more staff is sanctioned as one Head Master or Head Mistress, a Secondary School Teacher (general science), a junior English teacher, a Junior Clerk, and a class IV employee. In 2009, there were 11 High Schools in Musakhail, 8 for boys and 3 for girls. Total enrollment in secondary classes was 731, of which 188 were girls and 543 were boys.

The examining body for high school final assessment is the Balochistan Board of Intermediate and Secondary Education in Quetta.

16.7.5. Intermediate College

There are 3 Inter Colleges (2 Male and 1 Female) functioning. 297 students were enrolled in 3 Inter Colleges in which 245 students were boys and 52 students were girls.

16.7.6. Degree Colleges

According to Directorate of Education Colleges information, 1 Degree Colleges (Male) is functioning. In Degree Colleges, 69 students were enrolled, in which 48 students were boys and 21 students were girls.

16.7.7. Madrasas

Deeni Madrasas are also functioning in the district to deliver religious and informal education to those children of district, who cannot enroll in regular educational institutions due to poverty or preference. Previously, the Government initiated registration of *Madrasas* and to mainstream them by introducing regular subjects in the curricula. However, the response has been low and not all *Madrasas* could be registered. The exact numbers of these *Madrasas*'s are therefore unknown.

16.7.8. Technical and Vocational Education

Vocational and technical education is being promoted in all districts including Musakhail. Vocational education is being introduced to students of class 6 - 10 and technical education to class 11 and onwards. At present, 10 middle schools are functional in the district and by the year 2015, the estimated number of middle schools will rise up to 15 (by minimum projection @ 10% per year). With the provision of vocational education at middle level, the Government of Balochistan intends to empower the graduates for self employment/ income generation and to support the technical stream at class 9th, 10th and onward. With provision of vocational education at middle level the drop-out rate will also decrease.

16.8. Basic Infrastructure Facilities

16.8.1. School Buildings

According to a BEMIS 2009-10, 2% of primary schools are functioning without school buildings and some of them from all schools are functioning without shelter. This situation is better in middle and high schools.

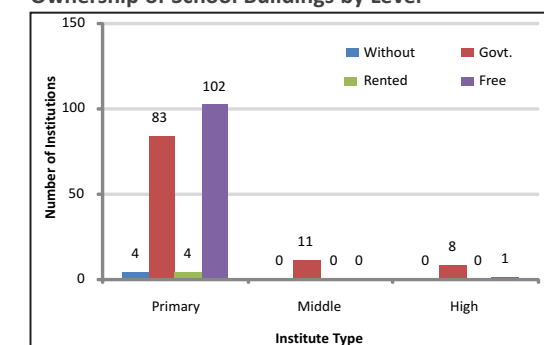
Almost 80 % of primary schools are without boundary wall.

About 94% of primary schools are functioning without electricity. Situation is also not good in middle and high schools (91% and 56%) respectively.

Similar situation is with the toilet facility. 82% of primary schools are without basic toilet facility; this situation is almost same in middle and high schools.

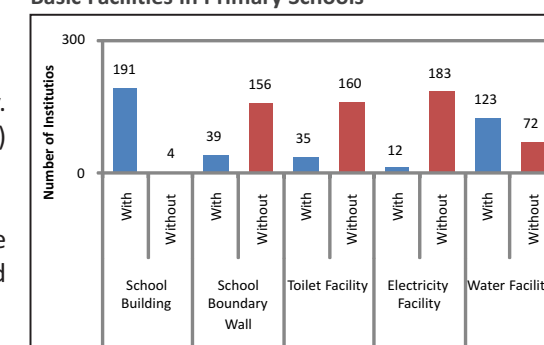
Water is the basic necessity and the almost 37% of primary school are without water facility and this situation is same in middle and high schools.

Ownership of School Buildings by Level



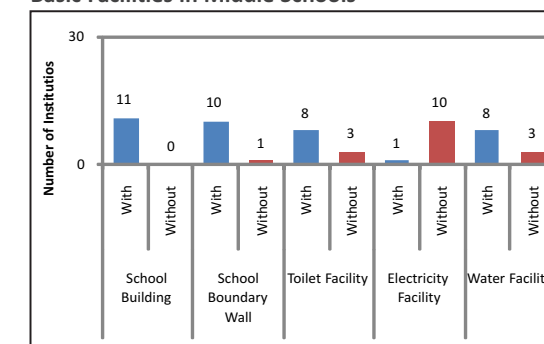
(BEMIS Statistical Profile, 2009-10)

Basic Facilities in Primary Schools



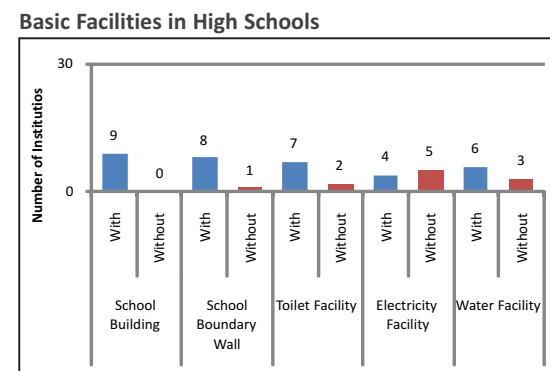
(BEMIS Statistical Profile, 2009-10)

Basic Facilities in Middle Schools



(BEMIS Statistical Profile, 2009-10)

According to a previous survey, most of the schools were deprived of basic needs i.e. boundary wall, toilets for students, class rooms, science labs, library, science equipment, furniture, reading writing material, computers and water facilities. The missing facilities are one of the major reasons why students drop out of schools and parents also do not value the education.

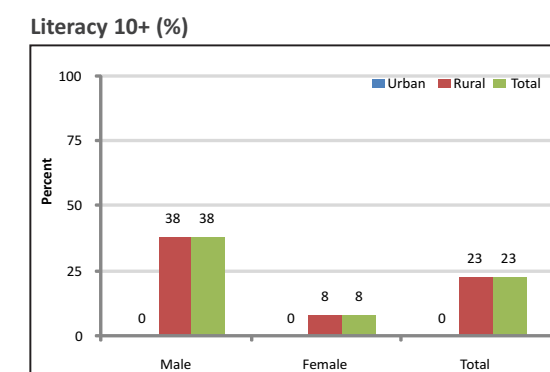


(BEMIS Statistical Profile, 2009-10)

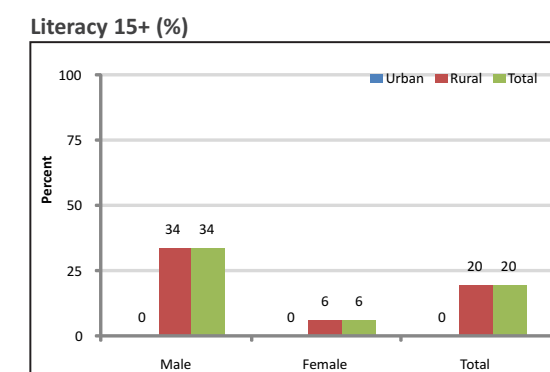
16.9. Literacy

According to Pakistan Social and Living Measurement Survey (PSLM) 2008-09, the literacy rate of age 10+ in Musakhail District was 38% among males and 8% among females, with an overall literacy rate at 23%. The definition of literacy has been relaxed in this survey that asks only for stated ability to read and write with understanding. The literacy rate, if measured on international standards, would be even lower than this level. For detailed table see table H9 Annexure H.

Currently 60 adult literacy centers are being run in the district for males and females by the NCHD for over 2,400 beneficiaries most of whom are females⁶.



(PSLM, 2008-09)



(PSLM, 2008-09)

Existing Adult Literacy Centers & Enrolment

Description	Centers	Enrolment
Male Centers		
Literacy Centers -NCHD	30	650
Female Centers		
Literacy Centers -NCHD	30	1,766
Total	60	2,416

16.10. Non-Formal Education

Both male and female literacy rates in Musakhail are low. The pace at which government schools are being established and cost that is required to establish these schools clearly indicate that only if government schools establishment is relied upon, literacy rate will increase at snail's pace. One option recognized in previous national education policies and at different levels is using non-formal education. National Commission for Human Right is looking after this aspect, besides, Social Welfare department and Prime Minister Literacy Cell and Asian Development Bank through the Government of Pakistan.

In the fiscal year 2007-2009, the Balochistan Education Foundation, with coordination of World Bank, established 13 community schools in Musakhail District through Community Implementation Partners (CIPs) i.e. LAFAM. The enrollment was 341 of which 245 were girls and 96 boys. These schools have been established in urban and semi-urban areas of the district. According to an approved agreement, the following criteria were followed by BEF authority:

- Community will provide shelter or one room on voluntary basis.
- Teacher shall belong to that area and only in case of non-availability, the teacher may be appointed within radius

⁶ District EFA Plan, Musakhail 2011-2015, NCHD

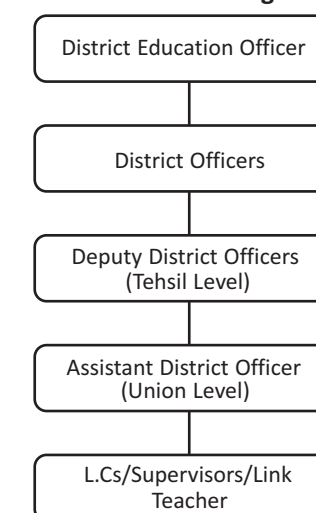
of 4 km.

- There should be at least 20 school children of age-group 5-9 years.
- There should not be any girls' school within a radius of 2 km but a minor amendment was made in there should not be any boys or girls school within a radius of 2 km.

16.11. Education Department

The District Education Department is headed by a District Education Officer (DEO) supported by two District Officers (a male and a female each), Deputy District Officers and Assistant District Officers (ADOs), who maintain close contact with the (head) teachers.

District Education Management Structure



16.12. Development Projects

The following projects are reflected in the PSDP2011-12:

- Construction and Upgradation of Primary, Middle and High Schools in Musakhail District.
- Construction of Boys Inter College, Kingry.
- Upgradation of 5 Nos. Primary Schools to Middle Level In District Musakhail

16.13. Some Key Findings

The girls in Musakhail face great problems in getting college education in the absence of a separate girls' college. This not only deprives the females of an equal opportunity for higher education, but also results in unavailability of educated females for health and education sectors. However, the determination of girl students for getting an education and the favourable attitude of their parents are evident from enrolment of girl students in the boys' college.

Though data on quality of education being provided could not be traced / collected, it is common perception that quality of education is not very good. Regular refresher courses should be arranged for school teachers of all levels. Wherever possible, support of teaching resource kit ne provided. Being single teacher schools, many schools suffer due to absence of teaching staff. Most school buildings do not provide the facilities they should. Education and Finance department should work in close coordination to provide missing facilities in schools.

Low literacy rate is serious concern in the district. All options to enhance literacy rate should be explored. Development partners may be requested to provide financial and technical assistance in this regard.



SECTION IV

- 17 Sports
- 18 Community Development and Social Welfare
- 19 Women / Girl Child Development
- 20 Disaster Risk Reduction
- 21 District Accounts and Development Funds

17 SPORTS

Social Welfare Officer of Musakhail District reports that the sports facilities in district are non-existent. There is not a single playground or a sports club in the whole district. No data was available which confirms the presence of any sports activities and/or sports teams. However, some of the schools may offer some sports facilities.

17.1. Some Key Findings

From 2000 to 2009 (inclusive), sports and tourism, in whole Balochistan, could get only 345.6 million in provincial PSDPs. If this amount is divided by 10, we get Rs. 34.5 million spending per year. Let's say, if this amount is distributed equally among 30 districts then each district will get Rs. 1.15 million. This allocation of funds to sport and tourism shows that sports has not been a high priority area with the provincial governments. Some of the district may not have any allocation for sports activities for years and years. The case of Musakhail appears to be the same. Sports department has to have a comprehensive plan for all districts.

18 COMMUNITY DEVELOPMENT & SOCIAL WELFARE

18.1. Introduction of Social Welfare

Social welfare with its specific scope becomes a distinct subject though all development activities in one way or the other contribute to social welfare. The department of Social Welfare has the following objective:

- To provide a better social environment by helping the neglected, handicapped and socially disadvantaged people.

This objective is achieved through use of techniques and methods, which are designed to enable individuals, groups and communities to solve their problems and felt-needs through cooperative actions by relying on their own resources.

The projects and tasks of Social Welfare Department were devolved to Community Development Departments at districts level during the tenure of Local Government structure. Presently these Community Development Departments are known as Social Welfare Departments at districts levels. Currently, in Balochistan region, certain developmental schemes were initiated by the Social Welfare Department aiming at the improvement of social environment by providing the opportunities to underprivileged strata through policies, programs and projects in order to alleviate poverty and dependency. These projects included community development centers, community halls, income support programs and registration of the marginalized persons etc. For this purpose, budget allocated to Social Welfare department, Musakhail was Rs. 2,064,621/- in fiscal year 2009-10 while this amount decreased to Rs. 530,500/- in the year 2010-11.

18.2. Training and Rehabilitation Center

Training and rehabilitation center Musakhail was established with the motive to provide basic living skills to females so that they could generate income for themselves. This center had capacity to facilitate 20 beneficiaries at a time but this center has been closed by higher authorities due to the lack of funds and unavailability of staff. The community development centers were established in Balochistan with the purpose to enhance living skills of the unprivileged strata and have performed efficiently in enrolling the people and train them but their impact is not very visible.

Table 18.1: Number of Posts Filled and Vacant in EDO Office

Total posts & bps.	No. of posts.	Filled	Vacant
Total number of posts of BPS-17.	1	1	0
Total number of posts of below BPS-16.	8	7	1
Total Posts.	9	8	1

(Community Development and Social Welfare Department.)

Table 18.2: Number of Posts Filled & Vacant in the Training & Rehabilitation Centre, Musakhail

Total posts & bps.	No. of posts.	Filled	Vacant
Total number of posts of below BPS-16.	3	0	3
Total Posts.	3	0	3

(Community Development and Social Welfare Department.)

18.3. Benazir Income Support Program (BISP)

BISP was commenced by the Government of Pakistan with initial allocation of Rs.34 billion (US \$ 425 million approximately) for the financial year 2008-09. This project was started all over the Pakistan with the objective of poverty alleviation and women empowerment targeting the deprived segment of Pakistani society which includes, in particular, widows and women headed households.

18.4. Zakat & Pakistan-Bait-ul-Maal

Pakistan *Bait-ul-Maal* is providing financial assistance for poverty alleviation through its various poorest of the poor focused services and giving assistance to destitute, widow, orphan, in poor health and other needy persons with emphasis on rehabilitation.

Objectives of Pakistan *Bait-ul-Maal* are provision of:

- Educational assistance to needy orphan and stipends for the outstanding, non-affording students for higher professional education.
- Residential accommodation and necessary facilities for the deserving.
- Free medical treatment for indigent sick people, set up free hospitals and rehabilitation centers for the poor.
- Financial aid to charitable institutions including educational and vocational setups.
- Assistance in sponsoring and promoting self-employment schemes.

18.5. Community Halls

The Gender Resource Center or community halls were established to provide appropriate place for lady councilors, where they could conduct their meetings. Therefore, two Community Halls were established in Musakhail and Drug under Gender Reforms Action Plan (GRAP).

18.6. Structure & Functions of Department

Main functions of Social Welfare Department are as follows:

- Community development.
- Registration and control of Voluntary Social Welfare Organization.
- Women Development.
- Supervision and Control of Orphanages.
- Registration of Transsexuals and persons with impairments.
- Special Education.
- Rehabilitation of poor and destitute, through training and rehabilitation center.
- Welfare of Aged Persons and Rehabilitation of Drug Addicts, through Voluntary Organization. Eradication of Social evils, like vagrancy.
- Coordination of Social Welfare Programs / Schemes.
- Distribution of Bait-ul-Maal funds and zakat to the needy.

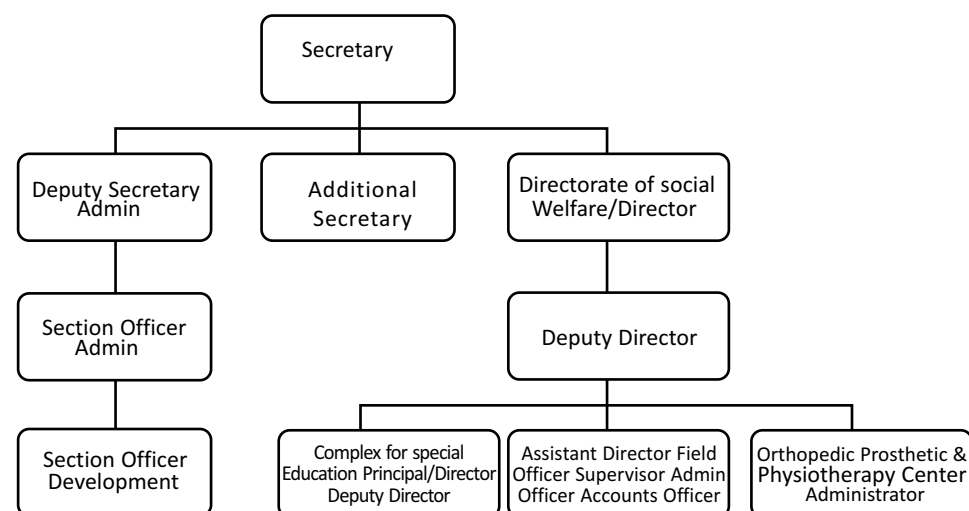
The Department of Social Welfare, District Musakhail has 1 post of BPS-17 which was filled; while, 8 posts of BPS-16, among which 1 was vacant. The detail of staff is given on the following page:

Table 18.3: Structure and Functions of Department

Structure	Numbers
Number of Sub Offices	n/a
Sanctioned Strength in various Categories (Total)	8
Actual Filled Posts	7
Vacant Posts	1

(Community Development and Social Welfare Department.)

Social Welfare Department Organogram



18.7. Some Key Findings:

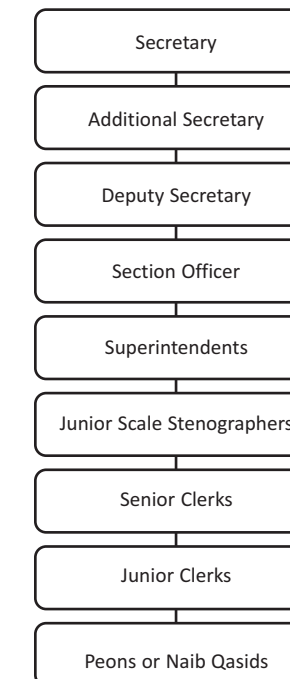
- Keeping in view functions of the Social Welfare department and available infrastructure and services in Musakhail, it can be concluded that social welfare in Musakhail is a neglected subject.
- Though data on deprived and vulnerable groups could not be collected, it does not mean that problems relating to social welfare do not exist.
- As has been the case that existing facilities, which are created by substantial investment and by sparing scarce resources, are not being taken advantage of. Closure of women training and rehabilitation center is just another example of forcing investment go down the drain.
- There is potential of contribution by the development partners to uplift socio-economic status of the deprived
- 23 CCBs and 8 NGOs were registered with Social Welfare Department in which all CCBs and 6 NGOs were not working. Monitoring of NGOs, working for community development, will have positive impact.

19 WOMEN/GIRL CHILD DEVELOPMENT

19.1. Structure of Women Development Department

In Balochistan, Women Development Cell was established in 1997 under the Planning and Development Department, which was the first initiative for women development in the province. Formerly, this department was working with the Department of Social Welfare and Special Education. Women Development Department (WDD) was separated from Department of Social welfare and Special Education on 03rd November, 2009 and is passing through an evolutionary phase. Therefore, it requires more time to streamline effective projects to play its vital role for the empowerment and development of women.

Structure of Provincial Woman Development Department



19.2. Situation of Women

The economic independence of women in Musakhel does not fully translate into social independence. Sometimes her performance is restricted to the limits which suit her husband, father or other male family members. For example, she is free to move around, but just to graze her livestock or to fetch water and collect fuel wood. She makes many of the routine domestic decisions, but decisions regarding major issues, like the children's marriages, are made by the men in the family, while the women may only give their advice.

According to Multiple Indicators Cluster Survey (MICS) Balochistan 2010, primary Net Attendance Ratio of girls is significantly lower than boys (22% compared to 35%). Traditionally girls' education is not much encouraged due to poverty and cultural issues like not according high importance to girls' education, of course, cannot be ignored. Girls, even if enrolled in schools have high possibility of dropouts or discontinuing education after primary level- here too lack of required number of middle and high schools is a factor worth considering. The secondary Net Attendance Ratio is 15% in total, out of which boys dominate with 20% and girls stand at mere 6%. According to Pakistan Social and Living Standards Measurement Survey (PSLM) 2008-09, Gross Enrollment Rate at primary and middle levels was also very low, 40% and 20% respectively.

Women health care need special attention to reduce mother mortality, infant mortality and child mortality in addition to ensuring better nutrition of children through healthy mothers. There were 144 LHWs and 5 LHSs but no records reported on appointment of lady doctors or female nurses. This situation increased maternal health risk and women access to skilled attendants for antenatal check-ups and delivery assistance. In the year 2010, overall 4% of expected pregnancies

were registered for Antenatal Care (ANC), whereas, 1% of reported deliveries were assisted by trained personnel in the whole district. Besides, insufficient number of lady doctors, lack of essential Primary Health Care equipment and services aggravate problems particularly at the time of maternal emergencies.

The issues related to women are considered as matter of honor and discouraged to be reported at police stations. To resolve such issues, the *Jirga* system is preferred. 9 cases of murders and two cases of female abduction were reported during 2008-10, while issues of domestic violence, acid throwing or stove-burning were not known. It is apprehended that there may be assaults against women but they go unreported, probably due to the traditional values.

Education and health sectors are main employers of women. Overall female teachers employed in the district were 185. National Program for Family Planning and Primary Health Care employed 331 LHWs and 15 LHSs for the betterment of maternal health in Musakhail. However, data on women employed in the health, development and public sector is inadequate to draw concrete conclusion.

19.3. Available Facilities

Some national level programs in health sector, though subject of health has been devolved to the provinces but these programs are still being funded under Federal PSPD, these are:

- Expanded Program on Immunization (EPI) for children and pregnant women vaccination.
- AIDS Control Program to prevent women from STIs and STDs.
- National Program for Family Planning and Primary Health Care.

In addition, MNCH Program aims to improve the Health of Women and Children by focusing the following components:

- Improve accessibility of quality health services.
- Provision of 24/7 Comprehensive and Basic EmONC Services.
- Child and Neonatal Health Strategy.
- Comprehensive Family Planning Services.
- BCC, Advocacy and Demand Creation.
- Management and Organization Reforms.
- Monitoring and Evaluation Framework.

Moreover, certain steps have been taken for the development of girl child and women, those include:

- Rural Community Center, Musakhail.
- Social Welfare, Training and Rehabilitation Center, District Musakhail.
- Community Halls for lady councilors were established under GRAP.
- Non-Formal Education system for those who have missed regular schooling.
- Awareness Programs for Women's Rights and Empowerment is currently pursuing.
- The establishment of Gender Resource Centers and Career Development Centers at district level is also under way.

19.4. Vocational Trainings

Women in Musakhail are involved in home based work such as in embroidery and stitching but the only rehabilitation and training center has been forced to close.

19.5. Recreational Facilities

The traditional norms does not allow women to entertain themselves through recreational activities, therefore less attention has been given by the government to provide such facilities.

19.6. Women Development Initiatives

The Government of Pakistan is committed to several international obligations on the status of women such as Beijing Platform of Action 1995 and CEDAW. With initiatives such as National Commission on the Status of Women (NCSW) and GRAP to take strategic actions for women development in general, gender equality, gender mainstreaming and empowerment. The provincial Woman Development Department was entrusted to implement and monitor such action plans. At provincial level GRAP could not take off. The GRAP project, having been reflected in provincial PSDP for a few year without any substantial progress, was deleted.

19.7. Some Key Findings

Some of issues and needs related to women in Musakhail are as follows:

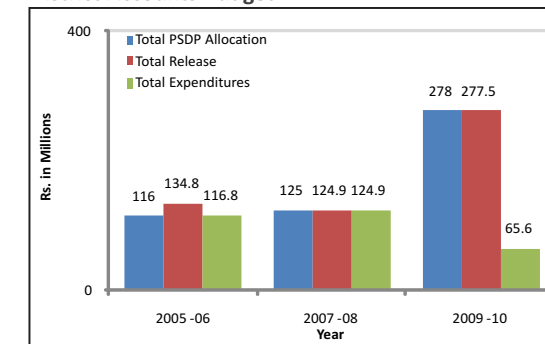
- Women in Musakhail are unaware of their rights because of illiteracy and man dominance over powers and decisions.
- All areas, particularly education and health need immediate attention as these are very basic and have multiplying effect
- Network of electronic media need to be extended to raise awareness about women issues
- Women are not considered as farmers or the paid labor in agriculture and livestock endeavors. The payment of their work can help in the betterment of their livelihoods and economic empowerment.
- Certain gender equity programs are essential to involve women in the development sectors

20 DISASTER RISK REDUCTION

Data on disaster is not available.

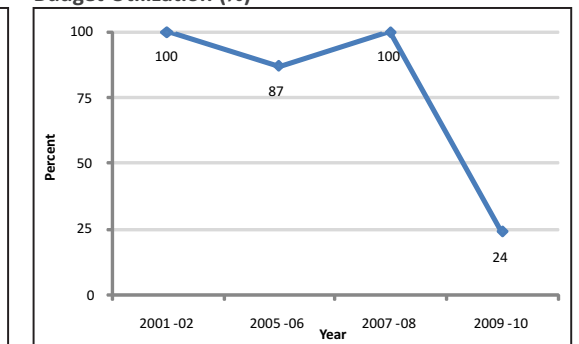
21 DISTRICT ACCOUNTS & DEVELOPMENT FUNDS

District Accounts Budget



(PSDP, 2010)

Budget Utilization (%)



(PSDP, 2010)

21.1. Introduction

Financial resources distribution among the district has not based on sectoral or other considerations. Decision made in this regards are not informed though data exists in many fields. Personal notions and perception at bureaucratic and political levels decide distribution of financial resources among sectors or districts.

21.3. Development Funds

Most of the development activities in the district are funded through the provincial Public Sector Development Program (PSDP). Development funds from federal and provincial resources are only partly administered at the district level. Due to the paucity of resources in Balochistan, the government had no option but to opt for Revenue Deficit Budgeting to finance PSDP, relying mainly on the budgetary support provided by the Federal Government. Following table presents data on allocation, releases, and expenditures of PSDP in Musakhail.

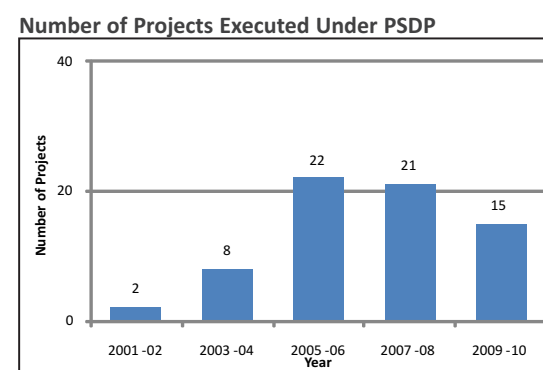
Table 21.1: PSDP Allocation to the District (Million)

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Total PSDP Allocation GOB	38	62	55	116	151	125	202	278
Total Release	35	36	87	135	n/a	125	202	278
Total Expenditures	35	36	87	117	n/a	125	54	66
Percentage Utilizations	100%	100%	100%	87%	n/a	100%	27%	*24%

n/a: Data not found

**when data was being collected*

The graph below shows the number of projects reflected under PSDP in Musakhail during different years. Number of project, reflected each year, is not an indicator of more or less investment due to two reasons: size of project is unknown and secondly number of projects does not mean that all reflected projects are completed in a particular year. For details, see table J1 Annexure J



(PSDP, 2010)



ANNEXURE TABLES

- Annexure A: District Government
- Annexure B: Law and Order
- Annexure C: Agriculture and Horticulture
- Annexure D: Livestock
- Annexure E: Forestry
- Annexure F: Economic Infrastructure and Communication
- Annexure G: Water Supply and Sanitation
- Annexure H: Education
- Annexure I: Community Development and Social Welfare
- Annexure J: District Accounts and development Funds
- Annexure K: List of Villages (Rural)
- Bibliography

Annexure A: DISTRICT GOVERNMENT

Table A1: Provincial/National Assembly Seats

	Constituency No	Number of Seats
Provincial	PB-15 Musa Khail	1
National	NA-263 Musa-Khail cum Loralai cum Barkhan	1
<i>Total</i>		<i>2</i>

(Provincial and District Election Commission of Pakistan)

Table A2: Jobs Appointments during past 2 years at District Level (July 2008– June 2010)

Office	Basic Pay Scale (BPS)	Number of Posts		Total
		2008-09	2009-10	
Education	1	4	1	5
	7	30	2	32
	9	29	0	29
PHE	1	0	2	2
	2	0	2	2
	5	0	1	1
Community Development	1	1	0	1
<i>Total</i>		<i>64</i>	<i>8</i>	<i>72</i>

(District Accounts)

Table A3: Licensing facilities

Licenses Type (include name)	Number of Licenses Issued (2009-2010)	Fees Per License(include rates for 2009-2010)	Revenue generated during financial Year 2009-2010	Issuing Authority
Arms	144	1,000	144,000	DC
<i>Total</i>	<i>144</i>	<i>1,000</i>	<i>144,000</i>	

(District Revenue Office)

Annexure B: LAW AND ORDER

Table B1: Type of Law Enforcement Agencies and Geographical Coverage

Type of Law Enforcement Agencies	No. of Police Stations/ Thana/ Chowkis	Geographical Coverage
Police	3 Thana, 1 Chowki	n/a

(DPO/ DCO/Provincial Home Department/IG Police office/Provincial and District FIA office)
n/a: Data not available

Table B2: Strength of Law Enforcement Agencies

Type of Law Enforcement Agency	Available Human Resource							Total
	SSP(s)/ Tehsildar/ Subaidar	SP(s)/ Hawaldar	DSP(s)/ Risaldar	SHO(s)/ Naibrisaldar	SI(s)	ASI(s)	Constable(s)	
Police	n/a	1	2	3	5	26	167	181
Levies Provincial	3	11	1	72	3	n/a	n/a	90
Levies Federal	3	17	7	79	30	8	1	145

(District Police office/District Commissioner Office/Provincial Home Dept. /IG Police office) n/a: Data not available

Table B3: Available Resources of Law enforcement Agencies

Type of Agencies	Available Resources						
	Vehicles	Arms	Ammunition	Mob Control Equipment			Total
				Tear Gas	Rubber Sticks	Armored Suits	
Police	12	94	1780	1	n/a	n/a	1887

(District Police Office (A-Area), Deputy Commissioner Office, IG Police/Provincial Home Dept./DC Office)
n/a: Data not available

Table B4: Major Cognizable Crimes Reported Year Wise

Category of Crimes	Number of Incidents					Total
	2006	2007	2008	2009	2010	
Explosion Incidents	n/a	3	n/a	1	n/a	4
Brutal Murder & Manslaughter	n/a	8	4	2	3	17
Rioting	n/a	n/a	n/a	3	1	4
Total	n/a	11	4	6	4	25

(Registrar High Court/DIG (investigation)/District Police office) n/a: Data not available

Table B5: Number of Courts and Benches

Type of Court	Available (Y/N)	Numbers
High Court Bench	N	0
District & Session Court	Y	1
Judicial Magistrate	Y	1
Anti-Terrorist Court	N	0
Qazi Court	Y	1
Majlis-e-Shoora	Y	1
Juvenile Court	N	0
Banking Court	N	0

(Registrar High Court/District & Session Judge)

Annexure C: AGRICULTURE AND HORTICULTURE

Table C1: Area and Production of Major Rabi Crops (Number)

Major Rabi Crops	Area (Hectare)	Production (Tones)	Yield(Kg/Hectare) Average
Wheat	3,470	4,905	1,414
Barley	200	257	1,285
Rapeseed /Mustard	55	18	327
Vegetables	149	2,478	16,631
Fodder	40	929	23,225
Total	3,914	8,587	42,882

(Agricultural Statistics Balochistan, 2008-09)

Table C2: Area and Production of Major Kharif Crops (Number)

Major Kharif Crops	Area (Hectare)	Production (Tones)	Yield(Kg/Hectare) Average
Sorghum(Jowar)	391	299	765
Millet (Bajra)	600	377	628
Maize	1,025	1,045	1,020
Moongbean	310	146	471
Mash bean	221	112	507
Fruits	214	852	3,981
Onion	30	474	15,800
Potato	55	779	14,164
Vegetables	93	624	6,710
Melons	23	265	11,522
Chilies	310	474	1,529
Fodder	70	1,375	19,643
Total	3,342	6,822	76,740

(Agricultural Statistics Balochistan, 2008-09)

Table C3: Growth Rate Comparison - 2008-09 (Percent)

	Wheat	Fruits	Potato	Fodder
Musakhail				
Area	47.8	2.9	0.8	1.5
Production	31.8	5.5	5.1	15.0
Yield	1.2	3.3	11.8	35.8
Balochistan				
Area	33.9	20.1	0.2	3.1
Production	16.5	19.7	0.7	22.5
Yield	1.0	2.0	6.9	29.1

(Agricultural Statistics Balochistan, 2008-09)

Table C4: Number of Government and Private Owned Farm Implements (Number)

Owner	Tractors	Threshers	Bulldozers
Govt.	2	0	1
Private	100	55	1
Total	102	55	2

(Agricultural Statistics Balochistan, 2008-09)

Table C5: Area, Production and Yield of All Fruits 2008-09 (Number)

Fruits	Area (Hectare)	Production (Tones)	Yield (Kg/Hectare)
Almond	45	83	2,441
Apple	116	490	6,049
Apricot	31	251	9,296
Pomegranate	22	28	3,500
Total	214	852	21,286

(Agricultural Statistics Balochistan, 2008-09)

Table C6: Area, Production and Yield of All Vegetables (Rabi and Kharif) - 2008-09 (Number)

Vegetables	Area (Hectare)	Production (Tones)	Yield (Kg/Hectare)
Tomatoes	60	676	22,533
Carrot	55	1,045	19,000
Cauliflower	25	364	14,560
Peas	10	120	12,000
Turnip	15	263	17,533
Spinach	14	236	16,857
Lady Finger	30	201	6,700
Tinda	21	109	5,190
Brinjal	12	88	7,333
Potato	55	779	14,164
Total	297	3881	135,870

(Agricultural Statistics Balochistan, 2008-09)

Table C7: Area Irrigated by Different Source of Irrigation

Sources of Irrigation	Hectares	Percent (%)	Total No. of Tube Wells	
			Govt.	Private
Canals	828	30	0	0
Tube wells	1,080	39	10	110
Wells	670	23	0	0
Karezes / Spring	215	8	0	0
Total	2,793	100		120

(Agricultural Statistics Balochistan, 2008-09)

Annexure D: LIVESTOCK

Table D1: Health Services Activities

(Number)

Activities	2005-06	2006-07	2007-08	2008-09
Vaccination	148,485	152,551	391,902	186,000
Treatment	147,418	266,213	438,730	108,755
Animals Castrated	940	1,395	1,606	1,030
Animal Slaughtered (Private)	n/a	2,362	4,726	8,836

(Director Animal Health Balochistan)

Table D2: Meat, Milk and Dairy Production - Year Wise

Total Meat Production	Unit	2005-06	2006-07	2007-08	2008-09	2009-10
Mutton	(000) Tones	4.0	4.1	4.2	8.7	8.8
Beef	(000) Tones	2.1	2.1	2.2	2.2	2.2
Milk	(000) Liters	92.2	94.1	95.9	97.9	99.8
Poultry	(000) Tones	4.2	4.3	4.4	4.5	4.8
Eggs	Million Numbers	55.5	56.9	58.4	59.9	61.5

(Directorate General Livestock and Livestock Census, 2006)

Annexure E: FORESTRY

Table E1: Notified Forests Areas

('000' hectares)

Forest Name	Area (Hectares)	Status
Surghundi	4	Although open to users, still intact.
Total	4	

(Forest Department)

Table E2 : Forest Department Designations and Posts

Designation	Grade (BPS)	Post (Number)
Divisional Forest Officer	17	1
Sub-Divisional Officer Wildlife	16	1
Range Forest Officer	16	1
Assistant	14	1
Deputy Ranger Forest	9	1
Senior Clerk	9	1
Forester	7	3
Deputy Ranger Wildlife	5	1
Forest Guard	5	8
Jeep Driver	4	1
Game Watcher	1	7
Naib Qasid	1	1
Chowkidar	1	1
Sweeper	1	1
Total		29

(Provincial and District Forest Departments, IUCN, UNDP, WWF, GEF)

Annexure F: ECONOMIC INFRASTRUCTURE & COMMUNICATION

Table F1: Number of Post Offices and Courier Services

Services Category	1998	2009
Post Offices	14	4
Courier Services OCS, TCS, TNT, Speed X	n/a	n/a

(Post Master General)
n/a: Data Not Available

Annexure G: WATER SUPPLY AND SANITATION

Table G 1: Improved & Un-improved Sources of Drinking Water (Percent)

Type and Source of Drinking Water	MICS 2010
Improved Sources	46.4
Piped water	7.5
Public standpipe or tap	0.5
Hand pump	0
Donkey pump/turbine	0
Protected dug well	20.3
Tube well/ borehole	0.4
Protected pond/ Tank	0
Protected spring	1.3
Rainwater collection	16.4
Filter plant	0
Un-Improved Sources	53.6
Unprotected dug well	4.1
Unprotected Spring	34.4
Unprotected Pond	0
Surface Water (River, canal or stream)	3.0
vendor provided	0
Tanker, Tractor, Donkey Cart	0
Tanker truck	0
Cart with small tanker/ drum	4.9
Bottled water/ can/ vessel	0
Other	7.1

(Multiple Indicators Cluster Survey, 2010)

Table G2: Improved & Un-improved Sources of Sanitation Facilities

Access of water sources	MICS 2010
Improved sanitation facilities	26.6
Flush to piped sewer system	4.6
Flush to septic tank	7.6
Flush to pit (latrine)	7.4
Flush to somewhere else	0.0
Flush to unknown place / Not sure / DK where	0.5
Ventilated Improved Pit latrine (VIP)	6.2
Pit latrine with slab	0.4
Composting toilet	0.0
Un-Improved sanitation facilities	73.4
Pit latrine without slab / Open	1.2
Bucket	0.0
Public/ communal latrine	0.0
Other	0.1
Missing	0.6
No facility, Bush, Field	71.5

(Multiple Indicators Cluster Survey, 2010)

Annexure H: EDUCATION

Table H1: Enrollment in Government Schools by Gender and Level - Year Wise (Number)

Institute Type	2004-05			2009-10		
	Male	Female	Total	Male	Female	Total
Primary Section	5,374	2,511	7,885	6,678	3,534	10,212
Middle Section	792	312	1,104	923	378	1,301
High Section	436	125	561	543	188	731
Inter Colleges	165	0	165	245	52	297
Degree Colleges	0	0	0	48	21	69
Total	6,767	2,948	9,715	8,437	4,173	12,610

(BEMIS Statistical Profile, 2004-05 & 2009-10)

Table H2: Primary Level Enrollment in Government Schools a Percentage of Total Enrollment (Percent)

Urban			Rural			Total			Percentage of
Male	Female	Total	Male	Female	Total	Male	Female	Total	
0	0	0	100	100	100	100	100	100	Total
0	0	0	100	100	100	100	100	100	Primary

(PSLM, 2008-09)

Table H3: Net Attendance Ratio at Primary/ Secondary Level (Percent)

	Male	Female	Total
Primary	35.0	21.9	29.6
Secondary	19.7	6.2	15.0

(Multiple Indicators Cluster Survey, 2010)

Table H4: Gross Enrollment Rate at the Primary/Middle/Metric Level (Percent)

Age	Urban			Rural			Total			Kachi Class
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
4-9	-	-	-	61	19	40	61	19	40	Including
5-9	-	-	-	61	20	40	61	20	40	Excluding
6-10	-	-	-	62	21	42	62	21	42	Excluding
10-12	-	-	-	32	6	20	32	6	20	-
11-13	-	-	-	38	6	22	38	6	22	-
13-14	-	-	-	22	3	11	22	3	11	-
14-15	-	-	-	26	3	12	26	3	12	-

(PSLM, 2008-09)

Table H 5: Population that has Ever Attended School (Percent)

Urban			Rural			Total		
Male	Female	Total	Male	Female	Total	Male	Female	Total
0	0	0	39	8	24	39	8	24

(PSLM, 2008-09)

Table H6: Percent Distribution of Population that has Completed Primary or Higher Level (Percent)

Urban			Rural			Total		
Male	Female	Total	Male	Female	Total	Male	Female	Total
0	0	0	28	4	16	28	4	16

(PSLM, 2008-09)

Table H7: Pupil Teacher Ratio (Number)

	Male	Female	Total
Primary Level	21	28	24
Middle and High Level	8	10	8

(BEMIS Statistical Profile, 2009-10)

Table H8: Type and Number of Institutions – Year Wise (Number)

Institute Type	2004-05			2009-10		
	Male	Female	Total	Male	Female	Total
Primary Schools	175	55	230	194	60	254
Middle Schools	8	3	11	8	2	10
High Schools	7	2	9	8	3	11
Inter Colleges	1	0	1	2	1	3
Degree Colleges	0	0	0	1	0	1
Total	191	60	251	213	66	279

(BEMIS Statistical Profile, 2004-05 & 2009-10)

Table H9: Literacy Rate by Urban and Rural (Percent)

Literacy	Gender	Urban	Rural	Total
Literacy 10+	Male	0	38	38
	Female	0	8	8
	Total	0	23	23
Literacy 15+	Male	0	34	34
	Female	0	6	6
	Total	0	20	20

(PSLM, 2008-09)

Table H10: Male/Female Ratio of Students (Percent)

School Gender	Primary	Middle	Secondary
Male	65	71	74
Female	35	29	26

(BEMIS Statistical Profile, 2009 10)

Annexure I: COMMUNITY DEVELOPMENT & SOCIAL WELFARE

Table I1: Number of Posts Filled and Vacant in EDO Office

Nomenclature & bps.	No. of posts	Filled	Vacant
Social Welfare Officer. (Male). (B-17).	1	1	0
Multi-Purpose Worker. (Male). (B-08).	2	2	0
Multi-Purpose Worker. (Female). (B-08).	2	2	0
Junior Clerk. (B-07).	1	1	0
Naib Qasid. (B-02).	1	1	0
Chowkidar. (B-02).	1	0	1
Sweeper (Part-Time).	1	1	0

(Community Development and Social Welfare Department.)

Table I2: Number of Posts Filled & Vacant in the Training & Rehabilitation Centre, Musakhail

Nomenclature & bps.	No. of posts	Filled	Vacant
Instructors. (B-09).	2	0	2
Chowkidar. (B-01).	1	0	1

(Community Development and Social Welfare Department.)

Annexure J: DISTRICT ACCOUNTS AND DEVELOPMENT FUNDS

Table J1: Projects Executed Under PSDP

Year	Projects in Numbers
2001-02	2
2002-03	4
2003-04	8
2004-05	12
2005-06	22
2006-07	22
2007-08	21
2008-09	12
2009-10	15

(PSDP, 2010)

Annexure K: LIST OF VILLAGES (RURAL), MUSAKHAIL, CENSUS 1998

S.No	Sub-Division	Village	Population	Households
1	MUSAKHEL	ANDER PUR	4562	855
2	MUSAKHEL	CHAP	1290	177
3	MUSAKHEL	GHARWANDI	1349	225
4	MUSAKHEL	KHAJOORI	3387	454
5	MUSAKHEL	KHAN MOHAMMAD KOT	1720	255
6	MUSAKHEL	KINGRI	3445	552
7	MUSAKHEL	LORI TANG	196	34
8	MUSAKHEL	RARASHAM	5286	926
9	MUSAKHEL	RODE	2651	451
10	MUSAKHEL	SAREEN	936	151
11	MUSAKHEL	BARKOHI	468	78
12	MUSAKHEL	BEER	696	113
13	MUSAKHEL	CHAKHAN	801	87
14	MUSAKHEL	DAB	894	109
15	MUSAKHEL	DRUG	4805	824
16	MUSAKHEL	GARGOJI	1143	166
17	MUSAKHEL	GAZZI ALIF	2023	347
18	MUSAKHEL	GAZZI BAY	891	156
19	MUSAKHEL	GHARI	1098	223
20	MUSAKHEL	INZARAKHAIL	2223	322
21	MUSAKHEL	KARKANA	2619	339
22	MUSAKHEL	KEWAN	1928	276
23	MUSAKHEL	KHAGI	303	63
24	MUSAKHEL	KIARAH	657	116
25	MUSAKHEL	NASHPA	780	119
26	MUSAKHEL	NATH	828	127
27	MUSAKHEL	NILI	797	94
28	MUSAKHEL	RAGHZI	706	173
29	MUSAKHEL	RAMAK	1013	149
30	MUSAKHEL	SARA DARGHAH	1575	162
31	MUSAKHEL	TANGISAR	1184	146
32	MUSAKHEL	ZARNI	1206	154
33	MUSAKHEL	ANGHEZA MAGHDOZAI	1929	319
34	MUSAKHEL	CHAM	712	114
35	MUSAKHEL	CHASAN	1706	284
36	MUSAKHEL	CHAWA	283	51
37	MUSAKHEL	GHURYASA	1453	194
38	MUSAKHEL	KOOCH JAMALZAI	2198	209
39	MUSAKHEL	LOGHAI	2375	289
40	MUSAKHEL	NAGHAR BAH	2141	233
41	MUSAKHEL	PEZWAN KACHH	181	35
42	MUSAKHEL	PURMZAI	2684	299
43	MUSAKHEL	SALMEZAI	1579	242
44	MUSAKHEL	SAMI AGHBERG	2140	322
45	MUSAKHEL	SARAH KHUWAH	2820	325

S.No	Sub-Division	Village	Population	Households
46	MUSAKHEL	ZARI	2050	168
47	MUSAKHEL	ZAWAR ISOT	1562	213
48	MUSAKHEL	ZAWAR KHU RMZAI	1570	193
49	MUSAKHEL	ZAWAR MIRAN	1141	190
50	MUSAKHEL	ZAWAR MUGHDOZAI	2977	224
51	MUSAKHEL	BAHADUR PALASIN	596	97
52	MUSAKHEL	CHINA KHUNDI	2052	310
53	MUSAKHEL	GAT	808	123
54	MUSAKHEL	IBRAHIM ZAI	1135	175
55	MUSAKHEL	KAROSHAH	1259	182
56	MUSAKHEL	KURRUM	621	124
57	MUSAKHEL	LOGHI POONGAH	3748	432
58	MUSAKHEL	NAKHAL	2504	366
59	MUSAKHEL	NALI BAGHDAD ZAI	605	79
60	MUSAKHEL	NALI MIRDAD ZAI	2227	295
61	MUSAKHEL	SALLI	5882	806
62	MUSAKHEL	TAP	549	98
63	MUSAKHEL	TOISAR	560	107
64	MUSAKHEL	WAH	6601	818
65	MUSAKHEL	ZAM	5639	834
66	MUSAKHEL	ZENHA	2720	409

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