PAKISTAN EMERGENCY SITUATIONAL ANALYSIS

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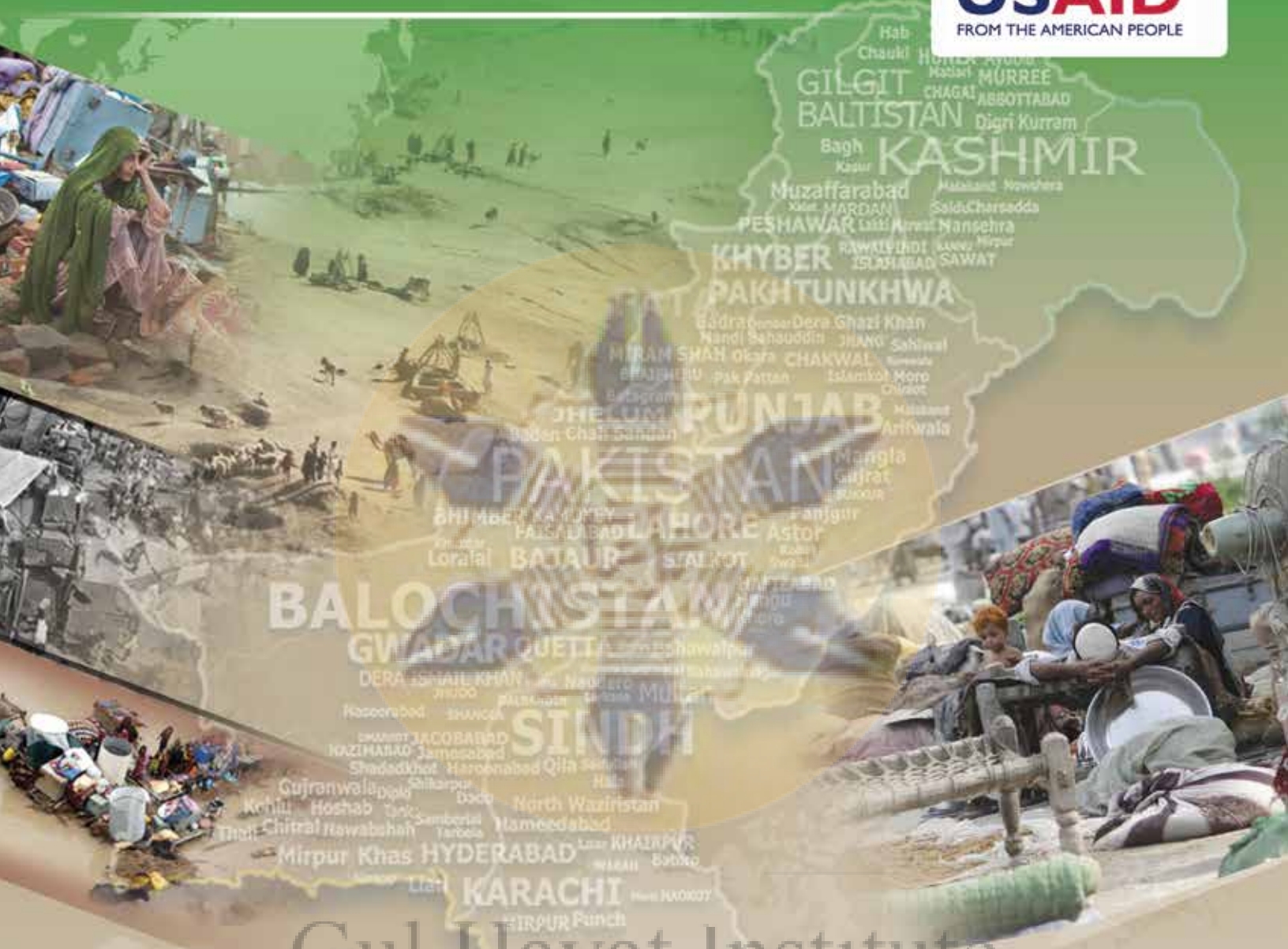

A PROFILE OF

DISTRICT KHAIRPUR

iMMAP
Because Information Matters
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Faiz Mahal
District Khairpur, Sindh

"Disaster risk reduction has been a part of USAID's work for decades. .....we strive to do so in ways that better assess the threat of hazards, reduce losses, and ultimately protect and save more people during the next disaster."

Kasey Channell,

Acting Director of the Disaster Response and Mitigation Division of USAID's Office of U.S. Foreign Disaster Assistance (OFDA)

PAKISTAN EMERGENCY SITUATIONAL ANALYSIS

District Khairpur

June 2014

"Disasters can be seen as often as predictable events, requiring forward planning which is integrated in to broader development programs."

Helen Clark, UNDP Administrator, Bureau of Crisis Prevention and Recovery. Annual Report 2011

Disclaimer

iMMAP Pakistan is pleased to publish this district profile. The purpose of this profile is to promote public awareness, welfare, and safety while providing community and other related stakeholders, access to vital information for enhancing their disaster mitigation and response efforts.

While iMMAP team has tried its best to provide proper source of information and ensure consistency in analyses within the given time limits; iMMAP shall not be held responsible for any inaccuracies that may be encountered. In any situation where the Official Public Records differs from the information provided in this district profile, the Official Public Records should take as precedence.

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NOTE:

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Any questions/ comments concerning information presented in this report can be addressed to:

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Credits

iMMAP has been providing Information Management [IM] and Disaster Risk Reduction [DRR] capacity building services in Pakistan since 2010. Based on our lessons learned, while interacting with thousands of humanitarian partners and government officials, both national and international; we believe that the following are 7 basic requirements to improve Disaster Response and Management life cycle:

1. Information Management [IM] is a must for effective disaster response and monitoring;
2. Coordination among all stakeholders [both national and international] is of utmost importance to reduce redundancy and duplication in such critical situations – going beyond clusters and getting connected with local community representatives;
3. Appropriate logistic arrangements are critical for humanitarian relief and mitigation. However, it must be born in mind that logistic requirements drastically vary from disaster to disaster, based on its time, geography, and nature;
4. Disasters and Development are intimately connected. Its important that all disaster responders are aware of the long term implications of their actions of relief and early recovery;
5. It is important that we, as disaster responders, take full responsibility of self-accountability and transparency not only to the satisfaction of the government officials but the general public as well. Not-for-profit sector must be driven by a cause!
6. National, Regional, and International Public/ Private Partnerships [PPP] is the only way to implement sustainable Disaster Risk Management [DRM] measures;
7. Media must be integrated in our response efforts. This vastly helps to disseminate the right information, minimize duplication of efforts, and make all stakeholders aware of your organization's input/activities.

Pakistan Emergency Situation Analysis [PESA] is a series of District Profiles (DP), which is developed with the above-mentioned 7 basic requirements in focus. PESA DPs are one of the most effective iMMAP IM services in Pakistan, which directly contribute to thousands of humanitarian relief providers' effective emergency response and disaster management.

I can not conclude this note without thanking iMMAP Pakistan team that has contributed tirelessly, under extreme emergency pressure, to consistently deliver their best on time, during the 2010, 2011, 2012, and 2013 floods, 2013 earthquake in Balochistan, and the most recent drought emergency in Tharparkar, Sindh during 2014.

I particularly wish to express my great appreciation and thanks to my mentors, colleagues, and friends Mr. Fayyaz Ali Khan and Ms. Kathrin Lauer for their continuous feedback and reflection on the profiles quality. At many times, I parked their feedback, due to the time constraints of the service we have been trying to deliver. However, their feedback have always been valued and appreciated. Mr. Naeem Ahmad, being the M&E professional, has proven himself to be a gem for iMMAP. I also appreciate the efforts of other staff members who have been with us in the past and many new faces that joined iMMAP recently for their work with an exceptional dedication. This includes: Farooq Laghari, Qassim Jan, Sumbal Kazmi, Salman Mulk, Zohaib Fazal, Hadya Ali, Dr. Ahmad Ali Malik, Fatima Gillani, Fatima Ali, Laraib Malik, Zeeshan Ahmad, Sarfaraz Meher Din, Muhammad Javed Iqbal, Muneeb Muzamil, Mahwish Muzamil, Tariq Sardar, Wajid Ali, and last but not the least Nouman Ali, our amazingly skilled graphic designer.

Mehdi Bokhari
PESA Project Director

Foreword

Timely response to a disaster may save precious human lives and reduce economic costs. However, natural disasters, typically, occur unexpectedly. Consequently, in most cases, the afflicted population lacks the necessary tools and capacity to handle such tragic occurrences and the devastation is manifold more than it should be.

"Before the next disaster hits, now is the time to recommit to making smart investments that save lives, property, and money. Whether at home or abroad, measures to improve response, increase disaster management capacity, plan and prepare, can have dramatic dividends." (Kasey Channell: Acting Director of the Disaster Response Team for USAID's Office of U.S. Foreign Disaster Assistance.) It is so true, as preparation for unexpected calamities is a tough task. However, if certain precautions are taken, they might lessen the overall damage. This series of district profiles, prepared by iMMAP and funded by USAID, is one such effort to enhance Government of Pakistan, humanitarian organizations and all other stakeholders' efforts towards rapid needs assessment, disaster response and mitigation.

These profiles are divided into four sections namely background information, disaster history and its impact, hazard vulnerability and capacity assessment (HVCA) and coordination and support services.Background information provides an overview of history, geography, culture, and communication infrastructure. It also provides detailed analyses of demography, livelihood, food security, health and education. The second section provides detailed history of disasters in the district; information about losses and damages; and gap analyses of above mentioned sectors. HVCA section provides detailed analyses of district hazards, vulnerabilities and capacities that exist in the local community. Coordination and support services section gives information on whom to contact in emergency/disaster situations. The motivation stems from the idea that at the time of disaster all the stakeholders in general and the donors and disaster managers in particular can have a fair idea of what to expect and how to prepare for. It is expected that this contribution of USAID and iMMAP would lead to a well-coordinated and coherent response by different humanitarian organizations on managing similar disasters.

Having stated the above, it is very candidly admitted that these profiles are by no means exhaustive and in fact require a lot more input to qualify these as good enough documents for disaster preparedness. However, these are live documents and would be improved upon as and when required. There appears to be an element of repetition, which is owed to the fact that while these documents depict the district profiles in normal circumstances, the same then provide a detail account of the impact of the 2010/2011 floods, the assistance provided by the government and the humanitarian organizations and the remaining gaps. Due to time and resources constraints, the information provided in these profiles is mainly base on secondary source data. Depending on the end users' response and funding availability, this exercise would be extended to other districts of the country.

Major (Retd) Tahir Iqbal
iMMAP Pakistan
Chairman

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Gul Hayat Institute

DISTRICT KHAIRPUR
AT A GLANCE

Population 2013
2,320,634 Persons

Area
15,910
Sq. Kms

Population 1998 **1,546,587 persons**

Population Density
146 per Sq. Km

Average Annual Growth Rate (1981 - 98) **2.71%**

Male **810,448** 52.40%

47.59%

Female **736,139**

Housing

Total Housing Units (1998) **255,261**

Pacca Housing Units	53,751 (21.05 %)
Housing Units having Electricity	168,173 (65.88 %)
Housing Units having Piped Water	407,96 (15.98 %)
Housing Units using Gas for Cooking	24,927 (9.76 %)

Average **64.** Household Size

Sex Ratio **110**
Males per 100 females

365,216
23.61%
Urban Population

1,181,371
76.38%
Rural Population

Health & Education

Infant Mortality Rate
81/1,000 Live Births

Under 5 Mortality Rate
101/1,000 Live Births

Maternal Mortality Ratio
314/100,000 Live Births

Literacy Rate (10+)
53%

Number of Health Facilities
153

Number of Educational Facilities
3,466

Female
33%
Male
71%

Administrative Units

Taluka	8
Union Councils	76
Mouzas	411

Registered Voters
756,823

Electoral Representation

Male	456,508
Female	300,315
National Assembly Seat: 2	(NA-215, NA-216, NA-217)
Provincial Assembly Seat: 4	(PS-29, PS-30, PS-31, PS-32, PS-33, PS-34)

KHAIRPUR - REFERENCE MAP

June, 2014

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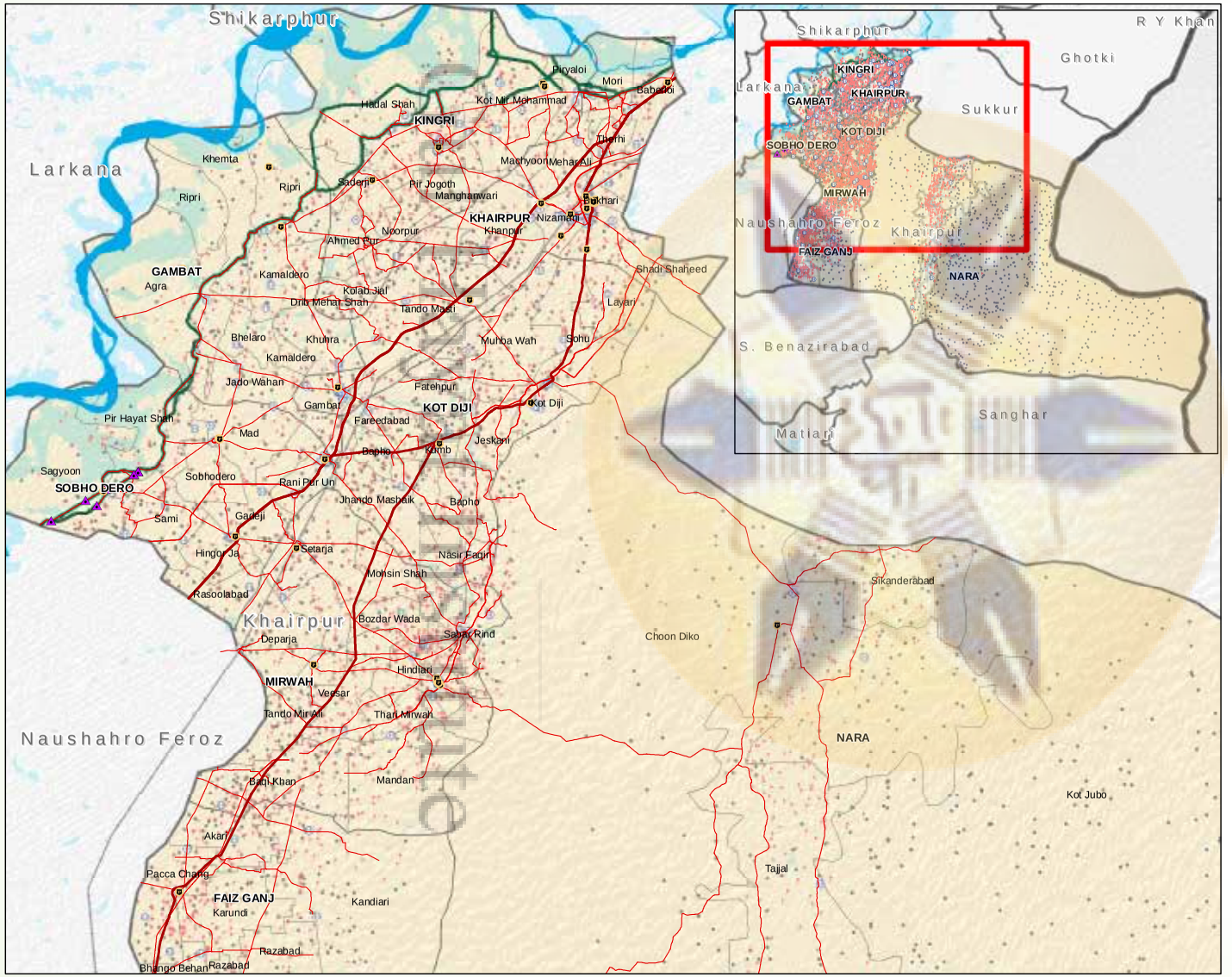

Legend

- Police Station
- Bund (Point)
- Highways
- Regional Roads
- Railwayline
- Bund (Line)
- HOSPITAL
- SCHOOL
- Settlements
- INDUS RIVER
- International boundary
- Province boundary
- District boundary
- Taluka boundary
- UC boundary
- Flood Extent 2013

iMMAP — Information Matters

Solutions in Time
ALHASAN SYSTEMS

Map Doc Name: iMMAP_PAK_Khairpur_Reference Map_v02_060214
Creation Date: June 02, 2014
Projection/Datum: WGS84
Web Resources: http://www.immap.org

0 5 10 20 KM

Map data source(s):
Population Census Organization : Admin boundaries
Alhasan Systems Private Limited : Admin boundaries, Roads, Hospitals, Schools, River, Police Stations, Railway Stations.
National Geospatial Agency: Settlements
Sindh Irrigation and Drainage Authority (SIDA): Canals, Bund(Point), Bund (Line)
MODIS: Maximum Flood Extent 2013

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Acronyms

ACO	Agriculture Census Organization
BHU	Basic Health Unit
CD/GD	Civil Dispensary/Government Dispensary
CFW	Cash For Work
DCR	District Census Report
DDRMP	District Disaster Risk Management Plan
ECP	Election Commission of Pakistan
FAO	Food and Agricultural Organization
GER	Gross Enrolment Rate
GOS	Government of Sindh
HH	Household
NADRA	National Database and Registration Authority
NDMA	National Disaster Management Authority
NDP	National Drainage Program
NER	Net Enrolment Rate
NFIs	Non-Food Items
NGO	Non-Governmental Organization
NHA	National Highway Authority
PBS	Pakistan Bureau of Statistics
PCO	Population Census Organization
PDMA	Provincial Disaster Management Authority
PLW	Pregnant and Lactating Women
PSLM	Pakistan Social and Living Standard Measurement Survey
RHC	Rural Health Centre
RSU	Reform Support Unit
SDPI	Sustainable Development Policy Institute
SMCs	School Member Committees
SUPARCO	Space and Upper Atmosphere Research Commission
TRF	Technical Resource Facility
UC	Union Council
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
WFP	World Food Program
WHO	World Health Organization

1 Background Information

1.1 Introduction

1.1.1 History

This district Khairpur was part of the region ruled by Kalhoro and Talpur dynasties. The Talpurs and Kahoros arrived in Sindh during the invasion of Nadir Shah. Both the dynasties are the decedents of Abbasids. After the decline of the Abbasids' caliphate, Kalhoros and Talpurs arrived in the subcontinent and settled in northern Sindh and Punjab.

The history of the state of Khairpur is tied up with the history of the Talpurs and their rule over Sindh. Mir Sohrab Khan Talpur established his control over Upper Sindh by 1783, established his capital at Burahan and renamed it Khairpur, in 1786. He extended his territories over a vast area, eventually helping his kinsmen from Hyderabad in expelling the Afghans from the province by 1823. As early as 1811, he divided his territories into three emirates, each ruled by one of his sons, with his eldest being the principal Amir. The princely state of Khairpur was recognized in 1832 by the British, who allowed it to retain its political existence after the British annexation of Sindh in 1843.

In 1947, when Pakistan gained independence, Khairpur was one of the princely states that opted to join Pakistan. In 1955, the Government of Pakistan announced the abolition of all the princely states and Khairpur was annexed into the then province of West Pakistan[1].

1.1.2 Geography

Khairpur district is located in north-eastern Sindh and is bounded on the north by Shikarpur and Sukkur, on the east by India, on the south by Sanghar and Shaheed Benzeerabad and on the west by Larkana and Noshero Feroz. The district lies from 68^0 10' to 70^0 10' east longitude and 26^0 9' to 27^0 42' north Latitude.

The climate of Khairpur is typically that of the upper Sindh region. There are two well defined seasons, hot and cold. The former begins at the end of March and extends till October. May, June and July are the hottest months. The mean maximum and minimum temperatures during this period are about 42^0C and 27^0C, respectively. December, January and February are the coldest months. The mean maximum and minimum temperatures during this period are about 25^0C and 7^0C, respectively. The estimated annual rainfall in the area is 5.47 inches (139 mm)[2].

[1] http://en.wikipedia.org/wiki/Khairpur_District
[2] Pakistan (Sindh): Preparation of the Khairpur Wastewater Management Planning Methodology, Strategic Plan & Priority Investment Program (2009), Asian Development Bank

1.1.3 Culture (Ethnicity, Religion and Politics)

Khairpur, the seat of civilization, culture, trade and commerce acquired political and economic importance because of its location on the map of Sindh. With approximately 75,000 acres of date palm orchards and more than 200 varieties, Khairpur is the backbone of date cultivation in Sindh[3].

Majority of the population i.e. 96.86% is Muslim, followed by Hindus being 2.93%. The common spoken language is Sindhi (95.15%). Other languages spoken in the district are Balochi 2.70%, Punjabi 1.16% and Urdu 1.7%. A small number of people speak Siraiki[4].

Under the rule of the Talpur Mirs, Khairpur was one of the richest states in all of Balochistan, the Punjab and Sindh. Faiz Mahal, situated in the centre of Khairpur city, remains a popular tourist site to date. But, since Partition, it has seen a reversal in its fortune. A large part of Khairpur is covered by wild forests and katcha areas. While the Mirs now have little say in the political affairs of the district, the Pirs in the district have gained political strength — Pir Pagaro, Pir of Ranipur, Pir of Gambat and many other small Pirs now rule this area.

Pakistan People Party Parliamentarians (PPPP) and Pakistan Muslim League Functional PML(F) are the major political parties of this region. Currently this district possesses three national and six provincial constituencies

The district has also produced two provincial chief ministers: Syed Ghous Ali Shah of the PML(N) and the current Chief Minister of Sindh, Syed Qaim Ali Shah of the PPP.

1.1.4 Administrative Division

District Khairpur consists of eight talukas spread over 6,800 villages. There are a total of 76 union councils, out of which 15 are urban and 61 are rural union councils[5]. There are a, total of 411 mouzas, out of which 365 are rural, 22 are urban, 4 are partly urban and 8 are forest mouzas.

Table 1.1.1: Administrative Division of District Khairpur

Khairpur	Knungo Circles/ Supervisory Tapas	Patwar Circles/ Tapas	Number of Mouzas					
			Total	Rural	Urban	Partly urban	Forest	Un-populated
Khairpur taluka	2	13	46	38	4	4	-	-
Gambat taluka	2	11	50	45	4	1	-	-
Kingri taluka	2	11	46	45	-	-	1	-
Sobodero taluka	2	12	44	37	7	-	-	-
Kot Digi taluka	3	14	53	45	5	3	-	-
Nara taluka	1	3	58	47	-	-	7	4
Thari Mirwah taluka	2	18	55	51	1	3	-	-
Faiz Gang taluka	2	17	59	57	1	1	-	-
TOTAL	16	99	411	365	22	12	8	4

[3] http://farmingpak.blogspot.com/2012/09/in-khairpur-tutorial-benefits-date.html
[4] http://www.khairpur.gos.pk/history.asp
[5] http://www.pwdsindh.gov.pk/districts/Khairpur.htm

Source: Mouza Statistics of Sindh 2008, Agriculture Census Organization

1.1.5 Road Network Infrastructure

District Khairpur, with an area of 15,910 square kilometers, has a population of 1,146,587. It is divided into eight taulkas: Khairpur, Gambat, Kingri, Sobodero, Kot Digi, Nara, Thari Mirwah and Gaiz Gang. It shares borders with districts of Larkana, Shaheed Banezirabad & Sukkur. National Highway (N-5) intersects the city of Khairpur with a total length of 60km in the district.

The existing road network in Khairpur district is fairly good. The district headquarter of Khairpur is connected with its taluka headquarters of Gambat, Kingri, Sobodero, Kot Digi, Nara, Thari Mirwah through metalled roads. Two provincial highways comprising a total length of 200 km are mentioned in official statistics of the government of Sindh[6].

1.1.6 Irrigation

District Khairpur has a well-established irrigation system, having Sukkur Barrage as the main source. The names of the main canals and branches are as follows; Khairpur East Canal, Khairpur Feeder West , Dadu Canal, Rice Canal, Eastern Nara Canal, Northwestern Canal, Nara Canal, Rohri Canal,Mir Wah , Palh Wah[7]. Agriculture, in Khairpur, mainly depends upon canal irrigation. However, other modes of land irrigation like river water and tube wells are also used. Below table shows the total irrigated area of district Khairpur by different modes of irrigation. Out of 377 rural mouzas, 355 (94%) are irrigated with the help of canals. Tubewell Irrigation is also common in 101 mouzas, which constitutes 27% of the total rural irrigated mouzas. Moreover, river irrigation is also used in 21% of the total mouzas.

Table 1.1.2: Mouzas Reporting Sources of Irrigation

ADMINISTRATIVE UNIT		RURAL POPULATED MOUZAS	NUMBERS OF MOUZAS REPORTING SOURCE OF IRRIGATION						
			CANAL	RIVER	TUBEWELL /WELL	RAVINE	SPRING/STREAM/KAREZ	ARID(BARANI)	FLOODING/TORRENT
Khairpur District	NUMBER	377	355	78	101	2	1	14	8
	PERCENT	100	94	21	27	1	-	4	2
Khairpur	NUMBER	42	41	5	3	-	-	-	-
	PERCENT	100	98	12	7	-	-	-	-
Gambat	NUMBER	46	44	10	39	1	-	3	6
	PERCENT	100	96	22	85	2	-	7	13
Kingri	NUMBER	45	42	8	28	-	-	-	2
	PERCENT	100	93	18	62	-	-	-	4
Sobodero	NUMBER	37	28	9	9	-	-	-	-
	PERCENT	100	76	24	24	-	-	-	-
Kot Digi	NUMBER	48	48	4	10	-	1	2	-
	PERCENT	100	100	8	21	-	2	4	-
Nara	NUMBER	47	42	-	-	-	-	4	-
	PERCENT	100	89	-	-	-	-	9	-
Thari Mirwah	NUMBER	54	53	-	8	-	-	1	-
	PERCENT	100	98	-	15	-	-	2	-

[6] http://www.sindh.gov.pk/
[7] http://travelingluck.com/Asia/Pakistan/Sindh/_1161964_Khairpur+Feeder+West.html

ADMINISTRATIVE UNIT		RURAL POPULATED MOUZAS	NUMBERS OF MOUZAS REPORTING SOURCE OF IRRIGATION						
			CANAL	RIVER	TUBEWELL /WELL	RAVINE	SPRING/STREAM/KAREZ	ARID(BARANI)	FLOODING/TORRENT
Faiz Gang	NUMBER	58	57	42	4	1	-	4	-
	PERCENT	100	98	72	7	2	-	7	-

Source: Mouza Statistics of Sindh 2008, Agriculture Census Organization

In the year 2008-09, 97% of the net sown area was irrigated through canals and tube wells and of this irrigated area 87% was irrigated through canals and in 2009-10 it reduced to 86%. The table below gives information regarding irrigation in the district.

Table 1.1.3: Irrigation by Type

	Area in Hectares	
Irrigation Type	**2008-09**	**2009-10**
Canal	186,049	171,814
Tube well	28,150	27,967
Total Irrigated Area	**214,199**	**199,781**
Un-Irrigated	6,120	8,602
Total Sown Area	**220,319**	**208,383**

Sindh Development Statistics 2011

It is evident from the above table that net sown area also decreased by 5% in the year 2009-10 from 2008-09. The following table provides details of canal withdrawals in million acre feet for Rabi and Kharif for the year 2008-09 and 2009-10.

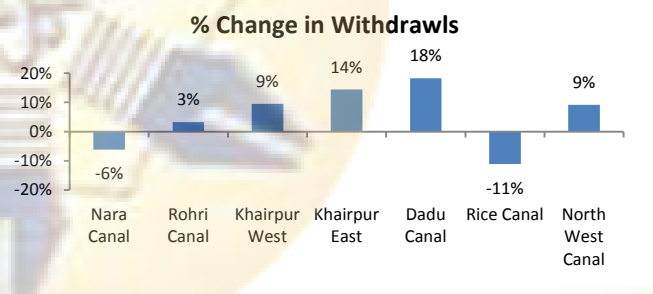

Table 1.1.4: Canal Withdrawls for Rabi and Kharif (Million Acre Feet)

	2008-09			2009-10		
Sukkur Berrage	**Kharif 2008**	**Rabi 2008-09**	**Total**	**Kharif 2009**	**Rabi 2009-10**	**Total**
Total	**16.1**	**7.2**	**23.3**	**16.3**	**7.1**	**23.3**
Nara Canal	5.3	2.9	8.2	5.109	2.585	7.694
Rohri Canal	4.2	2.3	6.5	4.301	2.412	6.713
Khairpur West	0.5	0.3	0.8	0.563	0.313	0.876
Khairpur East	0.7	0.4	1.1	0.855	0.404	1.259
Dadu Canal	0.9	0.5	1.4	1.024	0.632	1.656
Rice Canal	3.1	0.1	3.2	2.717	0.127	2.844
North West Canal	1.4	0.7	2.1	1.705	0.588	2.293

Sindh Development Statistics 2011

Khairpur - Irrigation System Map

June, 2014

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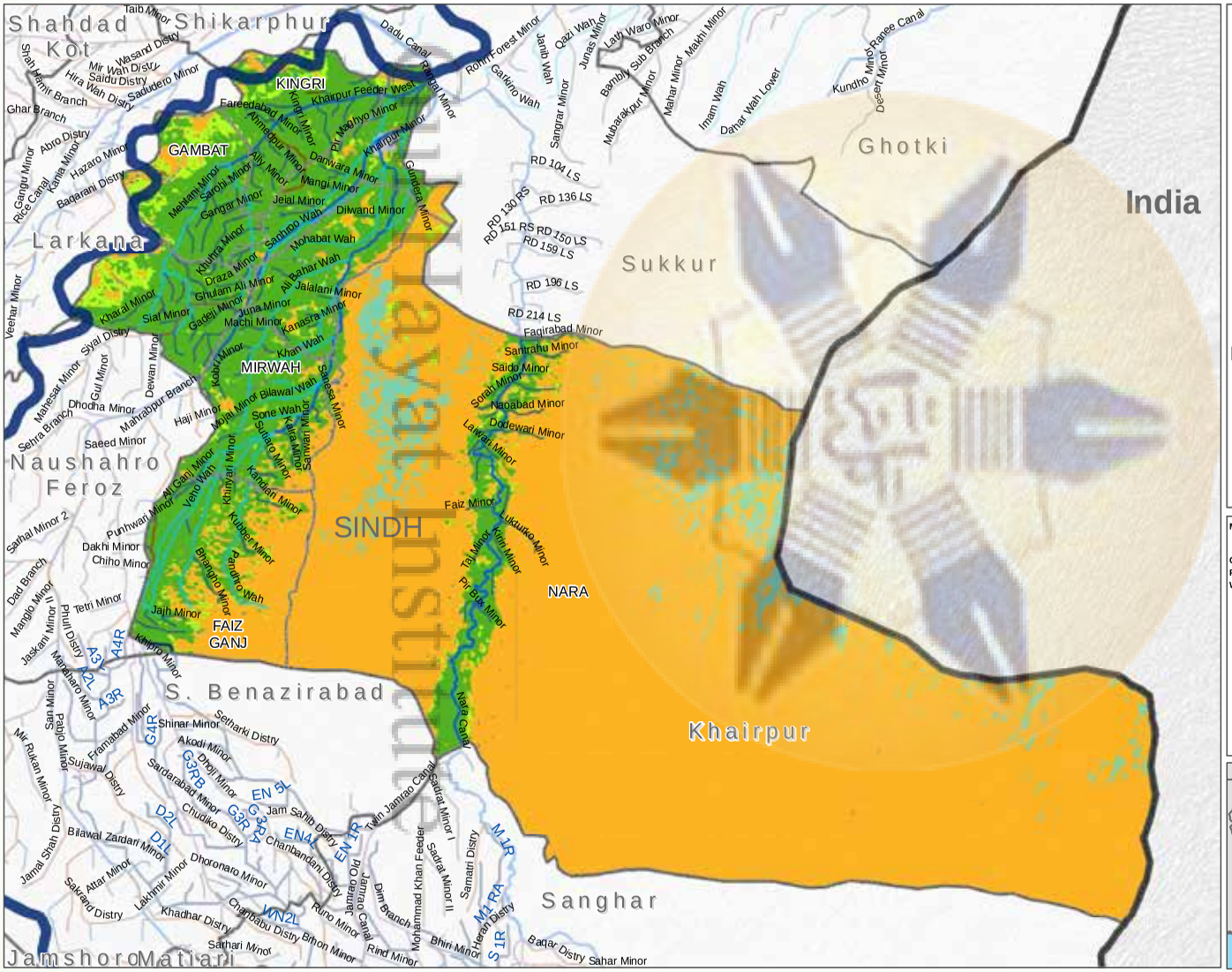

Legend

Irrigation System

- Branch
- Canal
- Distry
- Feeder
- Link
- Minor
- Wah
- LBOD Drainage Sysytem

Landcover

- Irrigated croplands
- Rainfed croplands
- Croplands/Vegetation
- Grassland/Forest-Shrubland
- Bare areas
- Artificial areas
- Water bodies
- International boundary
- Province boundary
- District boundary
- Taluka boundary

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Map Doc Name:
iMMAP_PAK_Khairpur Irrigation System Map_v02_060214

Creation Date: June 02, 2014
Projection/Datum: WGS84
Web Resources: http://www.immap.org

0 5 10 20 Kilometers

Map data source(s):
Alhassan Systems Private Limited : Admin boundaries
Sindh Irrigation and Drainage Authority(SIDA): Irrigation System data
Global Land Cover 2009: Land Cover

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1.1.7 Access to drinking Water

The 2012-13 PSLM reveals that only 10% of the households use tap water. Surprisingly the percentage of household using tap water in rural areas, increased from 9% in 2010-11 to 11% in 2012-13. Overall there is a decrease in percentage of household using tap water from 11% in 2010-11 to 11% in 2012-13. Over all in the district 73% households use hand pump.

Table 1.1.5: Water Delivery System in District Khairpur

	Tap Water	Hand Pump	Motor Pump	Dug Well	Others
District	10	73	15	0	2
Urban	9	53	38	0	0
Rural	11	80	6	0	2

Source: PSLM 2012-13

1.1.8 Solid Waste Management

Solid waste management services entail; street cleaning and collection of garbage from collection points throughout the city, using hand carts, tractors and loaders. While garbage is dumped on roadsides and open land within and outside the city limits.

Waste Water Services

According to the 'Sindh Urban Services Corporation limited'; Khairpur provides water, wastewater and solid waste management services to 5 Union Councils, while serving estimated population of 175,000[8].

Currently, there are 18 drainage disposal stations, and the TMA (Taluka Municipal Administration) have deputed 46 regular staff and 8 contract staff to provide wastewater services. Like other TMA'S of districts, Khirpur TMA's also has no proper waste water cleaning system in emergency situations. Moreover, Due to the lack of filters for the stoppage of waste water at the disposal stations, these sewers (waste materials in water) often block these waste water filters[9].

Solid Waste Management Current Scenario

229 regular and 134 contract staff has been deputed for provision of SWM activities. This staff provides regular services of street cleaning and collection of garbage from collection points using hand carts, tractors and loaders.

The TMA (Taluka Municipal Administration) have cited a number of problems, including the lack of infrastructure and equipment to meet the demands of expanding population, poor and deteriorating asset condition and the lack of sufficient, qualified staff. North Sindh Urban Services Corporation (NSUSC)have inherited these problems and need to move quickly to show improved services, especially those that have an immediate/visible impact, such as street cleaning/garbage removal in public areas.

[8] North Sindh Urban Services Corporation Limited

[9] Ibid

Chairman Sindh Board of Investment Muhammad Zubair Motiwala said that Khairpur Special Economic Zone's Captive Power Plant would be the first ever waste-to-energy power plant in the region.

Table 1.1.6: Quantity of Waste Collected per Unit and Day

Target	**According to service and performance level plan 70% should be achieved by end of 2011 and 85% by end of 2012 within every NSUSC unit. In the long term the value of this KPI (Key Performance Indicator) should be close to 100%;**
Description	This performance indicator is used to compare the waste amounts collected from different NSUSC units. Based on this indicator planning of the transportation volumes and quantities can be achieved. This indicator is useful for the calculation of some other performance indicators.

PE (Population Equivalent) - 2010	Volume/day [m³/day] 2010	Volume/day [m³/day] 2011	Volume/day [m³/day] 2012	Volume/day [m³/day] 2013	Collection efficiency [%] 2010	Collection efficiency [%] 2011	Collection efficiency [%] 2012	Collection efficiency [%] 2013
264,000	35,213	36,554	40,190	42,142	12%	21.9%	90%	71%

Source: Technical Assistance on Improving Efficiency And Accountability of North Sindh Urban Services Corporation Limited- KEY PERFORMANCE INDICATOR ASSESSMENT – SWM (004) February 2013 (Asian Development Bank)

Khairpur achieved the service level of >70% as planned for the end of 2012 (equal to beginning of 2013). Due to increased rate of PE (Population equivalent) as well as waste generation per year and the same level on available volume is the theoretical collection rate by the beginning of 2013 at 61% and below service level indicator.

Table 1.1.7: Number of Collection Points Served per Day

Target	**Total number of existing collection points (transfer stations).**
Description	The long term goal of the utility will be to serve all collection points in each day

Collection points			
2010	**2011**	**2012**	**2013**
48	56	108	108

Source: Technical Assistance on Improving Efficiency And Accountability of North Sindh Urban Services Corporation Limited- KEY PERFORMANCE INDICATOR ASSESSMENT – SWM (004) February 2013 (Asian Development Bank)

PE (Population equivalent), Vol(Volume occupied by solid waste in the confined area), Cap (Capita)

Table 1.1.8: Number of Customer Complaints

Months	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total	Result/1000 PE
	99	56	57	26	44	39	33	48	59	461	1,652

Source: Technical Assistance on Improving Efficiency And Accountability of North Sindh Urban Services Corporation Limited- KEY PERFORMANCE INDICATOR ASSESSMENT – SWM (004) February 2013 (Asian Development Bank)

The above table indicates the period January 2012 until September 2012. Data from previous periods are not available and can therefore not be taken into consideration.

Table 1.1.9: Average Cost per Collected Waste Ton

R & M (Vehicle)	Equipment Rental	Labor	Fuel Expenses	Consumable/ Store	Civil Work (SWM)	Employees Incentives	Uniform Allowance	R & M (SWM)	Total in USD:	Collection in Mg	Expense per year in USD/Mg
569	8.041	522.129	82.166	994	469	4.396	9.826	3.348	631.939	48,874	12.93

Source: Technical Assistance on Improving Efficiency And Accountability of North Sindh Urban Services Corporation Limited- KEY PERFORMANCE INDICATOR ASSESSMENT – SWM (004) February 2013 (Asian Development Bank)

Sindh-Khairpur Surface/ Drinking Water Availability Map

Date (June 2014)

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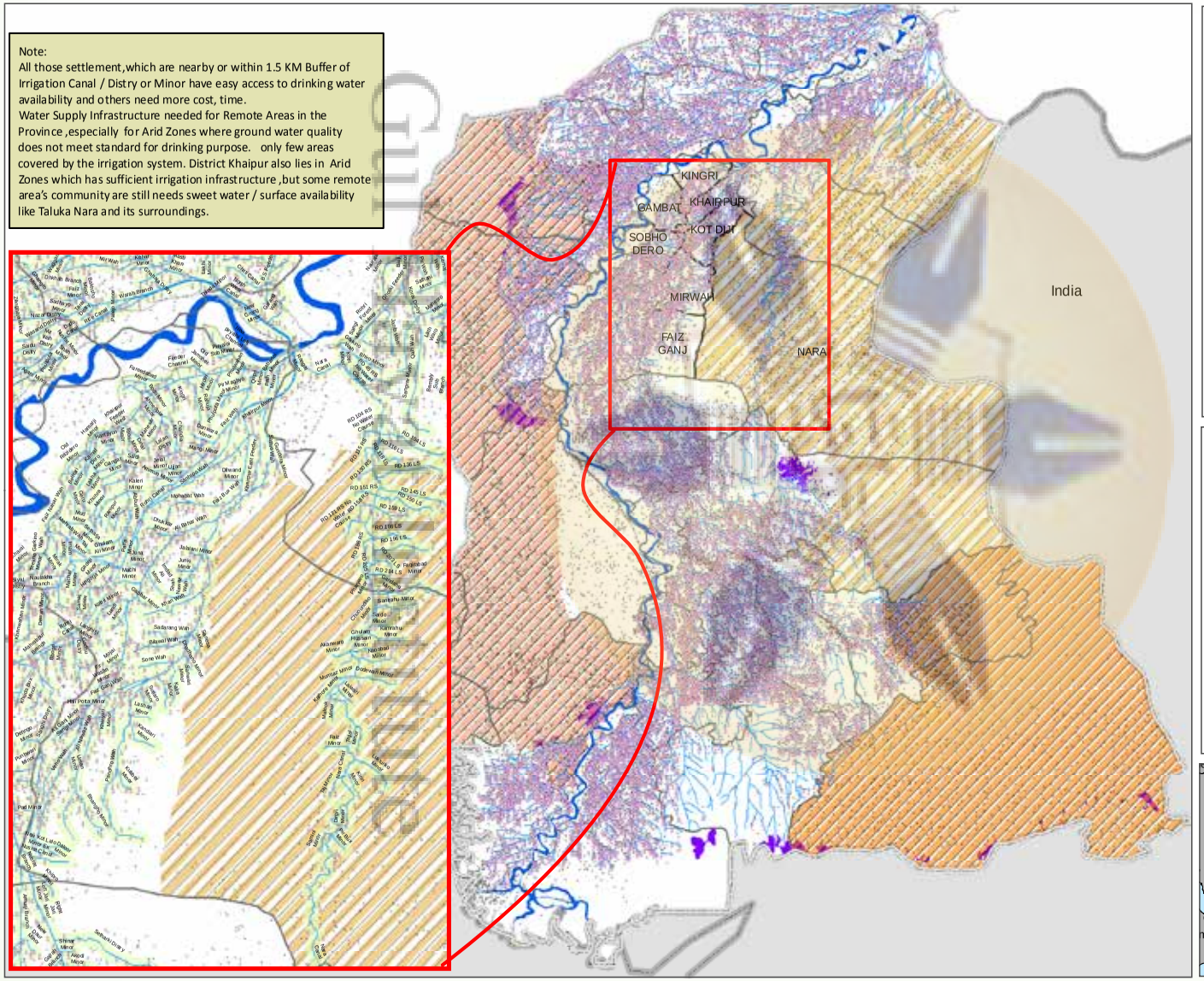
Note:
All those settlement,which are nearby or within 1.5 KM Buffer of Irrigation Canal / Distry or Minor have easy access to drinking water availability and others need more cost, time.
Water Supply Infrastructure needed for Remote Areas in the Province ,especially for Arid Zones where ground water quality does not meet standard for drinking purpose. only few areas covered by the irrigation system. District Khaipur also lies in Arid Zones which has sufficient irrigation infrastructure ,but some remote area's community are still needs sweet water / surface availability like Taluka Nara and its surroundings.



Legend

- Settlements
- Settlements near to Drinking Water Facility
- River Bund
- Streams / Catchment Area
- Buffer 1.5 KM
- River Indus
- Nara Zone
- Khohistan Zone
- Thar Zone
- Wetlands
- Tehsil Boundary
- District Boundary
- Provincial_Sindh
- International Boundary

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Map Doc Name:
IMMAP_Pakistan_Khairpur_Drinking Water Availability Map_A4L_140605
Creation Date: 05 06 14
Projection/Datum: WGS 1984
Web Resources: http://www.immap.org

0 45 90 Kilometers

Map data source(s):
Alhasan Pvt Limted (Boundaries), National Geo-Spatial Agency,ASSESSMENT REPORT ON DROUGHT IN ARID ZONES OF SINDH(Thardeep), NASA, SIDA (Sindh Irrigation and Drainge Authority).

Disclaimers:
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1.2 Demography

1.2.1 Population Characteristics

In Pakistan, male population is more than the female population and is among those four countries where life expectancy for female, at birth, is less than that of males[10]. Sex ratio in Khairpur is 110 male per 100 females, which is more than the ratio at the National level that is 106[11]. Though there could be other possible reasons for such a difference in male to female ratio, one probable reason of this ratio could be underreporting of females during national surveys. Besides, a very high maternal mortality rate[12] and poor health care at the district and provincial level[13] are likely to be instrumental for this difference. District Khairpur is rural by its characteristics like majority of the other districts in Sindh. 76 percent of the population resides in rural area as compared to the 24 percent that resides in the urban areas.

Table 1.2.1: Estimated Population of District for 2013

AGE GROUP (IN YEARS)	TOTAL			RURAL			URBAN		
	BOTH SEXES	MALE	FEMALE	BOTH SEXES	MALE	FEMALE	BOTH SEXES	MALE	FEMALE
ALL AGES	2,320,634	1,216,067	1,104,567	1,772,632	929,792	842,840	548,002	286,275	261,727
00 -- 04	399,482	201,804	197,679	312,474	157,727	154,747	87,009	44,077	42,932
05 -- 09	399,703	213,974	185,729	309,995	166,488	143,507	89,708	47,486	42,222
10 -- 14	279,731	157,314	122,417	211,120	120,043	91,077	68,611	37,271	31,341
15 -- 19	244,312	125,856	118,456	183,262	94,517	88,745	61,050	31,339	29,711
20 -- 24	204,213	99,587	104,626	155,218	75,270	79,947	48,995	24,317	24,679
25 -- 29	173,284	89,452	83,832	131,570	67,813	63,757	41,714	21,639	20,075
30 -- 34	134,612	72,667	61,945	101,140	54,478	46,662	33,471	18,189	15,282
35 -- 39	99,119	53,662	45,457	73,654	39,677	33,977	25,465	13,985	11,480
40 -- 44	93,884	45,856	48,028	70,577	34,280	36,297	23,307	11,576	11,731
45 -- 49	77,686	40,189	37,497	58,156	29,995	28,161	19,530	10,194	9,336
50 -- 54	66,853	35,664	31,189	51,036	27,223	23,813	15,817	8,440	7,376
55 -- 59	41,112	22,486	18,626	30,912	16,718	14,193	10,200	5,768	4,432
60 -- 64	42,428	22,968	19,460	33,143	18,114	15,029	9,285	4,854	4,431
65 -- 69	21,070	11,290	9,780	16,136	8,686	7,450	4,934	2,603	2,330
70 -- 74	21,161	11,438	9,723	16,962	9,302	7,660	4,200	2,137	2,063
75 & ABOVE	21,984	11,860	10,124	17,278	9,459	7,819	4,706	2,401	2,305

Source: Estimated using Table 4 for Rural Sindh census 1998

[10] A profil for District Badin, 2009. South-Asia Partnership Pakistan

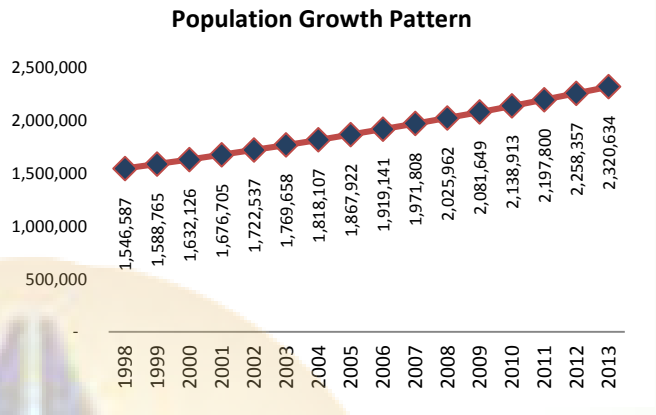
[11] Labour Force Survey 2010-11: *Pakistan Bureau of Statistics*

[12] 0.5 for Sindh, Pakistan Demographic and Health Survey, 2006-07: National Institute of Population Studies, Pakistan. pp. 179

[13] Mean distance from hospital/dispensary is 12 km for Sindh: Pakistan Mouza Statistics, Table 15

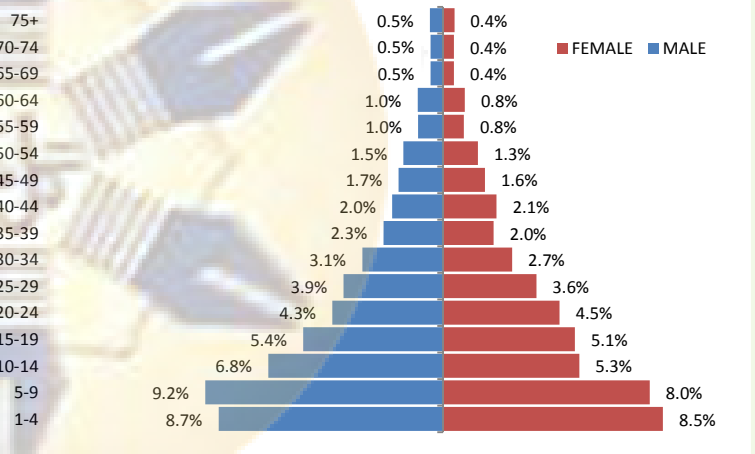
1.2.2 Population Growth Pattern

Total population of the district, in 1998, was 1,546,587. Population of District Khairpur has an estimated growth rate of 2.71% per annum, which means that population will double itself in 25.8 years[14] from 1998. 46.49 percent of the population is below 15 years of age and 2.77 percent is 65 years or above. The estimated population for 2013 is 2,320,634, showing a 42% increase in 15 years from 1998.



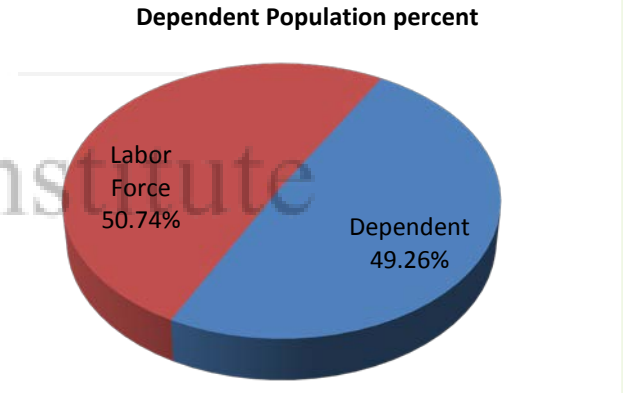
1.2.3 Population Distribution by Age and Gender

Out of the total population, 52 percent are males and 48 percent are females. Largest cohort of population is 5-9 years, which decreases with 5 years interval. Total population in this cohort is 399,703. Except age groups 15-19 and 40-44, in all the rest of the age groups, male population out numbers female population



1.2.4 Dependent Population

The economically dependent population is considered to be the population that is less than 15 years and more than 65 years of age. In addition to them, widowed, and/or divorced women are also considered dependent population. Dependent population in the case of Khairpur District is 49.26 percent of the total population and the working population is 51.93 percent, which shows that dependency ratio[15] in the district is 93 percent.



[14] Rule of 70 http://controlgrowth.org/double.htm
[15] Dependency Ratio= (Population < 15 Years + Population > 65 Years)/ Population 15-65 Years

Table 1.2.2: Population Details by Taluka

Taluka	*Population*	*Male*	*Female*	*Pop Density*	*Sex Ratio*	Average HH Size	*Estimated HHs*
FAIZ GANJ TALUKA	200,002	104,530	95,472	211	109	5.9	33,899
GAMBAT TALUKA	247,636	129,690	117,946	425	110	6.3	39,307
KHAIRPUR TALUKA	447,102	234,494	212,609	764	110	6.3	70,969
KINGRI TALUKA	302,851	157,152	145,699	570	108	5.8	52,216
KOT DIJI TALUKA	359,850	189,328	170,522	692	111	5.7	63,132
MIRWAH TALUKA	335,127	176,159	158,967	531	111	5.9	56,801
NARA TALUKA	168,800	90,107	78,693	15	115	5.4	31,259
SOBHO DERO TALUKA	259,266	135,084	124,182	514	109	6.8	38,127
Total	***2,320,634***	***1,216,545***	***1,104,090***	***146***	***110***	**6.1**	**385,710**

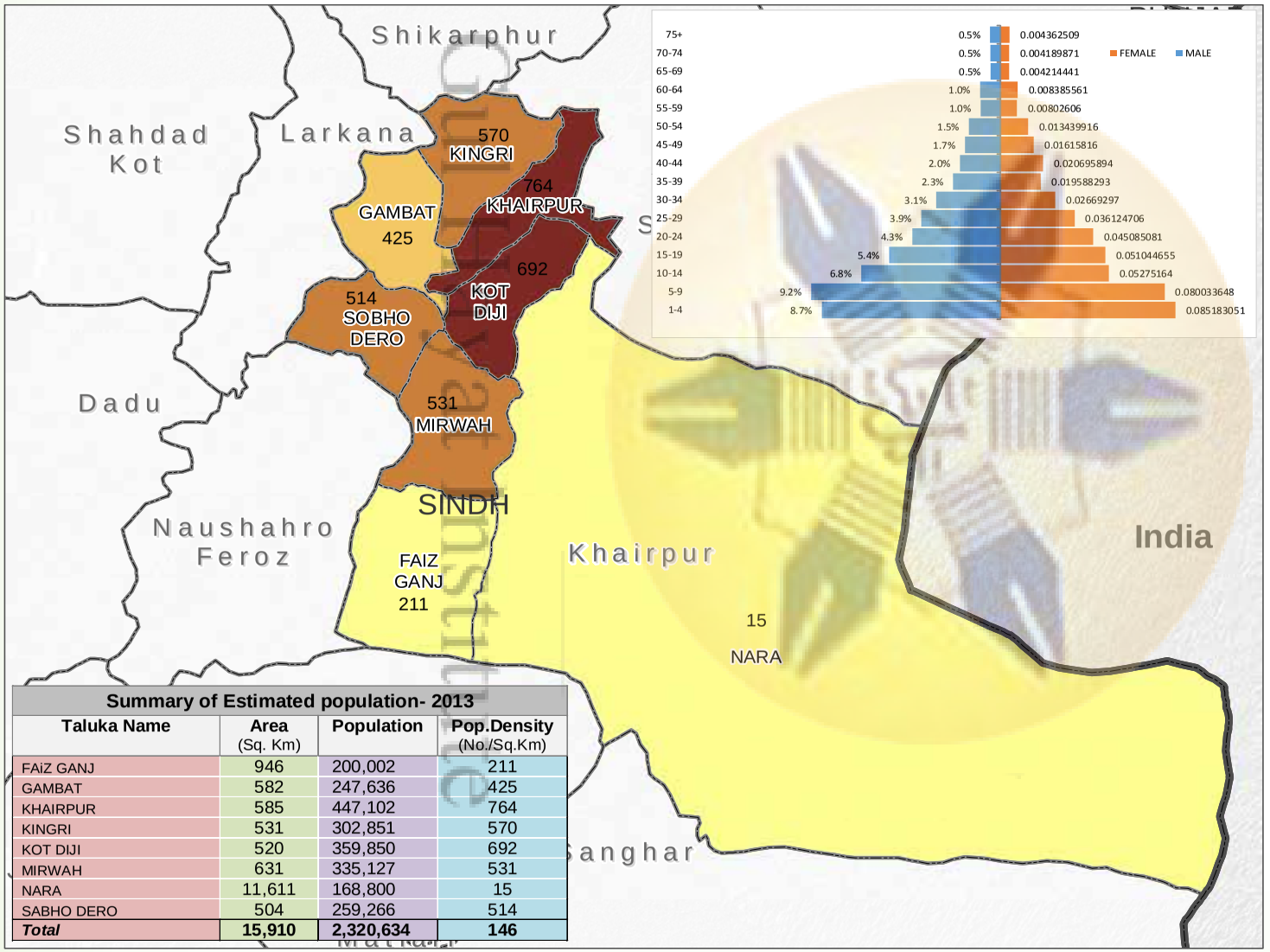
Source: Estimated Using Table 4 District Census Report Census 1998

Table 1.2.3: Estimated Population for 2013 by UCs

	SR	UC	Population		SR	UC	Population		SR	UC	Population
Khairpur	1	Luqman	31,165	Kot Diji	3	Deh Soho	31,731	Sobhodero	11	Mehar Visar	27,573
	2	Bhurgri	24,689		4	Mohbat Wah	33,709			**Total**	**335,127**
	3	ShahLatif	42,600		5	Fateh Pur	29,047		1	Ranipur	27,820
	4	Jillani	34,758		6	Jiskani	25,935		2	Sobho Dero	27,084
	5	Bukhari	30,912		7	Kumb	32,022		3	Hingorja	27,786
	6	Nizamani	28,757		8	Fakir Abad	29,943		4	Pir Hayat Shah	28,381
	7	Therhi	29,574		9	Jhando Mash	35,150		5	Rasool Abad	24,590
	8	Babarloi	37,438		10	Naseer Fakir	38,867		6	Gadeji	31,354
	9	Mori	30,992		11	Bapho	32,488		7	Sami	31,274
	10	Mehar Ali	37,598			**Total**	**359,850**		8	Madd	29,467
	11	T.Masti	24,020	Faiz Ganj	1	Pacca Chang	32,411		9	Sagyoon	31,511
	12	Khanpur	31,286		2	Karoundi	27,985			**Total**	**259,266**
	13	Wada Machi	28,435		3	Kandari	30,336	Nara	1	Choundiko	57,803
	14	Shahdi Shaheed	34,877		4	Raza Abad	27,593		2	Sikandarabad	26,897
		Total	**447,102**		5	Kot Lalo	28,218		3	Tajjal	42,951
Kingri	1	Pir Jo Goth	34,248		6	Akri	30,747		4	Khanwari	26,573
	2	Mangan Wari	30,480		7	Bhango Behan	22,711		5	Kot Jubo	14,577
	3	Noor Pur	29,837			**Total**	**200,002**			**Total**	**168,800**
	4	Ahmedpur	33,535	Thairi Mirwah	1	T. Mir Wah	27,048	Gambat	1	Gambat 2	25,909
	5	S. Ji Bhatyoon	21,642		2	Bozdar Wada	23,335		2	Gambat 1	27,973
	6	Hadal Shah	35,796		3	Sabar Rind	31,734		3	Khuhra	28,235
	7	Kot Mir Mohd	31,207		4	Setharja	32,782		4	Khamtia	29,342
	8	Kolab Jial	22,022		5	Deparja	27,235		5	Kamal Dero	28,183
	11	Piryaloi	36,735		6	Baki Khan	35,294		6	Ripir	21,917
	10	Drib Mehar	27,349		7	Mohsan Shah	32,187		7	Bellaharo	27,303
		Total	**302,851**		8	Handyari	37,714		8	Jado Wahan	27,596
Kot Diji	1	Kotdeji	37,834		9	Mandan	32,037		9	Agra	31,179
	2	Layari	33,124		10	Tando Mir Ali	28,187			**Total**	**247,636**
										Grand Total	**2,320,634**

Khairpur- Population Density Map

June, 2014



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Legend

- International boundary
- Province boundary
- District boundary
- Taluka boundary

No. of Person /Sq Km

- 1 - 211
- 212 - 425
- 426 - 570
- 571 - 764

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Map Doc Name: iMMAP_PAK_Umerkot Population Density Map_v02_052814

Creation Date: May 28, 2014
Projection/Datum: WGS84
Web Resources: http://www.immap.org

0 5 10 20 Kilometers

Map data source(s):
Alhassan Systems Private Limited: Admin boundaries
Population: Derived from table 1, district census report

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Summary of Estimated population- 2013

Taluka Name	Area (Sq. Km)	Population	Pop.Density (No./Sq.Km)
FAiZ GANJ	946	200,002	211
GAMBAT	582	247,636	425
KHAIRPUR	585	447,102	764
KINGRI	531	302,851	570
KOT DIJI	520	359,850	692
MIRWAH	631	335,127	531
NARA	11,611	168,800	15
SABHO DERO	504	259,266	514
Total	**15,910**	**2,320,634**	**146**

1.3 Livelihood

1.3.1 Main Sources of Livelihood/Income

Like most other districts of Pakistan, Khairpur is also an agro-based district where 42% of the mouzas have reported agriculture sector as the major source of employment. The following table reveals the sources of employment for the people of district khairpur. Out of the 377 rural mouzas, 160 (42%) reported agriculture as the source of employment. The table also reveals that casual labor is frequent in this district and is a source of employment for 25% of the mouza population. Services and personal business are also major sources of employment for some of the population. The below graph show this trends in percentages. It can be ascertained that, in the category of mostly and some, for both male and female population; agriculture, labor, services and personal business are the major sources of employment for the people of this district

Table 1.3.1: Number of Mouzas Reporting Sources of Employment

GENDER	QUANTIFICATION	SERVICE	AGRICULTURE	TRADE	INDUSTRY	PERSONAL BUSINESS	OVERSEAS EMPLOYEMENT	LABOUR
MALE	MOSTLY	9	160	1	-	40	3	94
	SOME	315	193	118	60	217	44	247
	NONE	53	24	258	317	120	330	36
FEMALE	MOSTLY	9	67	-	1	37	5	103
	SOME	176	159	13	13	73	14	209
	NONE	192	151	364	363	267	358	65

Source: Mouza Statistics of Sindh: 2008, *Agriculture Census Organization*

The categories under which these mouzas have reported against different livelihood sources are:

- Mostly: population of 50 percent and above
- Some: population between 1 percent and 50 percent
- None: less than or equal to 1 percent

1.3.2 Agriculture

Khairpur has fertile lands and are enriched in agriculture productivity. The soil is suitable for many cash crops including cotton, dates and sugarcane. The dry hot climate, ideal for the fruits grown here, makes the fruit very sweet, supple and juicy. It is very hot and sunny during the summers and reasonably cold in winters. Humidity is low. The main crops of *Rabi* season are wheat and gram, and during *Kharif season,* cotton, oil seeds and sugarcane are cultivated. The main fruits produced are dates, banana, mangoes, guavas, orange, and lemon. The orchards are mainly located in Khairpur, Garmbat and Kotdiji talukas.

The district is famous for the date palms. A research institute has been established, in Shah Abdul Latif University Khairpur, to conduct research on different aspects of date palms. The

district also contributes highly in exports of both Fresh & Dry Dates to countries like USA, UK, India, Canada and Germany etc[16].

Other than dates, wheat and cotton are major crops of the district. The annual production of wheat and cotton, over the period 2008-09, was 376,000 Tonnes and 348,000 Bales respectively. Other crops like rice and sugarcane are also cultivated in the district but at a minimal level.

Total reported area of the district is 1,574,000 hectares for 2004-05. During the same year, 256,000 hectares (16%) were cultivated. Within the cultivated area, 218,000 hectares were net sown[17], whereas 38,000 hectares were fallow lands[18]. The remaining 84% of the total reported area was un-cultivated; out of which 1,232,000 hectares were not available for cultivation, 51,000 hectares were forests and 51,000 hectares are culturable waste[19]. From 2008 to 2010, the total cultivated area was 259,000 hectares and within this cultivated area, 208,000 hectares were net sown and 51,000 hectares were fallow lands[20].

These figures reveal that there is a drastic change in the net sown area. From the previous reporting period to the next one, there is a 32% decrease in the net sown area. From 2004-05 to 2009-10 there is 1 percent increase in the total cultivated area but 5 percent decrease in net sown area.

Area sown and production of food and cash crops in 2008-09 are reported in the Table 1.3.2.

Table 1.3.2: Food and Cash Crops Cultivated in District

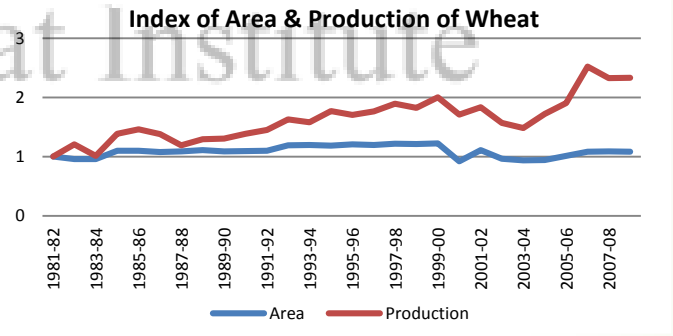
Type	Crop	Area Sown in 2008-09 (000 Hectares)	Production in 2008-09 (000 Tonnes)	Area Sown in 2010-11 (Acres) FAO
Food	Wheat	102	376	-
	Rice	8.8	27.7	22,659
	Jowar	8.6	7.2	-
Cash	Sugarcane	21.7	1,164.1	46,534
	Cotton	78.9	377.7	193,259

Source: Crop Area and Production by Districts for 28 Years; 2008-09 *Pakistan Bureau of Statistics (PBS)*

The trends, area and productions, for major crops are given as under

- **Wheat**

The available data on area and production shows that, over the last 28 years, there has been a consistency in the area and production. However, production has shown upsurge as compared to the area.



[16] http://www.khairpur.gos.pk/history.asp

[17] **Net Area Sown** means the area which has been sown at least once in a year. It will include areas under crops, fruits, vegetables etc.

[18] **Current Fallow** means the part of the cultivated area which has not been used for cropping during the yearunder reference but for which the total vacant period does not exceed three crop seasons.

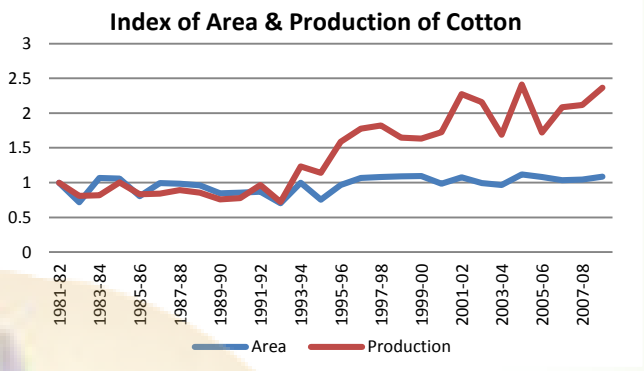
[19] Sindh Development Statistics 2008

[20] Sindh Development Statistics 2011

This shows an increase in productivity of wheat over the time in this district.

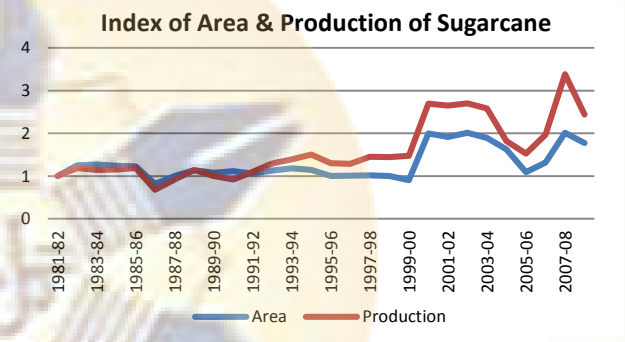
- **Cotton**

The cotton crop has also shown increased productivity over time since the area cultivated remained the same. Both the area and production were showing same trends up till 1994-95. But afterwards, production has increased more rapidly as compared to the area.



- **Sugarcane**

Sugarcane is also a major cash crop of this district. This crop has shown similar trends for area and production over time. Both the area and production has increased over time for this crop with a slight higher increase in the production.



1.3.3 Industry

Khairpur trades in wheat, cotton, and dates and is linked by road and rail to Karachi. Date is the main source of khairpur's revenue, but due to lack of industrial zone, its market price is very low and the producer does not cover his production cost[21]. No major industry has been reported in this district. However, small scale and cottage industry are there in the district.

The government of Sindh has announced the project of establishment of Khairpur Special Economic Zone (KSEZ), which will be provided with all the required amenities. This special zone is being developed as a future hub for agro-processing and related industries on a location strategically positioned for proximity to date growing areas, transportation links, and access to labour[22].

1.3.4 Livestock

Livestock is one of the major sub-sector of agriculture and backbone of Pakistan's economy. It not only provides rich food such as meat, milk, eggs, poultry meat, but also produces essential raw material such as manure, offal, trotters, hides and skins, wool and blood for various kinds of industries. Livestock has been a major source of income for the people of Khairpur.

This district has vast potential for establishing livestock farming in the district.

[21] http://dawn.com/2012/07/08/date-industry-in-khairpur-mirs/
[22] http://tribune.com.pk/story/416139/economic-zone-khairpur-project-to-be-future-hub-for-agro-industries

1.4 Food Security

Food security can be broadly divided into four components:

- ***Availability*** of food in terms of sufficient quantity available through domestic production or imports
- ***Access*** to adequate resources given the socio-political and economic arrangements of the community
- ***Utilization*** Refers to the body's ability to make use of the nutrients provided. This requires clean water sanitation and health care
- ***Stability*** includes an all-time access and utilization of food without any fear of losing it due to any shock (natural calamity, economic shock). This component points out to sustainability of food in an area.

1.4.1 Availability

In this district, wheat and rice are produced as major crops, meeting food requirement along with cash crops of cotton, sugarcane and orchards. Maize, pulses and vegetables are produced in relatively lesser quantities in the district As the below table shows, wheat and rice are cropped in 97% and 37% of the mouzas respectively, whereas cotton, sugarcane and orchards are cropped in 90%, 54% and 42% of the mouzas respectively. The overall crop based food availability is sufficient in Khairpur district[23].

Table 1.4.1: Number of Mouza Reporting Major Crops

ADMINISTRATIVE UNIT	NUMBERS OF MOUZAS REPORTING MAJOR CROPS							
	WHEAT	RICE	COTTON	SUGARCANE	MAIZE	PULSES	ORCHARDS	VEGETABLES
Khairpur District	366	143	343	206	29	16	161	70
Khairpur Taluka	37	10	31	2	-	-	30	2
Gambat Taluka	46	30	38	35	-	-	5	2
Kingri Taluka	44	39	41	36	3	3	40	18
Sobodero Taluka	37	5	37	14	-	3	21	6
Kot Digi Taluka	48	40	48	33	5	1	30	15
Nara Taluka	43		41	2	-	1	-	-
Thari Mirwah Taluka	54	13	54	37	13	5	24	-
Faiz Gang Taluka	57	6	54	47	8	3	11	7

Source: Mouza Statistics of Sindh: 2008, *Agriculture Census Organization*

Food availability not only depends on the obtainability of wheat but also rests on availability of other cereals like rice, maize etc. As far as cereal food is concerned, this district is producing surplus food for the consumption of its residents. Besides cereals, animal based food availability (meat, milk, milk products) is also important for total food availability. As for as animal based food self-sufficiency is concerned, this district is producing surplus of animal-

[23] Food Insecurity in Pakistan (2009), Sustainable Development Policy Institute (SDPI), Islamabad

based food against its requirements. Combining both, crop based and animal based food self-sufficiency, Shikarpur is self-sufficient in food availability[24].

1.4.2 Access

Per capita availability of food items alone is not a reliable indicator of food security. If the available food is socio-economically not accessible to the masses, the community is food insecure. Certain other indicators like household income, inflation, child dependency and monthly food expenditures depict the access of food. The per capita income in Shikarpur is between Rs. 11,000/-month and Rs. 15,000/- which is considered very low according to the food security perspective[25]. Child dependency (ratio between children and household members in economically active age group) is one of the limiting factors in meeting the daily food needs of households and is an important indicator to measure access to food. The increased dependency ratio increases spending of the household on child care and food, which results in a per capita reduction of socio-economic access to food. Child dependency ratio is very high in this district. The share of household expenditures on food is 61.8% of the total income in Sindh[26]. So the low level of income, high food expenditures, high child dependency and high inflation (particularly food inflation) hinders access to food.

The table below shows physical access to food in the district Khairpur by giving the distance of mouzas from the wholesale markets. Average distance from the fruit and vegetable market of a Mouza is 13 and 12 kilometres respectively, whereas the distance from the grain market is 14 kilometres. Such long distances impede access to food.

Table 1.4.2: Distance of Mouzas from Wholesale Markets

Type of facility		Rural Populated Mouzas	Overall Mean Distance (KM)	Mouzas by Distance (in Kilometres) by Facility				
				Less Than 1	1 - 10	11 – 25	26 – 50	51 & Above
Livestock Market	Number	273	15	11	119	110	33	-
	Percent	100		4	44	40	12	-
Grains Market	Number	273	17	9	106	109	45	4
	Percent	100		3	39	40	16	1
Fruit Market	Number	273	17	7	100	113	46	7
	Percent	100		3	37	41	17	3
Vegetable Market	Number	273	17	9	100	112	46	6
	Percent	100		3	37	41	17	2
Govt. Procurement Centre	Number	273	17	12	105	110	41	5
	Percent	100		4	38	40	15	2

Source: Mouza Statistics of Sindh: 2008, *Agriculture Census Organization*

[24] *ibid*
[25] Food Insecurity in Pakistan (2009), Sustainable Development Policy Institute (SDPI), Islamabad
[26] *ibid*

1.4.3 Utilization

In addition to food availability and access, proper assimilation of food in the body is essential. Food utilization and stability depicts this absorption of food and its sustainability. Improved sanitation facilities, clean drinking water, health infrastructure and individual health status along with female literacy plays vital role in food absorption.

According to Food Security Analysis (FSA) 2009, access to improved drinking water is reasonable in this district. 73% of the HH use hand pumps and 15% use motor pumps as source of drinking water. Female literacy rate is 33% in this district, which is considered as low.

Table 1.4.3: Percentage Distribution of HH by Source of Drinking Water

	Tap Water	Hand Pump	Motor Pump	Dug Well	Others
District	**10**	**73**	**15**	**0**	**2**
Urban	9	53	38	0	0
Rural	11	80	6	0	2

Source: PSLM 2012-13

Also, the sanitation conditions are relatively poor in the district Khairpur where 39% of the households use flush toilets and 52% use the non-flush toilets. 9% of the households have no toilet facility. It is worthy to mention that households with no toilet have been increased between two reporting periods of 2010-11 and 2012-13.

Flush			Non-Flush			No Toilet		
Urban	Rural	**Total**	Urban	Rural	**Total**	Urban	Rural	**Total**
80	23	**39**	20	64	**52**	0	13	**9**

Source: PSLM 2010-11

In a nutshell, this district has sufficient availability of food, a relatively poor socio-economic access, and low level of food utilization environment. Combining all the indicators of food security i.e. availability, access, utilization and stability; it can be ascertained that district Khairpur lies on the borderline of food insecurity.

1.5 Health and Immunization

1.5.1 Health Facilities

The present infrastructure of healthcare in the district is not sufficient for the entire district. The total number of health facilities in district Khairpu is 151. There is one hospitals and one teaching hospital. These public health facilities can cater the need of only 33% of the estimated population-2013[27]. Total health workforce for 2009 is 1,799[28].The following table 1.5.1 shows the details of these health facilities.

Table 1.5.1: Number of Health Facilities by Type

Type	Number	Beds
Teaching Hospital	1	300
District headquarter Hospital	0	0
THQ Hospital	1	44
Rural Health centers (RHC)	11	164
Basic Health units (BHU)	82	
Govt. Dispensaries	45	
Mother and Child Health center	11	
Sub Health Centers	0	
Grand Total	**151**	**508**

Technical Resource Facility Pakistan

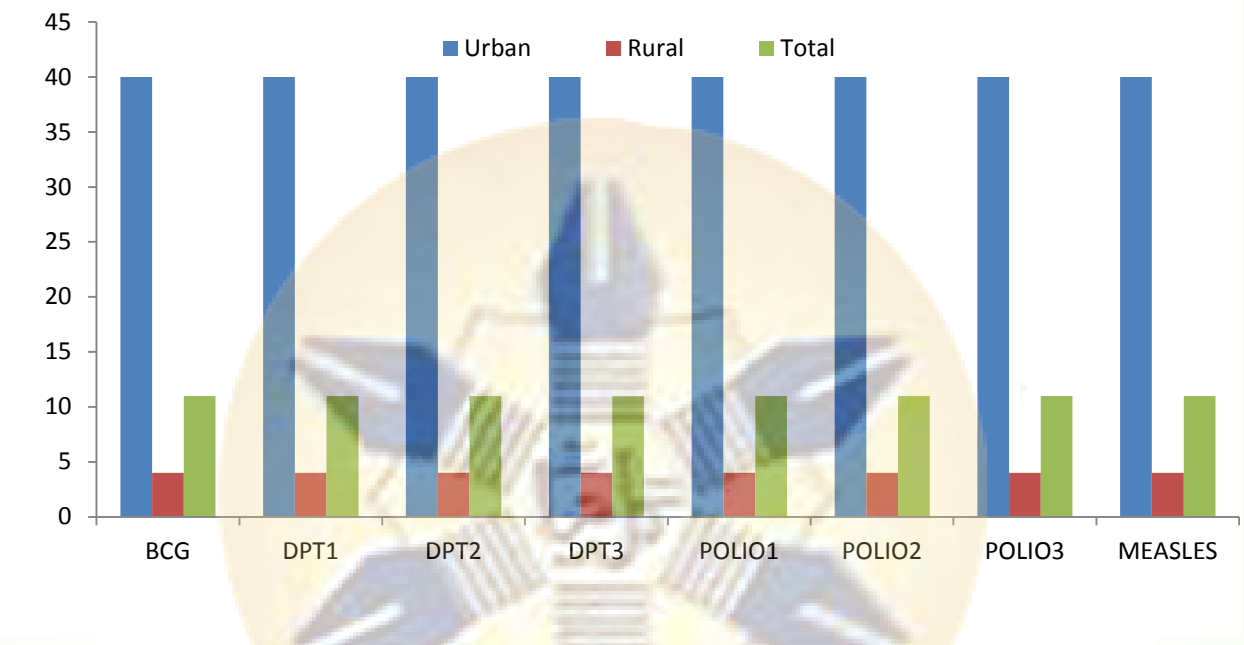
1.5.2 Immunization

Immunization coverage estimates are used to monitor immunization services, and to guide disease eradication and elimination efforts. This indicator is the measure of the percentage of children under one-year (i.e. <12 months) age who have received all the doses of BCG vaccine, three doses of polio & pentavalent vaccines and 1 dose of measles vaccine in a given year.

In district Khairpur, around 55% pregnant women have received tetanus toxoid injections in 2012-13 as compared to 41% in 2010-11. In urban areas this percentage is 75% and in rural areas it is 48%[29]. Record based[30] immunization data of district Khairpur shows that 11% (Male 10%: Female 12%) of the children aged 12-23 months have received full immunization.

[27] WHO standard is 2 health facilities and 25 beds per 10,000 population
[28] District Health Profile Khairpur 2009. PAIMAN
[29] Table 3.11, Pakistan Social and Living Standards Measurement Survey (PSLM)2012-13
[30] Table 3.4 (b) Based on record: Children who reported having received full immunization who also have an immunization card, expressed as a percentage of all children aged 12-23 months. Also immunizations to be classed as fully immunized a child must have received: 'BCG', 'DPT1', 'DPT2', 'DPT3', 'Polio1', 'Polio2'

This shows a decrease in the number of immunized children as the previous reported period shows that 17% of the children were immunized in the year 2010-11. In the urban areas this percentage is 40 percent (Male 42%: Female 39%) and in the rural areas it is 4% (Male 0%: Female 6%). The graph shows the percentage of children of 12-23 months that have been immunized by the type of Antigen based on records[31].



[31] Table 3.5: Pakistan Social and Living Standards Measurement Survey (PSLM)2010-2011

Khairpur - Health Facilities Map

June, 2014

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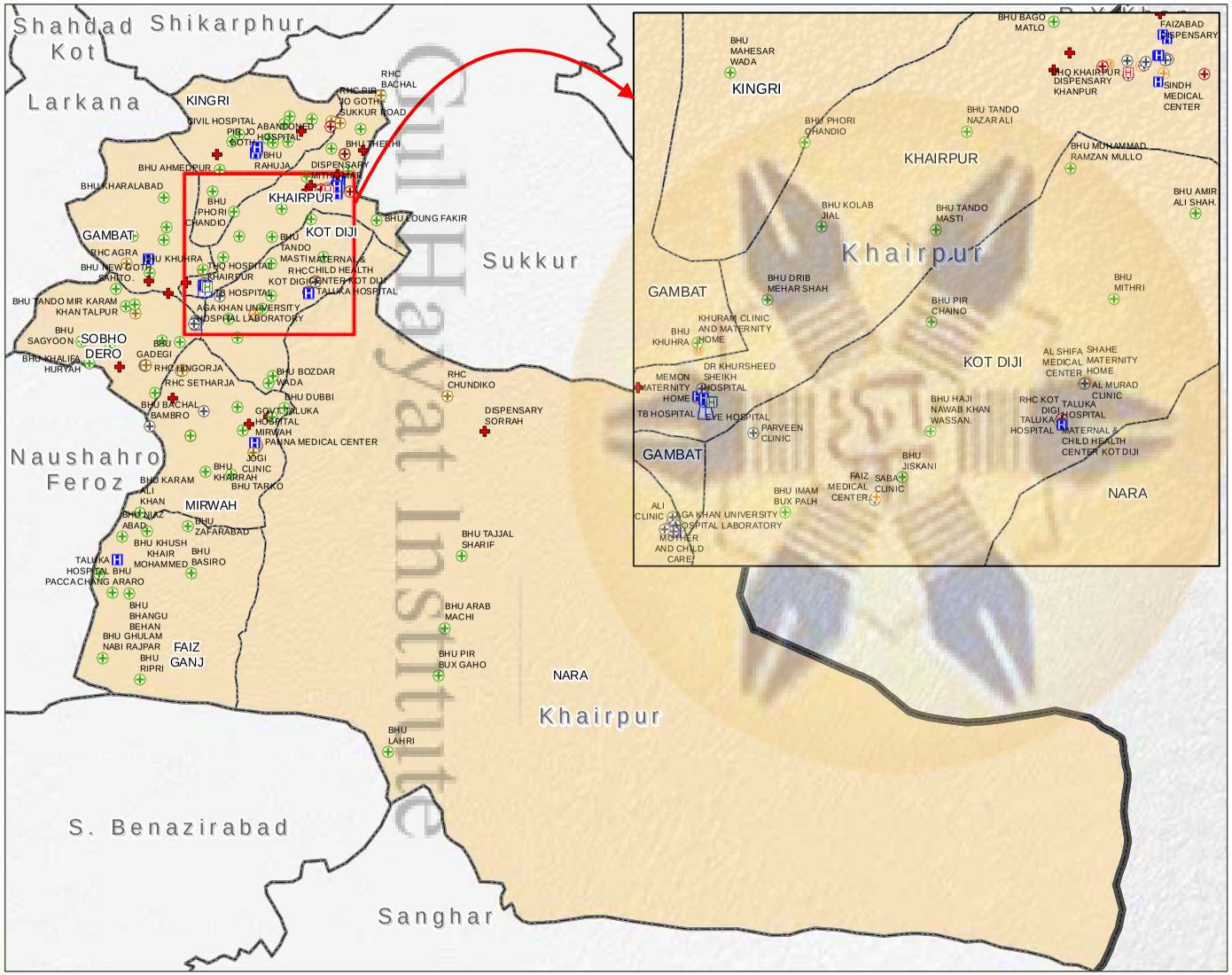

Legend

Health Facilities

- BASIC HEALTH UNIT
- CHILDREN HOSPITAL
- DIAGNOSTIC CENTRE
- DISPENSARY
- DISTRICT HEADQUARTER HOSPITAL
- GENERAL HOSPITALS
- GENERAL PHYSICIAN
- MATERNITY HOME
- MCH CENTRE
- MEDICAL STORES
- RURAL HEALTH CENTER
- TB
- TEHSIL HEADQUARTER HOSPITAL

- Taluka boundary
- District boundary
- Province boundary
- International boundary

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Map Doc Name: IMMAP_PAK_Khairpur Health Facilities Map_v02_060214

Creation Date: June 02, 2014

Projection/Datum: WGS84

Web Resources: http://www.immap.org

0 5 10 20 Kilometers

Map data source(s):
Alhasan Systems Private Limited: Admin boundaries, Health Facilities

Disclaimers:
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1.6 Education

1.6.1 Some Highlights

Literacy Rate (10 years and above)		53%
Adult Literacy Rate (15 years and above)		50%
GPI Primary		0.70
GPI Middle		0.82
GPI Secondary		0.59
GPI Higher Secondary		0.34
Population that has ever attended School		47
	Male	64
	Female	30
Population that has completed primary level or higher		40
	Male	55
	Female	24
Student Teacher Ratio		35
	Primary	43
	Middle	51
	Secondary	13
	Higher Secondary	10
Primary Participation Rate		45
	Male	50
	Female	39

Source: Sindh Education Profile 2012-13, PSLM 20112-13

1.6.2 District School Enrolment Ratio

The education status is quite poor in Khairpur. The overall literacy rate (for the population of 10 years and above) is 53%; for males it is 71% and for females it is 33%. District Khairpur possesses 8th rank in terms of literacy rate among the districts of Sindh province. For the urban rural comparison, urban literacy rate is higher than the rural, which is 64%. Among urban community, literacy rate for male is 79% and for female it is 48%; whereas the rural literacy rate is 48%, %, and in the rural community, literacy rate for male is 68% and for female it is 27%. Adult literacy rate (for the population of 15 years and above) is 50%. Gross Enrolment Ratio[32] (GER) for primary level in Khairpur is 65% (Male: 75%, Female: 54%), in urban community it is 74% (Male: 82%, Female: 67%) and in rural community it is 62% (Male: 73%, Female: 49%). Net Enrolment Ratio[33] (NER) for the primary level is 51% (Male: 59%, Female: 43%), in urban community it is 61% (Male: 67%, Female: 55%) and in rural community it is 48% (Male: 56%, Female: 38%). Table 1.6.1 shows details of Gross and Net Enrolment Rates by Rural and Urban Gender at different levels.

[32] Total enrolment in a specific level of education, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in a given school year.

[33] Enrolment of the official age group for a given level of education expressed as a percentage of the corresponding population.

Table 1.6.1::Gross and Net Enrolment Rates by Gender and Locality at Different levels

Urban/ Rural/ District	Gender	Gross Enrolment Rates			Net Enrolment Rates		
		Primary Group (5-9)	Middle Group (10-12)	Matric Group (13-14)	Primary Group (5-9)	Middle Group (10-12)	Matric Group (13-14)
Urban	Male	75%	70%	68%	59%	32%	22%
	Female	67%	64%	57%	53%	23%	17%
	Total	72%	67%	62%	56%	28%	19%
Rural	Male	77%	47%	52%	56%	20%	14%
	Female	57%	22%	22%	45%	12%	4%
	Total	68%	35%	40%	51%	16%	10%
Total	Male	76%	52%	57%	57%	23%	17%
	Female	60%	32%	36%	47%	15%	19%
	Total	69%	42%	48%	52%	19%	13%

Source: Pakistan Social and Living Standard Measurement Survey 2010-11

1.6.3 Gender and Level Wise Details

The total enrolment in District Khairpur is 328,648 (Male: 198,465 and Female: 130,183). Out of a total of 9,425 teachers, 7,229 are male and 2,126 are female teachers. The total boys' schools of District Khairpur are 741 and the total female schools are 529. Besides, there are 2,196 mixed gender schools. Thus, the total number of schools is 3,466 and averagely every school has an enrolment of 95 students, 39 students per classroom and a teaching staff of around 3 per school[34].

Primary

The total number of primary level schools, that are reported, is 3,149. The total enrolment at the primary level is 198,923. Gender wise 116,672 are boys and 82,251 are girls. Total number of teachers at the primary level is 5,704, out of which 4,461 are male and 1,243 are female teachers. Thus, on an average, each primary school has an enrolment of 63 students with a teaching staff of 2. However, the student class ratio is 37 and each school has averagely around 2 class rooms.

Middle

There are a total of 184 middle schools reported. The total enrolment at the middle level is 36,510, of which 20,016 are boys' enrolment, whereas, the girls enrolment is 16,494. The total teachers at the middle level are 1,014, out of which 685 are male teachers, while, 329 are female teachers. Thus, on an average, each middle school has an average enrolment of 198 students with a teaching staff of 6. However, the student class ratio is 32 and each school has averagely around 6 class rooms.

Matric

There are a total of 60 secondary schools in the district. The total enrolment at the secondary level is 66,582, of which 41,856 are boys' enrolment whereas 24,726 are girls' enrolment. The total number of teachers at the secondary level is 2,030, out of which male teachers are 1,583

[34] Sindh Education Profile 2012-13.

and female teachers are 447. Thus, on an average, each secondary school has an average enrolment of 594 students with a teaching staff of 18. However, the student class ratio is 44 and each school has averagely around 13 class rooms.

Higher Secondary

There are a total of 17 higher secondary schools. The total enrolment at the higher secondary level is 26,633, out of which 19,921 are boys' enrollment and 6,712 are girls' total enrolment. The total number of teachers at the higher secondary level is 677, out of which 570 are male teachers and 107 female teachers. Thus, on an average, each higher secondary school has an enrolment of 1,268 students with a teaching staff of 32. However, the student class ratio is 62 and each school has averagely around 15 class rooms.

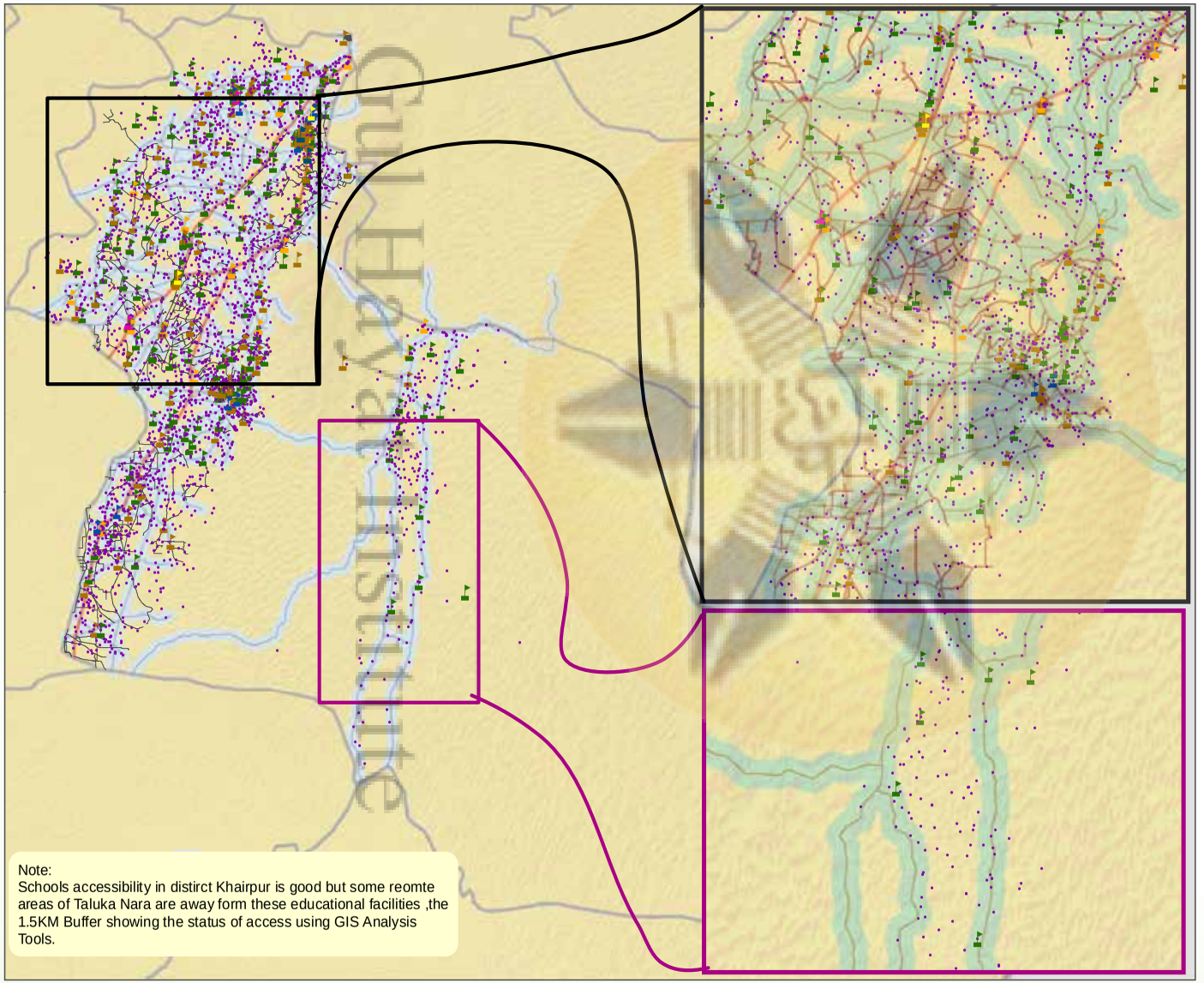
Table 1.6.2: Enrolment and Educational Facilities by level and Gender[35]

Level	Enrolment			School Facilities				Teachers		
	Boys	Girls	Total	Boys	Girls	Mixed	Total	Male	Female	Total
Primary	116,672	82,251	**198,923**	694	442	2,013	**3,149**	4,461	1,243	**5,704**
Middle	20,016	16,494	**36,510**	20	55	109	**184**	685	329	**1,014**
Secondary	41,856	24,726	**66,582**	22	30	60	**112**	1,583	447	**2,030**
Higher Secondary	19,921	6,712	**26,633**	5	2	14	**21**	570	107	**677**
Total	**198,465**	**130,183**	328,648	**741**	**529**	**2,196**	3,466	**7,299**	**2,126**	**9,425**

[35] Khairpur Education Profile, 2012-13. RSU Sindh

District Khairpur- Schools Accessibility Map

Date (June 2014)



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Legend

- COACHING CENTRE
- COLLEGE
- HIGH SCHOOL
- HIGHER SECONDARY
- MASJID SCHOOL
- MIDDLE
- PRIMARY
- TECHNICAL INSTITUTE
- UNIVERSITY
- Road Network
- Buffer 1.5KM
- DISTRICT BOUNDARY
- PROVINCIAL BOUNDARY
- INTERNATIONAL BOUNDARY

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Map Doc Name: iMMAP_Pakistan_Khairpur_Schools Accessibility Map_A4L_140607
Creation Date: 07 06 2014
Projection/Datun WGS 1984
Web Resources: http://www.immap.org

0 15 30 Kilometers

Map data source(s):
Alhasan Pvt Limited (Boundaries, Education Facilities), AWRAE NGO,WFP ,National Geo-Spatial Agency

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2 Disaster History and Its Impact

2.1 Disaster in District

2.1.1 Disaster History

Khiarpur district has a history of disasters. It was consecutively hit by heavy rains in 2010 floods in 2011, and 2012. The relative severity of floods was ranked as medium in district Khairpur[36]. River Indus, after receiving water from 5 of its tributary rivers, causes floods in the northern and southern parts of Sindh province. The upper region of Sindh Province comprise of the districts of Jecobabad, Shikarpur, Kashmore, Larkana and Kamber Shahdadkot on the right bank of River Indus and Ghotki, Sukkur, Khairpur, Naushahroferoze and Shaheed Benazirabad on the left bank of River Indus. These districts on the right and left banks of River Indus are prone to severe threat when River Indus is in high flood.

Heavy rains are also a major cause of flooding in the district. Vulnerable UCs are Baberloi, Mori, Kot Mir Muhammad, Hadal Shah, Sadarji, Ahmed Pur, Ripri, Khemtio, Agra, Jado Wahan, Sagyoon, Pir Hayat Shah[37]. Vulnerable points of the district are Ulra Jagir, 04 Mile Dharo & Where wash, Baberloi, Mori, Kot Mir Muhammad, Hadal Shah, Sadarji, Ahmed Pur, Ripri, Khemtio, Agra, Jado Wahan, Sagyoon, Pir Hayat Shah, Fareed Abad Band, 0/0 to 2/2 & 11/0 to 12/0, Razi Dero Band, Mile 6/0 wave wash & Dharo portion, Razi Dero Band, Mile 6/0 wave wash & Dharo portion, Garhi Pathan, 0/0-2/1 and 2/1-4/0, Jamsher Loop, 13/4 to 14/0, Bhatti Pir Qasim, 28/2 – 34/0, Baharo, 33/0-36/0.

Along with the aforementioned floods, drought hit this district in 2002 and in 2013-14. 2013-14 drought affected Khairpur along with Tharparkar, Umerkot and Sanghar districts. Epidemics, casualties due to accidents and environmental degradation occur on yearly basis.

[36] Flood Facts, Disaster Management Apparatus, 2010
[37] Sindh Contingency Plan 2012.

KHAIRPUR - HAZARD RISK ANALYSIS MAP

June, 2014

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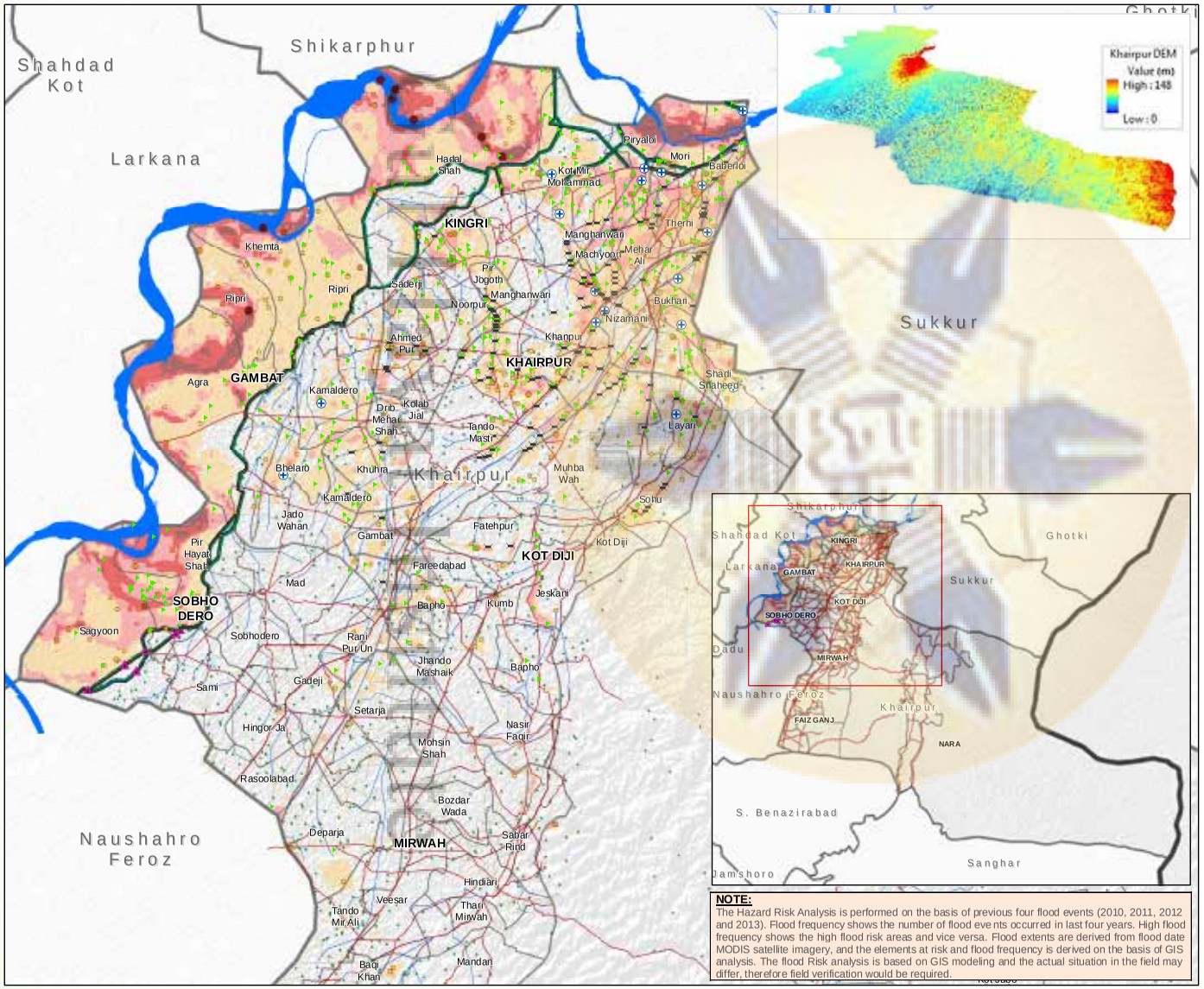

NOTE:
The Hazard Risk Analysis is performed on the basis of previous four flood events (2010, 2011, 2012 and 2013). Flood frequency shows the number of flood events occurred in last four years. High flood frequency shows the high flood risk areas and vice versa. Flood extents are derived from flood date MODIS satellite imagery, and the elements at risk and flood frequency is derived on the basis of GIS analysis. The flood Risk analysis is based on GIS modeling and the actual situation in the field may differ, therefore field verification would be required.

Legend

- Bridges at risk
- Hospitals at Risk
- Schools at Risk

Settlements Risk level

- Very High Risk
- High Risk
- Medium Risk
- Low Risk
- Possible safe Settlements

Flood Risk Analysis

- Very High Risk
- High Risk
- Medium Risk
- Low Risk

- Highways
- Regionals
- Streets
- Canals
- River Indus

Embankments

- Bund (Point)
- Bund (Line)
- Province boundary
- District boundary
- Taluka boundary
- UC boundary

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Map Doc Name:
iMMAP_PAK_Khairpur_Hazard Risk Analysis Map_v02_060214

Creation Date: June 02, 2014
Projection/Datum: WGS84
Web Resources: http://www.immap.org

0 4 8 16 Kilometers

Map data source(s):
Alhasan Systems Private Limited : Admin boundaries, Roads, Hospitals, Schools, River, Bridges.
National Geospatial Agency: Settlements
Sindh Irrigation and Drainage Authority (SIDA): Canals, Bund(Point), Bund (Line)
MODIS: Maximum Flood Extent(2010-11-12-13)
ASTER G-DEM: Digital Elevation Model

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Khairpur - Possible Safe Locations Map

June, 2014

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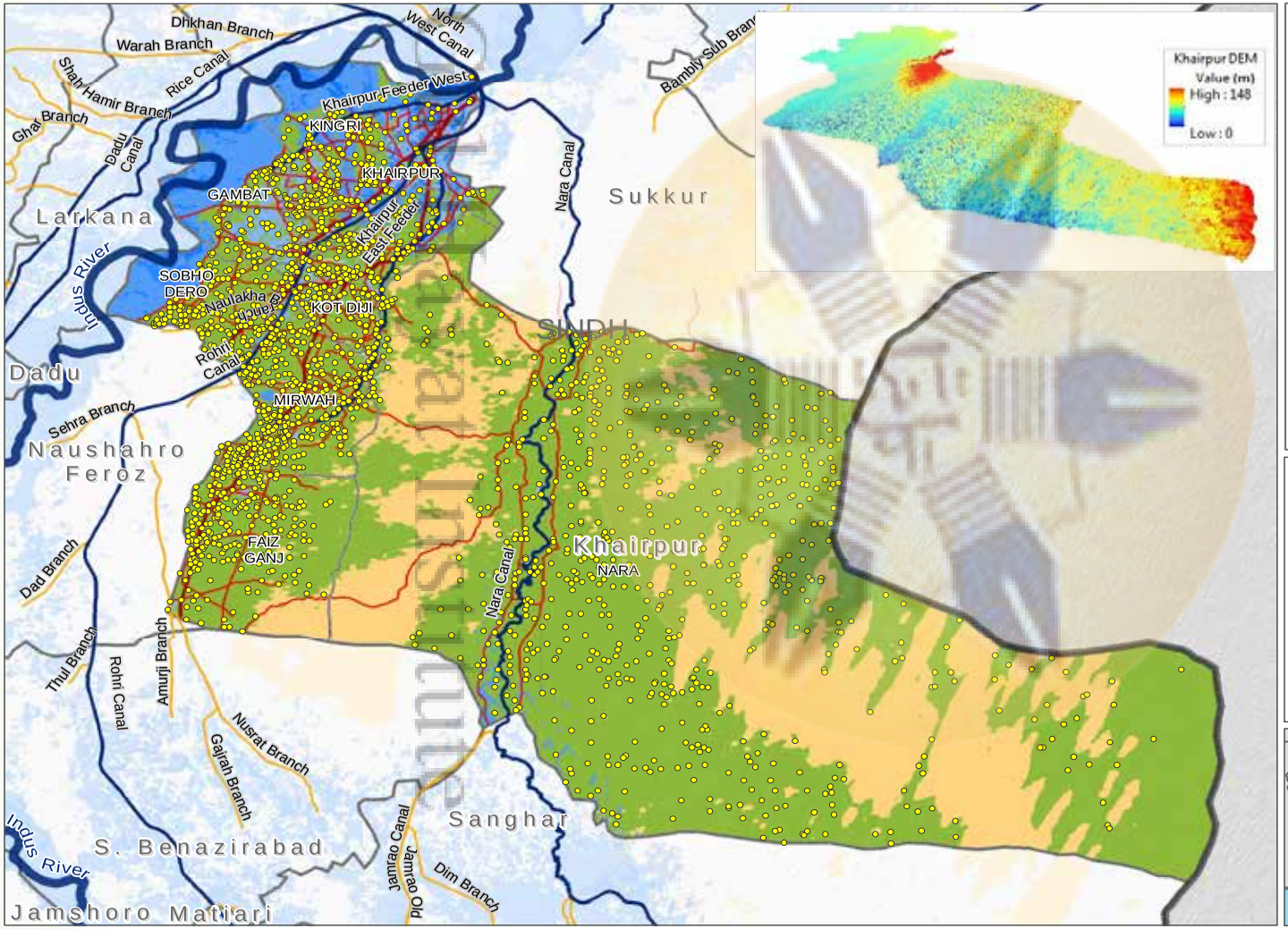

Legend

- Possible Safe Settlements
- Indus River
- Canals
- Branch Canals
- Highways
- Roads
- Maximum Flood Risk (2010-12)
- Area at Drought Risk
- Possible Safe locations
- International boundary
- Province boundary
- District boundary
- Taluka boundary

IMMAP
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Solutions in Time
ALHASAN SYSTEMS

Map Doc Name: iMMAP_PAK_Khairpur SL Map_v02_060214

Creation Date: June 02, 2014
Projection/Datum: WGS84
Web Resources: http://www.immap.org

0 5 10 20 Kilometers

Map data source(s):
Alhassan Systems Private Limited: Admin boundaries, Roads
National Geospatial Agency: Settlements
Sindh Irrigation and Drainage Authority (SIDA): River, Canals
MODIS: Maximum Flood Extent, Drought 2013
ASTER G-DEM: Digital Elevation Model

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2.1.2 Demography

Khairpur district is unfortunate in the sense that, as mentioned earlier, it was hit by heavy rains in 2010 and floods in 2011, 2012. In 2010 rains, 25 persons died. A total of 2,075 villages were affected. In 2011 floods[38] 2,075 villages/settlements of 38 union councils in 8 talukas were affected. A population of 384,137 persons was affected and there were 65 casualties and 65 injuries. 29,023 houses were damaged, out of which 17,470 were partially damaged and 11,553 houses were destroyed. Table 2.2.1 shows the losses and damages summary.

Table 2.2.1: Summary of Losses and Damages in Floods 2010, 2011, 2012

Attribute	2010 Figures	2011 Figure	2012 Figures
Total Households 2010		***355,374***	
Affected Households	***56,705***	*62,973*	*81,803*
Total UCs			***76***
UC Affected	*NA*	*38*	*NA*
Total Revenue Villages (Dehs)		***411***	
Villages and/or Dehs Affected	*287*	*2,075*	*1,448*
Total Houses Affected	*52,409*	*29,023*	*19,200*
Partially Damaged	*NA*	*17,470*	*15,130*
Destroyed	*NA*	*11,553*	*4,070*
Total Population (2010)		***2,138,913***	
Affected Population	*345,900*	*384,137*	*499,000*
Death	*32*	*25*	*9*
Injuries	*41*	*65*	*8*
Total Area (Acres)		***3,931,447***	
Total Affected Area	*589,251*	*388,638*	*NA*
Crop Area Affected	*46,055*	*182,891*	***44,231***

NDMA, PDMA and UNOCHA

The latest situational update for the 2012 floods, in the district:

As of 19th September 2012, all 8 Talukas are reported as affected due to rains and floods. 1,448 villages/settlements are affected and a population of 499,000 persons is affected. During initial assessments, 19,200 houses were reportedly damaged, out of which 15,130 were partially damaged and 4,070 were destroyed. 7 casualties and 8 injuries are reported. 1,300 persons are given relief in 23 camps[39].

According to Vulnerable Women and Children Organization (VWCO), there are 15 casualties and 684 injuries reported. 21% of katcha houses and 7% of pakka houses are affected[40].

[38] Summary of Losses and Damages as of 17/02/2012, PDMA Sindh
[39] Summary of Losses and Damages as of 19th September 2012, PDMA Sindh
[40] District Khairpur Damage Summary Initial Assessment, Vulnerable Women and Children Organization (VWCO)

2.1.3 Impact of Disaster on Agriculture and Livelihood

District Khairpur has been hit by floods in 2011 and 2012. Separate analyses of floods are given as under:

Impact of Floods 2011:

The floods of 2011 had devastating effect on this district as 76 union councils were affected in 8 talukas. Out of the total population of 2,043,532, 45% of the population i.e. 927,953 was affected. Within the affected population, 52% male and 48% female population were affected. 29,023 houses were damaged, out of which 17,470 were partially damaged and 11,553 were completely destroyed[41]. Total 280,167 acres of area was sown, out of which 182,891 acres (65%) was damaged.

Table 2.2.2: Crop Loss and Area Damaged Due to Floods 2011

Major Crops		Area
Cotton	Area sown (Acre)	193,259
	Area Damaged (Acre)	154608
	%	80%
Rice	Area sown (Acre)	22,659
	Area Damaged (Acre)	6798
	%	30%
Sugarcane	Area sown (Acre)	46,534
	Area Damaged (Acre)	16287
	%	35%
Other	Area sown (Acre)	17,715
	Area Damaged (Acre)	5,199
	%	29%
Total Area Sown		280,167
Total Area Damaged		182,891

Source: Sindh Flood Situation Update September 2011, FAO and Summary of Losses and Damages PDMA Sindh

The above table shows the damage of crops caused by the flood of 2011. 80% of the cotton crop was damaged along with 30% rice crop, 35% sugarcane and 29% of other crops. 316 livestock population died due to the floods[42].

Impact of 2012 Floods

The severity of floods in 2012 was less as compared to the floods in 2011. Nonetheless, a significant portion of people is affected in 2012. Seven people died and eight are injured due to the floods. A total of 19,200 houses have been damaged, out of which 15,130 are partially damaged and 4,070 are completely destroyed in 1,448 villages of this district. A total of 17,943 acres of sown area is damaged and 32 cattle heads have perished[43].

[41] Summary of Losses/Damages due to Floods 2011, PDMA, Government of Sindh
[42] Flood Situation Update 2011, FAO
[43] Detail of Damages Sindh (23/09/2012), NDMA

2.1.4 Analysis of Food Security Situation

As established in the previous section, district Khairpur is on the borderline of food insecurity. Floods of 2011 and 2012 worsened the existing situation of the people. Thus the indicators of food security that is availability, access, utilization and stability showed dismal situation in this district.

Previously, due to floods 2011, 95 percent of crop farmers reported that their main economic activity has been discontinued or disrupted. On an average, they estimate that they lost 154,000 rupees from farming and another 48,000 from non-farm activities. 38 percent of the affected households have sold labour in advance and 26 percent of the affected households are selling agricultural or household assets[44]. Given the already serious food security condition, prior to the flood in Khairpur, and the subsequent loss of people's homes, livelihoods and assets, due to floods 2011, the food security situation at the household level is of particular concern.

Also, many flood affected households shifted their consumption to less preferred foods and borrowing was practiced by more than one third of the households across the district. The low level of consumption of non-nutritious foods affects the proper assimilation of it into the body.

2.1.5 Health

During 2011 floods, out of 74 BHUs, 14 BHUs were reportedly damaged. Out of 11 RHCs 2 were reported damaged[45]. According to the floods 2012 initial rapid assessment, no damage has been reported to any health facility. However, Women, children and elderly people need immediate health support. The environment is ideal for mosquitoes and flies, which will aggravate the already worsening situation of malaria in the area. Poor hygiene, sanitation and unsafe water are also contributing to the poor health status of rain hit communities. Mobile teams and camps can serve the purpose. Pregnant and lactating women need special attention and nutrition.

[44] Multi Sector Damage Need Assessment 2011, UNOCHA

[45] WHO, G. N. (8th to 12th September, 2011). Health Initial Rapid Assessment, 22 flood affected disricts in Sindh. Islamabad

2.1.6 Education

According to Reform Support Unit (RSU), during 2011 floods, out of 3,679 schools, 37 were destroyed, of which 25 were boys' schools and 12 were girls' schools. 87 schools were partially damaged, of which 56 were boys' schools and 31 were girls' schools. Thus a total of 124 schools were affected.

As of 19h September, no reports for the educational facilities' damage, for 2012 floods, were shared.

2.1.7 Drought 2013-14

In December 2013, famine like droughts struck Tharparkar, Umerkot, Khairpur and Sanghar. Though more damage is reported in Tharparkar as almost all the human and livestock population got severely affected, Khairpur also suffered from this drought but to a little extent. The failure of monsoon rains, since Nov-2013, resulted in severe shortage of food, fodder and water. The NDMA, PDMA, Sindh Government, United Nations, National and International Non-Governmental Organizations are providing health and relief services and are distributing food items in the affected areas[46]. Pakistan Met Department has announced that this year monsoon rains will be again be below average[47].

This latest drought hits only Nara Taluka of the district, rendering 7,835 families vulnerable to malnutrition and hunger. A population of 39,174 people was affected from December 2013 to 22nd April 2014. During this period, 3,955 people were treated including 1,163 children and 1,157 women. Human and animal population in the district suffered from the severe shortages of food and fodder. The recent drought has caused the highest number of deaths in persons and livestock in the district's desert area.

According to the District Health officer of Khairpur, no death cases have been reported so far. The PDMA Sindh, with the support of the district administration, has provided medical treatment to both (persons and animal). Sufficient stocks of essential medicines are available in district health facilities[48].

Following health facilities are currently functional in the district.

- RHC HingorjA
- RHC Ranjput
- RHC Thari Mir Wah
- RHC Agra
- RHC Nara Gel
- RHC Pir Jo Goth
- RHC Faiz Ganj
- THQ Kotdeji

[46] Daily Emergency and Response-Stitautional Information Report, 15th May, 2014. iMMAP
[47] Preliminary Monsoon Outlook 2014, PMD.
[48] Daily Health Report of District Umerkot shared by DHO Kahirpur.

- RHC Atta Muhammad
- RHC Sobho Dero
- RHC Ghari Mori
- RHC Choundiko

From 25th March to 7th May 2014, 1,313 children were admitted in the district health facilities of which 285 were under five. 2 cases were referred to the major secondary level health facilities. 95 under five children have been reported for suffering from malnourishment. No death was reported.

Along with human population, animal population is also affected, especially small animals. Livestock is the main source of livelihood in these desert like districts. As reported by the district administration, 578 cattle head perished. 175,896 animals affected and 129,965 were treated/vaccinated[49].

[49] Drought Condition Status Report, 22 April, 2014. PDMA Sindh

Table 2.1.1: Losses and Damages for Drought 2013-14

Tehsil	Period	Pop Affected	Families Affected	Deaths				Persons Treated				Cattle head		
				Male	Female	Children	Total	Male	Female	Children	Total	Affected	Perished	Treated/ Vaccinated
Khairpur	17-03-2014 to 19-04-2014	39,174	7,835	-	-	-		1,635	1,157	1,163	3,955	175,896	578	129,965

Losses and Damages as of 22 April, 2014. PDMA Sindh

Table 2.1.2: Relief Items distributed in

Agency	Relief Good	Quantity	Agency	Relief Good	Quantity
PDMA Sindh	Family Ration Packs	8,000	Raised Donation by PDMA Sindh at Relief Collection Camp Karachi	Mineral water (1.5 ltr)	
	Rice (50Kg bags)			Mineral water (1/2 ltr)	
Raised Donation by PDMA Sindh at Relief Collection Camp Karachi	Atta Bag (50 kg)			Mineral water (small)	
	Atta Bag (10 kg)			Oil 1 kg (boxes)	
	Atta Bag (5 kg)			Oil (2.50 Kg)	
	Rice (50 kg bag)			Mixed Ration Packets	
	Sugar (50 kg bag)			Medicine Mixed (Packets)	
	Mineral water 6 ltr			Juice and Milk	
	Mineral water (5 ltr)			Milk Powder (Nido)	
	Mineral water (1 ltr)			Biscuit Packets and papsy	

PDMA Sindh

3 Hazard Vulnerability and Capacity Analysis

3.1 Hazard Vulnerability and Capacity Analysis

Prior to analyzing existing hazards; vulnerability to hazards and capacity to cope with the same of the district and its population needs to be understood. An explanation of the terms used is given under each heading, as follows:

3.1.1 Hazard

A hazard is a situation which triggers disaster. But it can be also defined as:

"A potentially damaging physical event, phenomenon or human activity that may cause the

Loss of life or injury, property damage, social and economic disruption or environmental degradation"[50]

A hazard is a situation that has the potential to harm the health and safety of people or to damage plant and equipment. Hazards can be divided into two categories.

Natural Hazard

Natural hazards are natural processes or phenomena within the earth system that may constitute a damaging event. For example typhoons, tsunamis, earthquake and volcanic eruption cyclones, earthquakes, floods, landslides, storms are natural hazards.

Man-made Hazard

Any industrial, nuclear, or transportation accident, explosion, power failure, resource shortage, or other condition, resulting from man-made causes, which threaten or cause damage to property, human suffering, hardship or loss of life constitute 'Man-made Hazard.

[50] The "Urban Governance and Community Resilience Guides" (ADPC, 2010)

Hazard matrix of District[51]

Hazard	Frequency	Area affected/union councils	Severity/Force	Year[52]
Floods/Rains	Monsoon	All 8 talukas {38 out 76 U.Cs} (2011)[53] All 8 talukas {1,795 villages} (2012)[54]	High	2010,2011 2012
Epidemics	Seasonal	Entire district	Low	Every year
Drought	Infrequent	Eastern part of the district	Low	1999-2002[55]
Earthquake	Infrequent	Whole district	Low	----
Transport accidents/fire	Often	Entire district	Low	Every year

3.1.2 Vulnerability

Vulnerability is a situation which is:

"The attributes and circumstances of a community or system that makes it sensitive, vulnerable or susceptible to the damaging effects of a hazard[56]"

Vulnerability precedes disasters, contribute to their severity, hinder and obstruct the disaster response. It is divided into three parts:

Physical/Material Vulnerability

Weakness of the built environment and lack of access to physical and material resources i.e. living in hazard prone areas or in unsafe buildings, lack of savings, insurance and assets constitutes physical/material vulnerability.

Social/Organizational Vulnerability

Social/Organizational Vulnerability refers to inequality in social systems that discriminate against and marginalize certain groups of people from accessing resources and services. People who have been marginalized in social, economic or political terms are vulnerable to disasters. Weakness in social and organizational areas may also cause disasters e.g. deep division can lead to conflict and war. Conflict over resources due to poverty can also lead to violence.

Attitudinal/Motivational Vulnerability

Existence of fatalistic myths and religious beliefs influence people's vulnerability to disaster risks. If people believe that disasters are 'acts of God' and if they have low confidence in their

[51] Sindh Contingency Plan 2012
[52] Sindh Provincial Monsoon/Floods Contingency Plan, 2012, pp. 12, (Table 3.3, S.no:10)
[53] UNOCHA, Pakistan Floods 2011, Khairpur District Profile, April 2012
[54] Summary of Losses and Damages as of 27th December, 2012, PDMA Sindh

[55] Sindh Provincial Monsoon/Floods Contingency Plan, 2012, pp. 6 (under heading "Drought")
[56] Participant's Course workbook (ADPC)

ability to affect change or have 'lost heart' and feel defeated by events they cannot control, these people are often harder hit by disasters.

Vulnerability matrix

Physical/material	Social/organizational	Attitudinal/motivational
The district is prone to natural hazards like floods, heavy rains and droughts. River Indus flows in the north west of district which increases the susceptibility of the vulnerable people against flood hazard, in monsoon. Heavy floods hit the district in year 2011 and 2012. In 2011 flood, 2,075 villages/settlements[57] of 38 union councils in all the 8 *talukas* were affected. A population of 384,137 persons was affected.	According to 1998 census, total population of the district Khairpur was 1,546,587. The district has an estimated growth rate of 2.71% per annum, which means that the population will double itself in 25.8 years[58] from 1998. Such rapid growth in population gives birth to many socio-economic problems and makes the area vulnerable to different natural and made-made hazards	Communities have appreciation for the awareness programmes by public and private sector but are of the view that they cannot mitigate their risk only on their own. They demand for funds and resources, which they do not have. That is why they are reluctant and do not show interest in such activities.
The district is prone to drought. The north-western part of Thar Desert lies in Khairpur district. Droughts affect labour market negatively (daily wages goes very low) and decrease livelihood opportunities which increase poverty and make the people vulnerable against different hazards (floods, earthquake) Recent drought has overripe the Nara area of the district, by affecting people, their livelihoods and livestock.	Like majority of the other districts in Sindh, district Khairpur is rural by its characteristics. 76.38 per cent of the population resides in rural areas as compared to the 23.61 per cent that resides in the urban areas. Most people in the rural areas lack job opportunities or have unsustainable livelihoods (not insured) which escalate the risk against different hazards. [Floods, rains etc.]	There is a lack of training, appropriate skills and awareness on disaster risk management, both at the community and the public servants' level. Skills to handle emergencies are very weak and need to be strengthened.
The climate of the district is hot and dry, with summer temperature mounting to as high as 48-50 degrees Celsius. Very high temperature not only affects vegetation but also creates problem for the individuals (Children, women, old and disabled) like heat stroke, skin burn etc.	Dependent population (the population that is less than 15 years and more than 65 years of age including widows and divorced women) in the case of Khairpur district is 49.26 per cent of the total population and the working population is 50.74 per cent, which shows that dependency ratio[59] in the district is 93 per cent, which is very high and as such makes the population highly vulnerable	Reactive approach prevails in the district i.e., the government and all other stakeholders come into action when disaster occurs whereas the need is for proactive approach (disaster risk reduction) where actions are taken in advance of the disaster.
There are settlements in the district, which are situated in the low lying risk areas called *Katcha.* These areas are exposed to regular	There is a lack of Community Based Disaster Risk Reduction (CBDRM) projects in the vulnerable areas of the district. Focus of the different	Most people believe that disasters are an Act of Nature which cannot be prevented.

[57] Sindh Provincial Monsoon/Floods Contingency Plan, 2012, pp.10
[58] Rule of 70 http://controlgrowth.org/double.htm
[59] Dependency Ratio= (Population < 15 Years + Population > 65 Years)/ Population 15-65 Years

Physical/material	Social/organizational	Attitudinal/motivational
occurring of floods.	organizations working in the area is only towards relief side.	
Livelihoods of the people are not sustainable that is it cannot cope with and recover from stress and shocks and when disaster strikes; these livelihoods collapse. As a result poor people get poorer and fall under the poverty line.	Non-structural mitigation measures which include trainings, workshops, seminars, land use planning and building codes are not properly implemented by the concerned departments in the district which makes the people vulnerable to different hazards e.g., floods, earthquakes etc.	Lack of knowledge, on the part of the general public and local officials about hazards - that may affect them, associated risks, damage, and precautions to be taken, is perhaps one of the most significant hindrance in the efforts to mitigate disastrous effects of most hazards.
Climate change is said to be responsible for these (2011, 2012) heavy rains because usually Sindh province receives very little rains (on average 5 inches)[60] during monsoon). Recent drought in Khairpur is also a cause of Climate change which has affected number of people and livestock.	Community-based disaster drills are an important aspect of emergency management yet so very neglected by the district authorities. These drills provide a chance to practice the full spectrum of disaster response.	Female representation in the welfare projects and disaster risk reduction management process is very limited. Women are kept away from these activities.
Early Warning systems, in Pakistan, lack the basic equipment, skills and resources[61]. Similarly, early warning system for the floods in the district is not up to the mark. Monitoring stations from the irrigation department, in some instances, were unable to take the measure of water level and report them, timely.	Lack of coordination amongst all the stakeholders is a major hindrance in implementation and progress of the Disaster Risk Reduction process.	
Urban flood situation also get intense in rainy season because of the poor drainage system. The rain water finds no way of exist and enters into houses and render their houses vulnerable to collapse.	Immediate response by the government, in terms of relief activities, in emergencies has always been elusive. It always responds in the end and mostly when the situations has somewhat improved.	
Absence of disaster risk reduction measures in most of the construction and infrastructure developments is resulting in the formation of poorly managed infrastructures, buildings which lack coping capacity against natural hazard like floods, heavy rains and earthquake.	There is a Lack of institutional capacity to deal with disasters and development in the district.	

[60] Disaster Risk Management Plan, Sindh province,(2008), PP. 34
[61] Government of Pakistan (2006), "National Plan: Strengthening National Capacities for Multi-hazard Early Warning & Response System (Phase-I)", Cabinet Division, pp.8

3.1.3 Capacity

Capacities are resources, means and strengths, which exist in households and communities and which enable them to cope with, withstand, prepare for, prevent, mitigate or quickly recover from a disaster. The combination of all the strengths attributes and resources available within a community, society or organization that can be used to achieve agreed goals constitute its capacity to cope with hazards[62].

Physical/Material Capacity

In most disasters, people suffer their greatest losses in the physical and material realm. Access to physical/material things or objects count as physical capacity. A few examples of physical and material resources are cash, food, land, properties and tools.

Social /Organizational Capacity

When everything physical is destroyed, people still has their skills, experiences and knowledge; they have family and social networks. They have leaders and systems for making decisions. They also have local, collective 'wisdom' reflected in their cultural practices that help them reduce or cope with disaster risks.

Attitudinal/Motivational Capacity

People also have positive attitudes and strong motivations such as the will to survive and willingness to help each other.

Capacity matrix

Physical/material	Social/organizational	Attitudinal/motivational
Khairpur is an agricultural district. Its climate is suitable for the production of various food items e.g., wheat, rice, sugarcane and cotton. Wheat and rice are cropped in 97% and 37% of the *mouzas* respectively while cotton and sugarcane are cropped in 90% and 54% of the *mouzas*[63]. Total reported area of the district is 1,573,000 hectares, out of which 251,000 hectares are cultivated[64].	District Disaster Management Authority (DDMA) of Khairpur has been established in the DCO's office on a temporary basis. DDMA formulates disaster plan for the district and assigns roles and responsibilities to the local district departments. DDMA carries out emergency response and relief activities in the affected areas.	Continuous occurring of flood disaster in the vulnerable communities of the district has now increased their coping skills. They now know that what should be done before, during and after a disaster .However, they still need more to learn and need awareness about their risks.
There is no major industrial unit in district Khairpur while small and cottage industry exists in the district. The district is a big market of Date which generates revenue for	After the 2011 and 2012 floods, different NGOs /INGOs have focused their attentions on shelter, wash, and livelihood activities. These organizations include ACTED,	Perception of the people about local disaster risks has now changed. They now do not believe that all these calamities are Act of God and consider them, a result of their low

[62] Participant's Course workbook (ADPC)

[63] *Mouzas* Development Statistics of Sindh,2008, Agriculture Census Organization

[64] Sindh Development Statistics, , (2008), Lahore University of Management Sciences (LUMS), pp. 80

Physical/material	Social/organizational	Attitudinal/motivational
the people. These industries are the source of employment and are also useful in the economic uplift of the people.	CRDO, HANDS, IOM, ISWA, IRC, UNICEF, Semi Foundation[65]. They provide funds and relief stuff to the affected people, to enable them to stand on their own.	capacities and high vulnerabilities.
Road network is considered as a vehicle for economic development. The district is well-connected with other districts through good quality roads. Total good quality roads length is 817 kilometres in this district[66]. These roads can be used as evacuation point in flood disaster. Good roads are also helpful in carrying out relief activities.	Community organizations are formed by NGOs in the affected areas to encourage the local representation. Active people from the community are part of these organizations which facilitate the humanitarian organization work at the grass root level.	Indigenous knowledge of the local communities is a great asset not only for the vulnerable communities but also for the humanitarian organizations. Humanitarian Organizations do consider suggestions from local communities and incorporate those in their policies.
The total number of schools in the district is 3,466. Out of which 741 are for boys, 529 are for girls, and 2,196 schools are mixed. These school buildings are also used as shelter and evacuation centres in emergency.	Law Enforcement Agencies are important stakeholders in relief activities. *Jawans (Soldiers)* of Pakistan Army assist the affected communities directly and help them in evacuation, by providing transport facilities. Army doctors provide medicines and other health facilities to the affected people especially to the children and women.	Advocacy seminars and trainings regarding disaster risk reduction (DRR) are very limited but have been initiated by different NGOs for the mobilization of vulnerable communities against hazards (floods, rainfalls).
Total health facilities in district Khairpur are 151. There are 2 hospitals, 11 Rural health centres (RHCs), 82 Basic Health Units (BHUs), 11 Mother Child Centres (MCHs) and 45 General Dispensaries (GD). These health facilities provide health services both in rural and urban areas of the district, not only as a routine but also in extreme circumstances.	Political parties are active in the district. Pakistan People's Party and Muslim League Function are the prominent one. The member of National and provincial assemblies (MNAs & MPAs) highlight and raise problems of the people on the assembly flours. Syed Qaim Ali Shah (Governor of Sindh) and Manzoor Hussain Wassan belong to this district.	Rural communities of the district have a strong social bond and help each other in time of need.
District Khairpur has an efficient canal irrigation system which helps in agriculture productivity. Out of a total of 411 mouzas, 355 are irrigated by canal irrigation system while 101 *mousaz* are irrigated by tube wells[67].	Poverty reduction initiatives have been taken by government in the form of Benazir Income Support Parogramme (BISP). Pakistan Baitulmal and District Zakat Committees are also providing financial support to the needy	The teachers, students and youth assist the social workers working in their communities. They organize gatherings for mobilization sessions, helps in the assessment and act as a catalyst in the field.

[65] UNOCHA, Pakistan Floods 2011, Khairpur District Profile, April 2012
[66] Sindh Development Statistics, (2008), Lahore University of Management Sciences (LUMS), pp. 262
[67] Mouzas Development Statistics of Sindh,2008, Agriculture Census Organization

Physical/material	Social/organizational	Attitudinal/motivational
	people.	
Forests help in protection of soil, improve environment by controlling pollution and cause rainfall. Total forest area of the Sindh Province is 1,037,571.36 hectares (2006-07) out of which district Khairpur shares an area of 16,659 hectares[68]. The increased protection of forests could lead to a decrease in the severity of floods.	Union council sectaries are very helpful in risk assessment process. Because they keep all records of the union council and even provide maps of the relevant union council.	Sometimes local vulnerable communities, before rainy season, take mitigation measures by strengthening their roof tops and boundary walls.

[68]Sindh Development Statistics, (2008), Lahore University of Management Sciences (LUMS), pp. 148

4 Sectoral DRR Mitigation Measures

4.1.1 Education

- The NGOs should work on awareness building programs for encouraging enrollment in schools, by incorporating teachers, students and youth in their community based programs. Increased enrollment would lead to enhanced literacy and literate people can easily be mobilized and made aware of the different disaster risks.
- Affected or damaged schools should be repaired and reconstructed on priority basis with DRR principles in view.
- Carry out structural safety audit of the school buildings on cyclic basis and identify structural problems.
- Government should introduce disaster risk reduction courses for teachers' training and should add DRR in the curriculum to support large-scale awareness.
- Local Philanthropists should be encouraged to take initiative to raise an emergency fund for immediate repair of infrastructure, support to affected poor students and parents after any disaster.
- Government should introduce a 'School Safety policy' taking all locally relevant hazards into account and adopting DRR measure for the existing schools and construction of new schools.
- From pre-school to secondary school, Integrate DRR trainings into the formal and non-formal education curricula.
- NGOs and other organizations working in the education sector should organize workshops to provide teachers with training on disaster preparedness and early warning signs.
- Education department should produce support materials linked with disaster risk reduction for teaching and learning.
- The Government and NGOs should invest in DRR sector and should corporate DRR measures in improving school buildings as these can be used as shelter and evacuation centers in case of emergency.
- Incorporate disaster risk reduction measures i.e, ensure their suitable location and construction while establishing new schools in order to avoid future hazard threats.
- Humanitarian organizations should take on board the District Education Department and should provide trainings and necessary skills to the education officials to enable them to prepare School Based Disaster Risk Management Plans (SBDRM-Plan) for each school in the district.

4.1.2 Infrastructure

- Awareness programs should be organized by District Disaster Management Authority about the need of land use planning and building codes so that it can be followed by all the stakeholders, to avoid future threats.
- The Communication and Works department should utilize the available funds on the maintenance of roads and find alternative routes that can be used in case of emergency.
- Road networks should be expanded to each corner of the district so that emergency response could be easily conducted without any hurdle.
- Active people from the community can be used for disseminating early warning for the local endangered communities because people have lot of trust in informal and locally influential sources of information; e.g. a religious leaders, a teachers, an NGO worker or a local government official. But firstly these active people should also be trained on EWS.
- Organizations that are involved in construction of homes, health, education and other facilities should work with the government to establish and strictly enforce strict construction codes so that of future threats can be mitigated.
- DRR Planners, District and Provincial authorities should identify safe land and location for low income citizens who are living near the flood prone areas and they should consult village accessibility map for drought related DRR measures.
- Restoration projects should be initiated to restore the old and historical buildings in district Khairpur. Restoration projects are labor intensive and it will help to create job opportunities for the locals.
- Awareness regarding investment in the DRR sector should be initiated in order to avoid future threats.

4.1.3 Health

- NGOs should encourage the community participation in the awareness sessions, programs and trainings, related to water treatment practices and hygiene practices which will capacitate the vulnerable communities of the area against the communicable diseases.
- Health department should take care of establishment of health facilities focused on certain population. All the health related issues should be dealt by them. But the responsibilities have to be identified.
- Advocacy seminars should be organized at district level for the training of medical staff to implement National Health Programs.

- Stabilization centers for the people suffering from acute malnutrition should be established in each small and big hospital.
- DDMA should assign the responsibilities of health department to ensure the availability of medical and paramedical personal in hospital, BHU's, MCHC, and RHC's. Moreover, mobile health teams should be mobilized so that the health facilitators can visit the local areas to provide basic health care especially for the vulnerable group such as people with disabilities, elderly persons, children, females and those who hesitate to go to the hospitals because of cultural constraint and long distance.

4.1.4 Livelihood

- District Livestock department should plan in advance for the vaccination of livestock population in case of scarce rainfall and mobile teams for the monitoring of the situation.
- Fodder stocks should be maintained by the livestock department of the district to cope with emergencies.
- Livestock owners should be encouraged to insure their cattle heads.
- Capacity can be built through awareness programs on livelihood diversification.
- Flood control and salinity control projects can be conceived to make more land available for cultivation
- NGO's organize advocacy seminars, trainings and awareness sessions for improved agricultural practices by incorporating CBOs' chairmen and presidents as they have great influence over the community members.
- Irrigation department should carry out hydraulic studies so that flooding can be avoided and find out catchment areas and water courses for surface run off.

4.1.5 Food

- Stockpiling of essential food items should be encouraged among the community through awareness programs.
- Number of Food distribution point should be established in the emergency hit area and should be easily accessible to most of the needy population.
- For extremely vulnerable groups such as elderly persons, people with disabilities, female and children, separate desk and queues at food distribution point should be established so that they do not suffer difficulties in attaining food
- Civil administration should look after the availability of food.

4.1.6 Wash

- Innovative approaches are required to ensure the availability of low-cost, simple, and locally acceptable water and sanitation interventions. Integrating these approaches into existing social institutions such as schools, markets, and health facilities is required.
- Tehsil Municipal workers should monitor the quality of pipe water and should distribute chlorine tablets for water purification in order to avoid diseases like cholera and hepatitis etc. Big water tanks/reservoirs should also be cleaned regularly.
- DRR measures should be incorporated in the construction of sewerage system in order to minimize the possibility of over flowing of sewage water in rainy days and to mitigate the hygiene issues.

4.1.7 Government and Humanitarian Sector

- District Disaster Management Authority should appeals for assistance through media at the national and international level.
- District Disaster Management Authority should coordinate with the NGOs working in different sectors to address the problems of people. The NGOs working on different projects can be invited and can be asked for initiation of DRR projects in the vulnerable areas of the district.
- Coordination among key stakeholders should be strengthened for the implementation of disaster risk reduction measures and effective emergency response through assignment of responsibility to each stakeholder. Stakeholders must have joint meetings to address the issues faced by them.
- Vulnerable Women and Children Organization in district Khairpur should organize awareness programs for community women to encourage their participation in DRR projects.

5 Coordination and Support Services

5.1 Important Contacts

5.1.1 Departmental Focal Points

Focal Point	Contact Number	Source
EDO Health	0243-9280151-2	www.**sindhhealth**.gov.pk/
EDO Education	0243- 9280177	www.rsu-sindh.gov.pk/Link/telehphones.html
DC	0243 9280200-1	Sindh Contingency Plan
DPO	009243-9280100	http://www.sindhpolice.gov.pk/contact/sukker_contact.asp
SP Investigation	009274-39280103	http://www.sindhpolice.gov.pk/contact/sukker_contact.asp
Fire Brigade	119	-do-
Police Helpline	15	-do-

5.1.2 List of District & Taluka Nazims with Address

District/Taluka	Name	Address
District	Pir Syed Niaz Hussain Shah Jillani	R/o Muhalla Ahmed pur Rani Pur
Khairpur	Tahir Imtiaz Phulpoto	Sardar House Khairpur
Mirwah	Atta Ullah Khan	R/o Khariri Taluka Mir Wah
Nara	Bakhsh Ali Aradin	R/o Dodo Fakeer Aradin Taluka Nara
Sobho Dero	Syed Muharam Ali Shah	Dargah Sharif Hingorja
Gambat	Syed Sarkar Hussain Shah	R/o Kazim Abad Station Road Gambat
Faiz Ganj	Akhtar Hussain Rajpa	R/o Karoondi
Kingri	Zaheer Uddin Ghumro	Village Keti Mir Muhammad Ghumro Kingri
Kotdiji	Peeral Wassan	Village Nawab Wassan Kot Diji

Source: Election Commission of Pakistan

5.1.3 List of NGOs Working in District

Name	Contact
Young welfare Society	0243-557148 0300-8314840
Tanzeem Falah-0-Behbood Welfare Association	0300-3115641
SEWA Development Trust	0243-552739,554082
Watan Development Organization	0243-528466
Khairpur Civil Society	0243-552526, 0300-9319566
Indus National Development Society	0300-3101966
Al- Mustafa Welfare Association	0243-552512, 0300-3121303
Shah Abdul Latif Bhitai Welfare Society	021-34680660, 0321-2374426
Al-Makhdoom Noujawan Samaji Tanzeem	0243-650649,0301-3434404
Right to Play	051-2214656, 051-2214634, 0300-8500561
ACTED	051-2653035, 2277162
Life Development Foundation	051-2352834, 0345-5897493
International Medical Corps (IMC)	091-5851984-6
Organization for Social Development Initiatives	021-32446208, 32461723
Qatar Charity	92-51-2212240-41

Name	Contact
Shah Sachal Sami Foundation	0244-381045
Sarhad Rural Support Programme	022-2654446
United Nations World Food Programme	92-51-8312000
Vulnerable Women and Children Organization	0092-300-9318189
World Vision International	92 -51-228 7126-3
Bhitai Social Welfare Association	071-680261
National Trust for Population Welfare (NATPOW)	92-51-9267004
Sindh Rural Support Organization	021-35833483-5
National Commission for Human Development	92-51-9216200
United Nations Children's Fund	92-51-209.77 - 30
International Rescue Committee	051-2822258
Indus Resource Centre	92 -21 35822239
Poverty Eradication Network	0300-2499774, 0303-9494790

Source: www.himpakistan.pk

5.2 Health Facilities

Name	Taluka	Type	UC
KHUSH KHAIR MOHAMMED	Faiz Ganj	BASIC HEALTH UNIT	Akari
BHANGU BEHAN.	Faiz Ganj	BASIC HEALTH UNIT	Bhango Behan
BASIRO	Faiz Ganj	BASIC HEALTH UNIT	Kandiari
ZAFARABAD	Faiz Ganj	BASIC HEALTH UNIT	Kandiari
RIPRI	Faiz Ganj	BASIC HEALTH UNIT	Kot Lalu
GHULAM NABI RAJPAR	Faiz Ganj	BASIC HEALTH UNIT	Kot Lalu
ARARO	Faiz Ganj	BASIC HEALTH UNIT	Pacca Chang
LARIK	Faiz Ganj	BASIC HEALTH UNIT	Pacca Chang
NIAZ ABAD	Faiz Ganj	BASIC HEALTH UNIT	Pacca Chang
LARIK	Faiz Ganj	SUB HEALTH CENTRE	Pacca Chang
RAZI DERO	Gambat	BASIC HEALTH UNIT	Agra
JADO WAHAN	Gambat	BASIC HEALTH UNIT	Jado Wahan
KAMAL DERO	Gambat	BASIC HEALTH UNIT	Kamaldero
SAIDI LOWER	Gambat	BASIC HEALTH UNIT	Kamaldero
KHARALABAD	Gambat	BASIC HEALTH UNIT	Kamaldero
KHUHRA	Gambat	BASIC HEALTH UNIT	Khuhra
ARAB PHULL.	Gambat	DISPENSARY	Gambat
GHULAM JAFAR JAMRO	Gambat	DISPENSARY	Gambat
ALLAH BUX KATOHAR	Gambat	DISPENSARY	Jado Wahan
TALUKA HOSPITAL, GAMBAT	Gambat	HOSPITAL	Gambat
GAMBAT	Gambat	MATERNAL & CHILD HEALTH CENTRE	Gambat
GAMBAT	Gambat	MATERNAL & CHILD HEALTH CENTRE	Gambat
AGRA	Gambat	RURAL HEALTH CENTRE	Jado Wahan
TANDO NAZAR ALI	Khairpur	BASIC HEALTH UNIT	Khanpur
BAGO MATLO	Khairpur	BASIC HEALTH UNIT	Khanpur
PIR MANGIO	Khairpur	BASIC HEALTH UNIT	Mehar Ali
UBHERI	Khairpur	BASIC HEALTH UNIT	Mori
PHATT	Khairpur	BASIC HEALTH UNIT	Nizamani
LOUNG FAKIR	Khairpur	BASIC HEALTH UNIT	Shadi Shaheed
DRIB MEHAR SHAH	Khairpur	BASIC HEALTH UNIT	Tando Masti
TANDO MASTI	Khairpur	BASIC HEALTH UNIT	Tando Masti
KOLAB JIAL	Khairpur	BASIC HEALTH UNIT	Tando Masti
THERHI	Khairpur	BASIC HEALTH UNIT	Therhi

PLAH	Khairpur	DISPENSARY	Baberloi
KHANPUR	Khairpur	DISPENSARY	Khanpur
MITHO MARI.	Khairpur	DISPENSARY	Nizamani
CIVIL HOSPITAL, KHAIRPUR	Khairpur	HOSPITAL	Shadi Shaheed
LUQMAN	Khairpur	MATERNAL & CHILD HEALTH CENTRE	Nizamani
KHAIRPUR	Khairpur	MATERNAL & CHILD HEALTH CENTRE	Shadi Shaheed
THERHI	Khairpur	MATERNAL & CHILD HEALTH CENTRE	Therhi
BACHAL	Khairpur	RURAL HEALTH CENTRE	Baberloi
T.B.HOSPITAL, KHAIRPUR	Khairpur	TB CLINIC	Shadi Shaheed
MAHESAR WADA	Kingri	BASIC HEALTH UNIT	Ahmed Pur
RAHUJA	Kingri	BASIC HEALTH UNIT	Hadal Shah
HADAL SHAH	Kingri	BASIC HEALTH UNIT	Hadal Shah
KATHORE	Kingri	BASIC HEALTH UNIT	Hadal Shah
GAGRI	Kingri	BASIC HEALTH UNIT	Kot Mir Mohammad
MACHYOON	Kingri	BASIC HEALTH UNIT	Kot Mir Mohammad
LAKHA WADA	Kingri	BASIC HEALTH UNIT	Kot Mir Mohammad
PIRYALOI	Kingri	BASIC HEALTH UNIT	Kot Mir Mohammad
KOT MIR MUHAMMAD	Kingri	BASIC HEALTH UNIT	Kot Mir Mohammad
PHORI CHANDIO	Kingri	BASIC HEALTH UNIT	Noorpur
AHMEDPUR	Kingri	BASIC HEALTH UNIT	Saderji
SUTYARO	Kingri	DISPENSARY	Hadal Shah
ALI HYDER JALBANI	Kingri	DISPENSARY	Kot Mir Mohammad
PIR JO GOTH	Kingri	MATERNAL & CHILD HEALTH CENTRE	Hadal Shah
GARHI MORI	Kingri	MATERNAL & CHILD HEALTH CENTRE	Piryaloi
PIR JO GOTH	Kingri	RURAL HEALTH CENTRE	Hadal Shah
GARHI MORI	Kingri	RURAL HEALTH CENTRE	Piryaloi
BABARLOI	Kot Diji	BASIC HEALTH UNIT	Bapho
BABAR WADA	Kot Diji	BASIC HEALTH UNIT	Bapho
HAJI IMAM BUX PALH	Kot Diji	BASIC HEALTH UNIT	Bapho
JAN MOHAMMED WANDIOR	Kot Diji	BASIC HEALTH UNIT	Jhando Mashaik
KUMB	Kot Diji	BASIC HEALTH UNIT	Kumb
JISKANI	Kot Diji	BASIC HEALTH UNIT	Kumb
HAJI NAWAB KHAN WASSAN.	Kot Diji	BASIC HEALTH UNIT	Kumb
AMIR ALI SHAH.	Kot Diji	BASIC HEALTH UNIT	Layari
PIR CHAINO	Kot Diji	BASIC HEALTH UNIT	Muhba Wah
MITHRI	Kot Diji	BASIC HEALTH UNIT	Muhba Wah
MUHAMMAD RAMZAN MULLO	Kot Diji	BASIC HEALTH UNIT	Muhba Wah
BOZDAR WADA	Kot Diji	BASIC HEALTH UNIT	Nasir Faqir
BAGO DERO	Kot Diji	BASIC HEALTH UNIT	Nasir Faqir
ABU ZAHBI KOTDEJI.	Kot Diji	DISPENSARY	Kot Diji
KOT DIJI	Kot Diji	MATERNAL & CHILD HEALTH CENTRE	Kot Diji
KOT DIGI	Kot Diji	RURAL HEALTH CENTRE	Kot Diji
KARAM ALI KHAN	Mirwah	BASIC HEALTH UNIT	Baqi Khan
DHORO	Mirwah	BASIC HEALTH UNIT	Bozdar Wada
HINDYARI	Mirwah	BASIC HEALTH UNIT	Hindiari
TARKO	Mirwah	BASIC HEALTH UNIT	Mandan
KABIR KHAN SIYAL	Mirwah	BASIC HEALTH UNIT	Mohsin Shah
SIKANDAR ABAD	Mirwah	BASIC HEALTH UNIT	Sabar Rind
DUBI	Mirwah	BASIC HEALTH UNIT	Sabar Rind
SETHARJA	Mirwah	BASIC HEALTH UNIT	Setarja
TANDO MIR ALI	Mirwah	BASIC HEALTH UNIT	Tando Mir Ali
KHARRAH	Mirwah	BASIC HEALTH UNIT	Veesar
IMDAD ALI SHER.	Mirwah	DISPENSARY	Bozdar Wada

DEPARJA	Mirwah	DISPENSARY	Deparja
MANGO FAKIR SHAR	Mirwah	DISPENSARY	Sabar Rind
MANDAN	Mirwah	DISPENSARY	Thari Mirwah
MEHRAB PUR	Mirwah	RURAL HEALTH CENTRE	Deparja
THARI MIRWAH	Mirwah	RURAL HEALTH CENTRE	Hindiari
LAHRI	Nara	BASIC HEALTH UNIT	Khenwari
PIR BUX GAHO	Nara	BASIC HEALTH UNIT	Khenwari
ARAB MACHI	Nara	BASIC HEALTH UNIT	Khenwari
HASHIM SHAH JAGIR	Nara	BASIC HEALTH UNIT	Kot Jubo
TAJJAL SHARIF	Nara	BASIC HEALTH UNIT	Kot Jubo
SORRAH	Nara	DISPENSARY	Choon Diko
TAJJAL.	Nara	DISPENSARY	Kot Jubo
CHUNDIKO	Nara	RURAL HEALTH CENTRE	Choon Diko
BHELLAR	Sobho Dero	BASIC HEALTH UNIT	Gadeji
RUKRANI	Sobho Dero	BASIC HEALTH UNIT	Hingor Ja
RAZAL MEMON	Sobho Dero	BASIC HEALTH UNIT	Mad
TANDO MIR KARAM KHAN TALPUR	Sobho Dero	BASIC HEALTH UNIT	Pir Hayat Shah
NEW GOTH SAHITO.	Sobho Dero	BASIC HEALTH UNIT	Pir Hayat Shah
GADEJI	Sobho Dero	BASIC HEALTH UNIT	Rani Pur Un
BACHAL BAMBRO	Sobho Dero	BASIC HEALTH UNIT	Rasoolabad
SAGYOON	Sobho Dero	BASIC HEALTH UNIT	Sagyoon
KHALIFA HURYAH	Sobho Dero	BASIC HEALTH UNIT	Sami
SAMI	Sobho Dero	BASIC HEALTH UNIT	Sami
FAKIR MOHAMMED LAKHO	Sobho Dero	DISPENSARY	Mad
IMDAD ALI SAHITO	Sobho Dero	DISPENSARY	Sami
HINGORJA	Sobho Dero	RURAL HEALTH CENTRE	Hingor Ja
SOBHO DERO	Sobho Dero	RURAL HEALTH CENTRE	Mad
RANI PUR	Sobho Dero	RURAL HEALTH CENTRE	Rani Pur Un