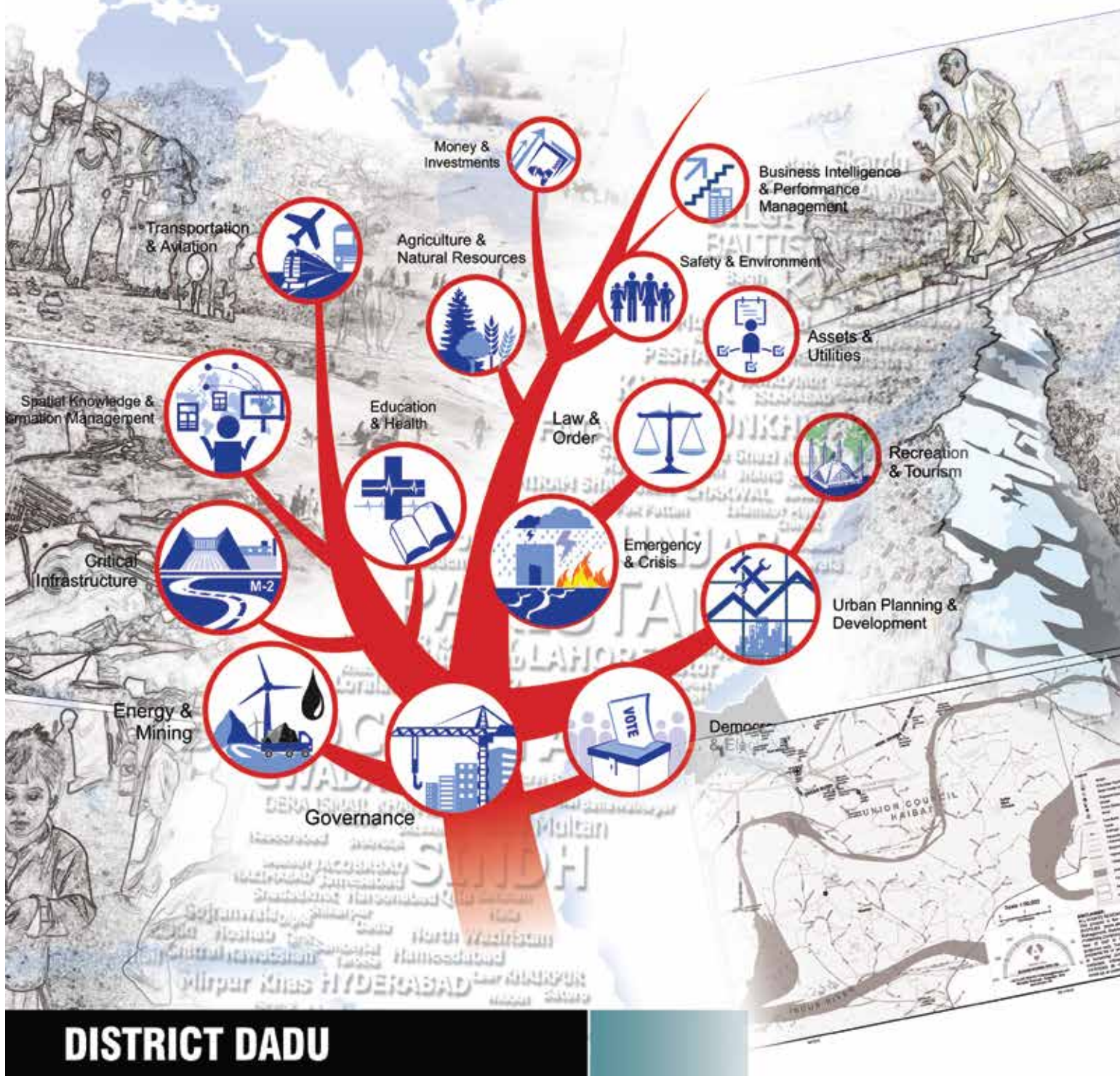


PAKISTAN EMERGENCY SITUATIONAL ANALYSIS



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A Hi-Tech Knowledge Management, Business Psychology Modeling, and Publishing Company

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“We cannot stop natural disasters but we can arm ourselves with knowledge: so many lives wouldn't have to be lost if there was enough disaster preparedness.”

Petra Nemcova

PAKISTAN

EMERGENCY SITUATIONAL ANALYSIS

District Dadu

February 2015

“There are two powers in the world; one is the sword and the other is the pen. There is a great competition and rivalry between the two. There is a third power stronger than both, that of the women.”

Quid e Azam Muhammad Ali Jinnah

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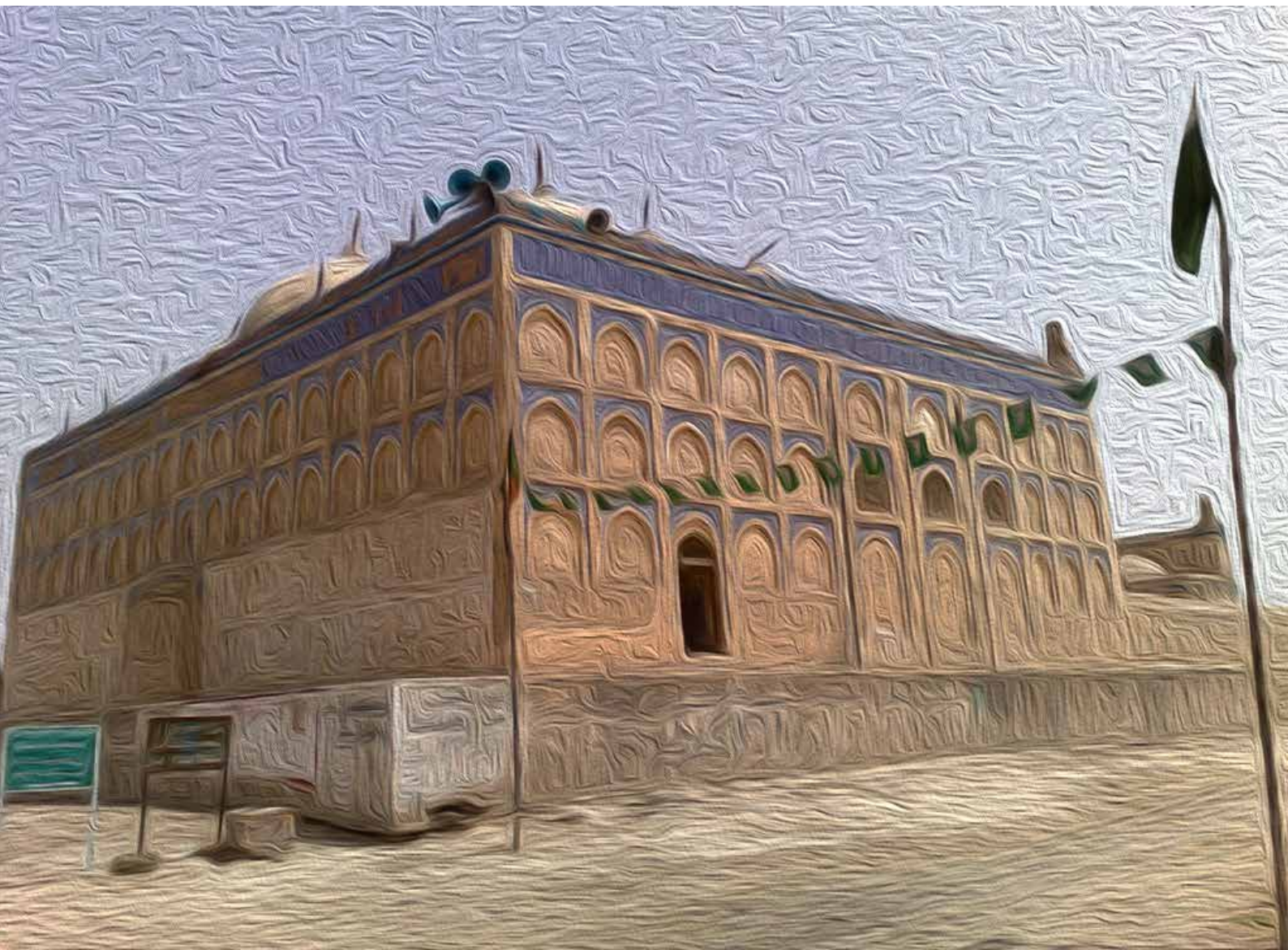
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**Khudabad Mosque
at
District Dadu, Sindh**

ہیں لوگ وہی جہاں میں اچھے
آتے ہیں جو کام دوسروں کے
علامہ انبیاء رحمہ اللہ علیہ

Pakistan Emergency Situation Analysis – PESA ® District Profiles are dedicated to my parents, my wife, my children, iMMAP, USAID, and many other humanitarian agencies; but most importantly my COPDM Project team members, their parents, spouses, and children for being there when we needed them and who supported us over the past years to achieve such an exceptional level of disaster reporting capacity in Pakistan.

Thank you all



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FOREWORD



Both individual knowledge and community knowledge are inter-dependent, and so is our individual or collective response to a disaster or developmental effort. Knowledge Management (KM) is an emerging science, which builds upon individual and community intellectual capacity. It is probably the most important aspect of a Disaster Risk Management (DRM) Cycle. The use of Geographic Information Systems, Remote Sensing, and other hi-tech analysis and visualization technologies for Knowledge Management is not only critical in Disaster Response but also in DRM research and implementation.

Pakistan Emergency Situation Analysis – PESA ® is an effective example of such hi-tech Knowledge Management. These profiles are divided into five chapters; starting with baseline and background information of an area including demography, livelihood, food security, health, nutrition, and educational baseline information of a community. The second chapter provides a detailed account of disaster history and its impact on different community aspects. PESA's 3rd chapter provides a comprehensive community Hazard, Vulnerability, and Capacity Analysis; while its 4th and 5th chapters focus on both public and humanitarian sector Disaster Risk Reduction measures and interventions.

I find these research-based reports to be highly useful in any response or mitigation effort. They are well illustrated with useful maps, colourful info graphics, tables, and charts to enhance the impact and readability of such documents among common citizens and general researchers. These reports are live documents and will be available for audience feedback on SKIM portal [www.skim.pk]. Over the years they could prove to be an invaluable resource for both developmental activities or rebuilding a disaster hit community.

My heartiest congratulations to ALHASAN SYSTEMS for leading this hi-tech public interest project. I have known Mehdi Bokhari for many years from being a student of University of Peshawar to pioneering GIS systems in early nineties. I am proud that he is spearheading this effort since 2010 floods and has built such an unprecedented local Knowledge Management capacity in Pakistan.

I recommend these profiles to all researchers and relief providers for developing better understanding of our communities.



Prof. M. Qasim Jan
PhD, DSc; HI, SI, TI
HEC Distinguished National Professor
University of Peshawar, Peshawar
Adviser, OIC Standing Committee on Scientific & Technology Cooperation (COMSTECH)
Islamabad, Pakistan



CRISIS RESPONSE BULLETIN

February 09, 2015 - Volume: 1, Issue: 4

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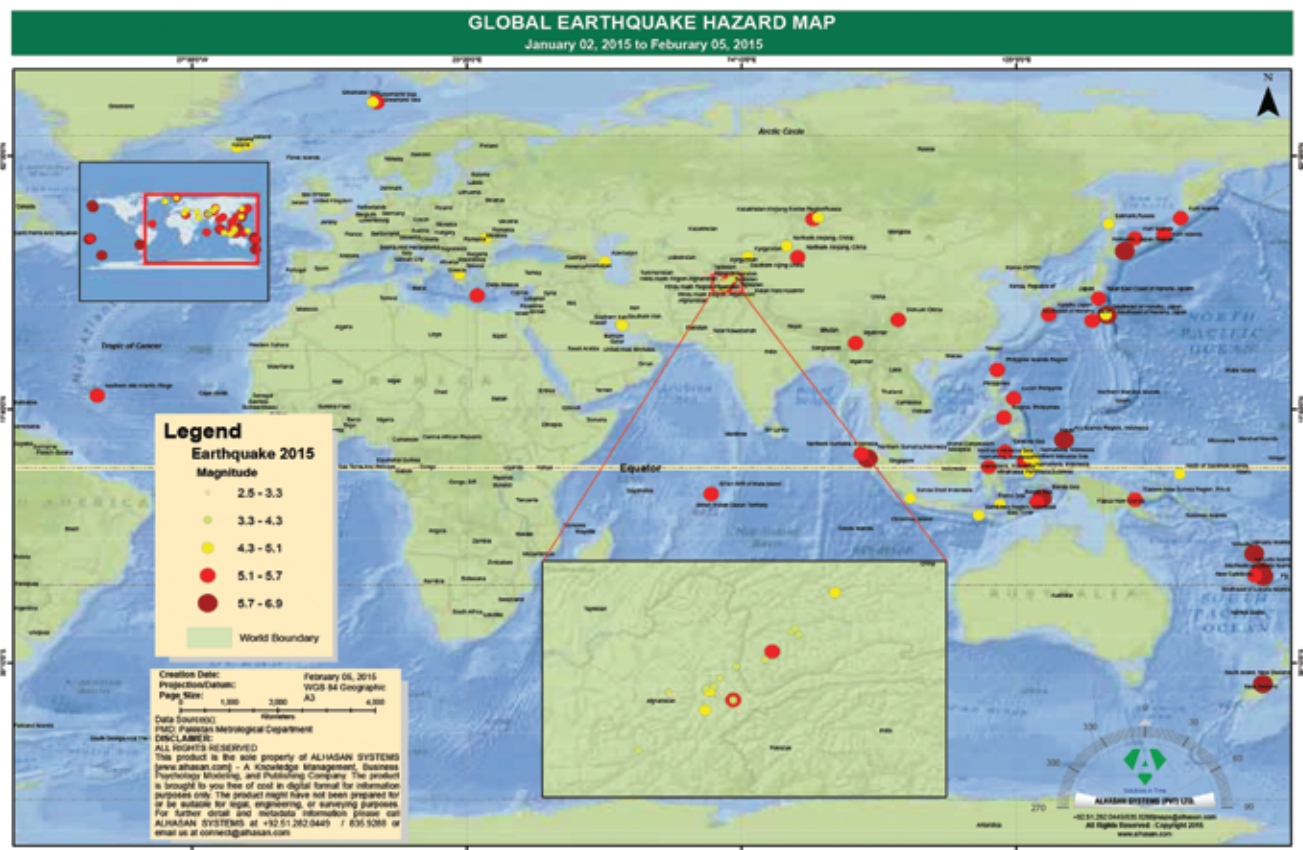
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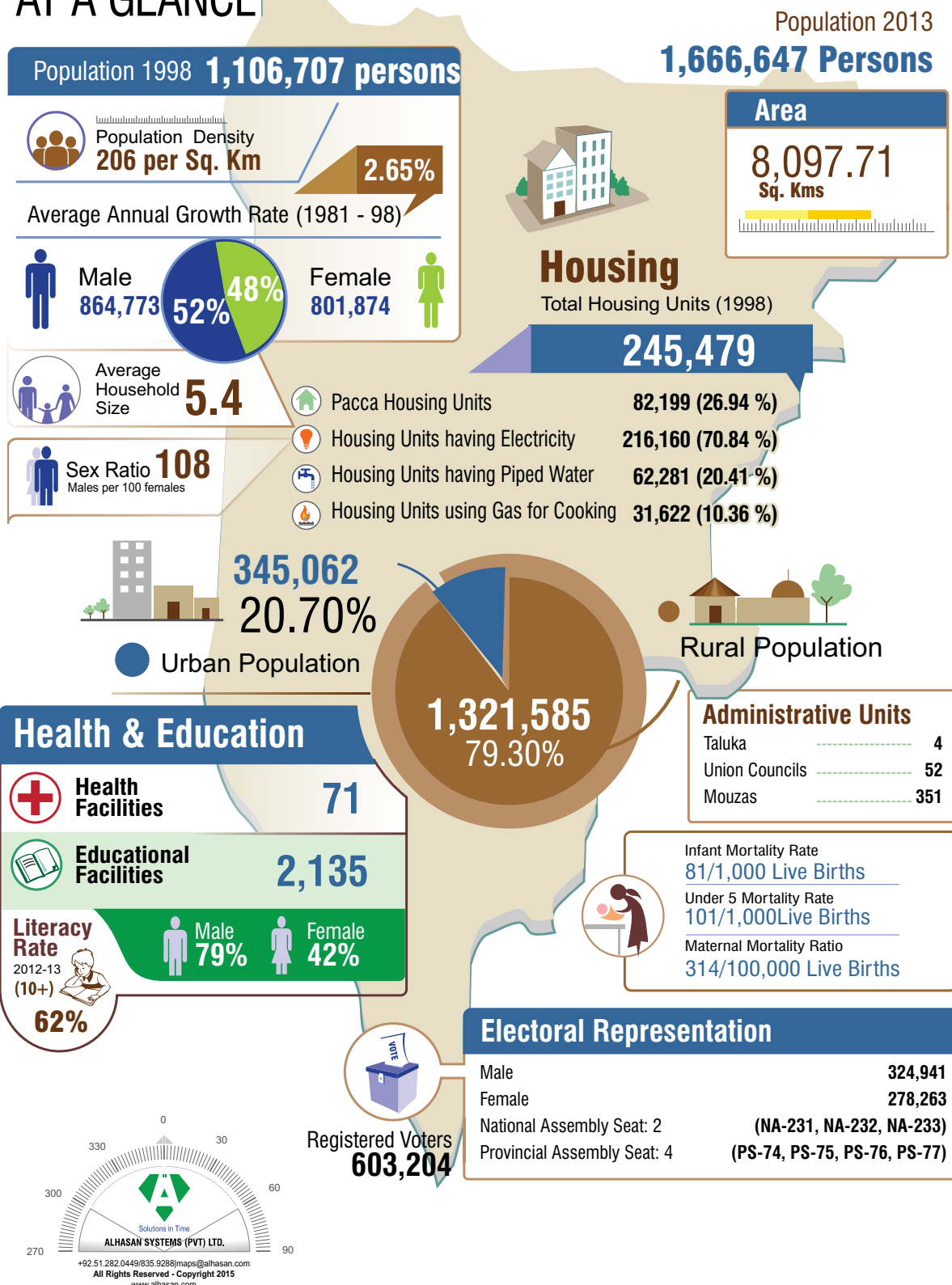
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Acronyms

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

DISTRICT DADU

AT A GLANCE



1 Background Information

1.1 Introduction

1.1.1 History

Dadu district was created, in 1933, by the British Indian administration by merging Kotri and Kohistan tehsils of Karachi district and Mehar, Khairpur Nathan Shah, Dadu, Johi and Sehwan tehsils of Larkana district¹. Historical significance of Dadu & its adjoining area (i.e. Sehwan, Johi & Mehar etc) has been mainly for two reasons; one that they forward the border between political domains of the rulers of the states of Sindh & Balochistan. Second, Dadu has been along the route of caravans travelling along the Indus. Khudabad village of district Dadu had remained the capital of Kalhora dynasty till as late as 1768 A.D. The popular trade system was “*Hundi*” in the district.

After Independence of Pakistan, the people belonging to Hindu community migrated to India & their properties were given to Muslims who had come from India. In fact Dadu District developed after Independence. The Indus Highway was also constructed after Independence. From 1991 up till 14th December 2004, Dadu remained the largest district of Sindh province before it was bifurcated and a new district of Jamshoro was created on 13/12/2004. At present, district Dadu comprises of four talukas i.e. Dadu, Johi, Mehar & K.N. Shah².

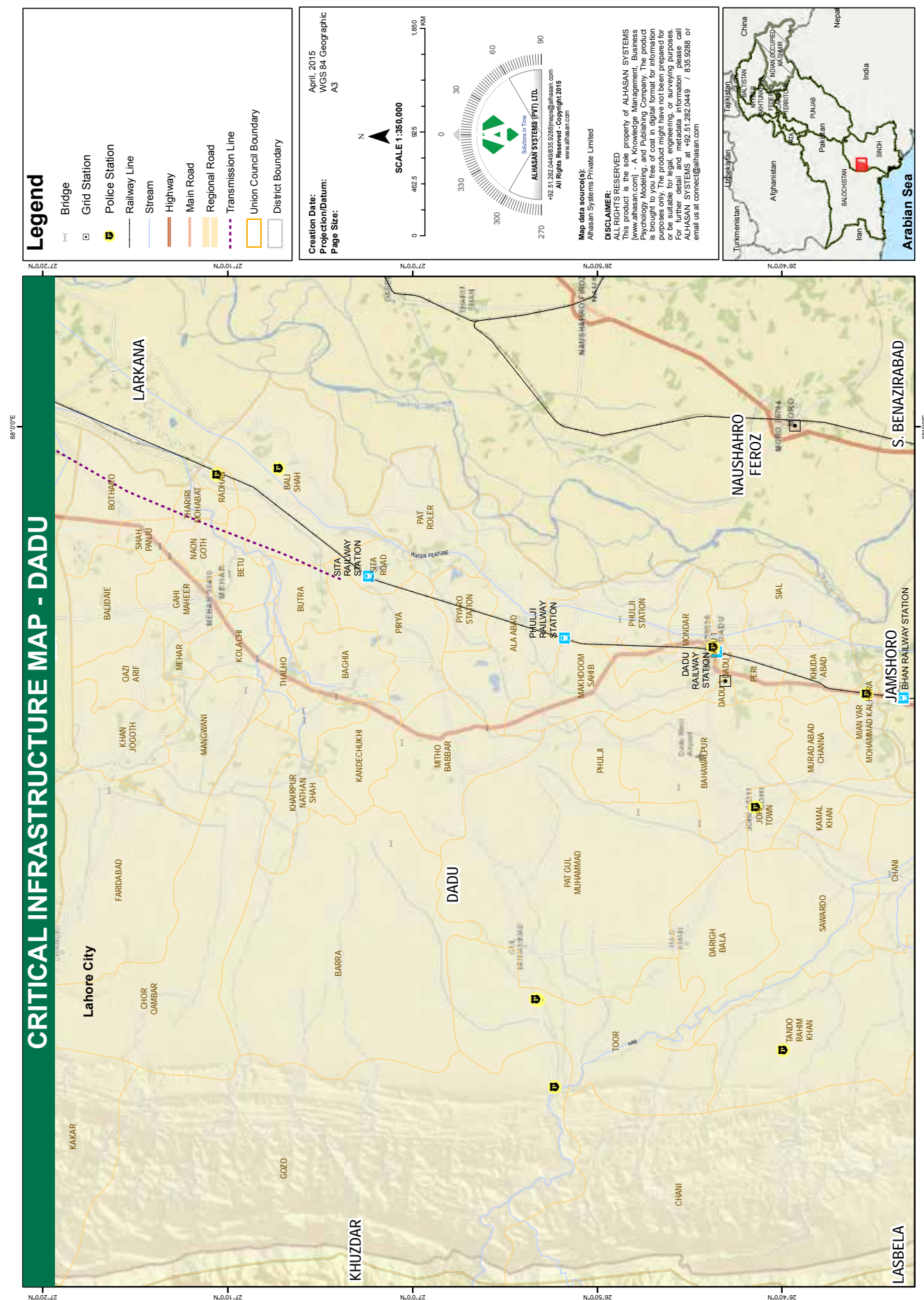
1.1.2 Geography

Dadu district is located in the west of Sindh province and is bounded on the north by district Kamber Shahdadkot, on the east by district Larkana and Shaheed Banizeerabad, on the west by Kirther range of mountains and Balochistan, and on the south by district Jamshoro. The district lies in 26° 6' 35" to 27° 26' 20" north latitude and 67° 0' 7" to 68° 0' 2' 17" east longitude. River Indus flows north to South along the eastern boundary of the district. Manchar is a huge lake of the district and is used for fish breeding and as a natural reservoir. The Khirthar National Park, located in district Dadu, is reserved for wild life preservation. The temperature, in summers, is recorded between 85°F to 90°F. Dadu, Mehar, Khairpur Nathan Shah, and Johi talukas form an extremely hot belt due to the direction of sea breezes from west to east over Bagho-Thoro mountains near Laki Shah Saddar³.

¹ http://en.wikipedia.org/wiki/Dadu_District

² A Brief Profile of Dadu, Small & Medium Enterprise development Authority, Government of Pakistan

³ <http://sindhdevelopmentinstitute.blogspot.com/2005/03/dadu-economic-profile.html>



1.1.3 Culture (Ethnicity, Religion and Politics)

Just like rest of the other provinces of Sindh, District Dadu also has its deep rooted cultural values. The dress of men and women are simple and vary according to season. Men wear mostly cotton *shalwar* and *kameez* in summer and silk or woolen clothes in winter. Female wear loose *shalwar kameez*. For the purpose of *purdah* women wear *burkas* and some wear *chaddar*. Mostly on festivals women wear *Saari* and gharries of Punjabi style. Women generally wore gold and silver ointments⁴.

Dadu is a famous hill station of Sindh. The most famous places of Dadu are Amri , khudabad, kotri , Mancher lake and Sehwan. The first hill station, developed in Sindh, is Gorakh Hill located in Dadu district. Mancher Lake is the largest lake in Asia and is a famous place for tourists. The majority of the population i.e. 97.49% is Muslim, followed by Hindus 2.05% and Christians are 0.37%. The common spoken languages are Sindhi (50.0%) and Seraiki (43.33%), other languages spoken in the district are Urdu 2.56%, Punjabi 1.17% and Balochi 0.42%⁵.

Dadu is a politically lively district, which has produced politicians such as Pir Illahi Bux, G.M. Syed and Abdul Hameed Khan Jatoui. Dadu has long been a bastion of the Pakistan People's Party (PPP) but the party ceded ground to former chief minister, Liaquat Ali Jatoui, who grabbed the province's top slot during Nawaz Sharif's second term in office and later joined forces with the Chaudhrys of Gujrat to become a federal minister⁶.

In the last general elections of 2008, both seats of of the National Assembly from this district were won by Pakistan People's Party (PPP)⁷.

1.1.4 Administrative Division

District Dadu consists of four talukas namely: Dadu, Johi, Mehar and Khairpur Nathan Shah (K.N Shah). There are a total of 52 union councils consisting of 336 Mouzas (Revenue villages). Out of these 336 mouzas, 286 are rural, 3 are urban, 21 are partly urban, 7 are forest mouzas and 19 are un-populated.

Table 1.1-1: Administrative Division of District

Dadu	Knungo Circles/ Supervisory Tapas	Patwar Circles/ Tapas	Number of Mouzas					
			Total	Rural	Urban	Partly urban	Forest	Un-populated
Dadu Taluka	3	22	66	56	-	4	4	-
Johi Taluka	4	30	110	98	-	1	1	10
Mehar Taluka	3	33	78	66	2	9	1	2

⁴ <http://daaira.com/cultural-review-of-dadu/>

⁵ http://en.wikipedia.org/wiki/Dadu_District

⁶ <http://archives.dawn.com/weekly/herald/herald77.htm>

⁷ <http://www2.ecp.gov.pk/vsite/complete/Search.aspx?constituency=NA&constituencyid=NA-233>

Dadu	Knungo Circles/ Supervisory Tapas	Patwar Circles/ Tapas	Number of Mouzas					
			Total	Rural	Urban	Partly urban	Forest	Un-populated
K.N Shah Taluka	4	27	82	66	1	7	1	7
TOTAL	14	112	336	286	3	21	7	19

Source: Mouza Statistics of Sindh 2008, Agriculture Census Organization

1.1.5 Road Network Infrastructure

Indus Highway (N-55) passes through this district, with a total length of 127km within the district. The existing road network, in Dadu district, is fairly good. The district headquarter, Dadu, is connected with other taluka headquarters of Johi, Meharand K.N Shah through metalled roads. Two provincial highways, comprising of a total length of 124 km, are mentioned in official statistics, provided by the government of Sindh. Also, there is a comprehensive network of access roads, comprising of 250 km, inter connecting the whole district⁸.

1.1.6 Irrigation

The district is irrigated by Sukkur barrage except for a small portion, which is irrigated by Kotri Barrage. There are two main canals in the district Rice canal and Dadu canal. Besides, land is also irrigated by tube wells and spillover of river Indus⁹.

Agriculture, in Dadu, mainly depends upon canal irrigation. However, other modes of land irrigation like river water and tube wells are also used. Table given below, shows the total irrigated area of district Dadu by different modes of irrigation. Out of 307 rural mouzas, 229 (75%) are irrigated with the help of canals. Tubewells Irrigation is also common in 112 mouzas, which constitutes 36% of the total rural mouzas. Moreover, rain-fed irrigation is also prevalent in 19% of the 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/STREA M/ KAREZ	ARID (BARANI)	FLOODING/ TORRENT
Dadu District	NUMBER	307	229	16	112	1		5 58	3
	PERCENT	100	75	5	36			2 19	1
Dadu Taluka	NUMBER	60	54	6	45	-		- -	1
	PERCENT	100	90	10	75				2

⁸ <http://www.sindh.gov.pk/>

⁹ <http://jamali2u.com/sindh/sindh/pages/Geography-Of-Dadu5.php>

ADMINISTRATIVE UNIT		RURAL POPULATED MOUZAS	NUMBERS OF MOUZAS REPORTING SOURCE OF IRRIGATION						
			CANAL	RIVER	TUBEWELL/ WELL	RAVINE	SPRING/STREA M/ KAREZ	ARID (BARANI)	FLOODING/ TORRENT
Johi Taluka	NUMBER	99	35	3	54	1		5 51	-
	PERCENT	100	35	3	55	1		5 52	
Mehar Taluka	NUMBER	75	70	7	8	-		- 2	2
	PERCENT	100	93	9	11			3	3
K.N Shah Taluka	NUMBER	73	70	-	5	-		- 5	-
	PERCENT	100	96		7			7	

Source: Mouza Statistics of Sindh 2008, Agriculture Census Organization

In the year 2008-09, 92% of the net sown area was irrigated through and of this irrigated area 66% was irrigated through canals and in 2009-10 it increased to 68%. The table below gives information regarding irrigation in the district.

Table 1.1-3: Irrigation by the source type

Irrigation Type	2008-09	2009-10
Canal	80,958	90,716
Well	241	239
Tube well	42,210	41,940
Total Irrigated Area	123,409	132,895
Un-Irrigated	11,219	8,981
Total Sown Area	134,628	141,876
% Irrigated	98%	96%

Source: Sindh Development Statistics

1.1.7 Solid Waste management

“Solid Waste Management (SWM) is the generation, separation, collection, transfer, transportation and disposal of waste in a way that takes into account public health, economics, conservation, aesthetics, and the environment, and is responsive to public demands.”¹⁰

Current Situation of Solid Waste Management (SWM)

Drainage system

¹⁰ Journal of Environmental and Occupational Science Environ Occup Sci 2012; 1(2):129-131

Drainage system in the rural areas of Sindh, under the prescribed criteria, is provided for "A rural settlement with a population of 1,000 persons & above, preferably having water system". Presently out of a total of 301 rural settlements, 38 settlements have been covered by the drainage facility. As per the above categorization, out of the 82 rural settlements, having a population of 2000 and above, 23 settlements are facilitated by the drainage facility. In second category, only 6 settlements (with a population less than 1,000 persons) from 59 have been covered with drainage. Under third Category, out of 160 rural settlements, 9 settlements are having the facility of drainage system.¹¹

Solid Waste Management (SWM)

In district Dadu, Taluka Municipal Authorities (TMAs) are responsible for the solid waste disposal, drainage and sanitation and water supply facilities. As regards the urban water Supply schemes in district Dadu, all urban localities are covered. As far provision of urban drainage schemes in district Dadu is concerned, all urban localities are provided with open pakka drain system.¹² Due to the poor infrastructure of municipal services at District and its concerned talukas level municipalities, there is no latest data/statistics available on the current situation of Solid waste management system of district Dadu. Likewise other major districts of Sindh, District Dadu also faces irregularities in the solid waste management system majorly at talukas level, as well as, district level too. However, a common method of solid waste collection from the source point to the disposal at landfill site is followed. Furthermore, indiscriminate dumping and open burning of waste is a common practice in many areas of district Dadu.

The following data tables clearly show the poor structure of solid waste management sector in aspect of municipal-services in district Dadu. There is a wide gap between what households are paying and willingness to pay; this could be that the house-holds current payment levels do not include non-municipal supply or the cost of entire household water bill, as shown in the table¹³.

¹¹ <http://sindhdevelopmentinstitute.blogspot.com/2005/03/dadu-economic-profile.html>

¹² Ibid

¹³ ASIAN DEVELOPMENT BANK; URBAN MUNICIPAL SERVICES, SINDH SECONDARY URBAN SECTOR ASSESSMENT Prepared under ADB PPTA 4534 – Sindh Basic Urban Services Project DRAFT FINAL REPORT Volume - I July 2007

Table 1.1-4: District Dadu; Willingness to Pay for Improved Municipal Services

Services	Initial Contribution in Katchi Abadis, Rs.	Initial Contribution in Pacci Abbadis Rs.	Services in Katchi Abadis Rs.	Services in Pacci Abadis Rs.
Sewerage	1,304	1,123	97	98
Solid Waste	611	655	44	58

Source: Prepared for Sindh Secondary Cities Urban Municipal Services Sector Assessment. Based on Volume II, SBUSP, Final Report, Supplementary, Appendix C.

Table 1.1-5: Street Sweepers by Contractual Relationship to TMA

Dadu	
TMA employees	25
Outsourcing contractor	175
Total	200

Source: Table 15: Numbers of Road Sweepers, SBUSP, Vol 2, Final Report

Table 1.1-6: Variation in Expenses for O&M

Services	Repair and Maintenance	Electricity	Petrol and Oil Lubricant	Chemicals	Others
Sewerage/ Drainage	-	13.4% to 0%	-	-	1.5% to 0%
Solid Waste	4.8%	0.3% to 0%	7.6%	1.4% to 0%	-

Source: Prepared for Sindh Secondary Cities Urban Municipal Services Sector Assessment. Based on Table 1: O&M Costs of Municipal Services, Volume III, SBUSP Final Report

Table 1.1-7: Operating Procedures in SWM – An Overview of Practices

Complaint System	Duty Roster	Register of Staff	Attendance Register	Record of Work Done	Record of Performance	Vehicle Availability Record	Vehicle Maintenance Record	Vehicle Maintenance Schedule
Yes. Register inspected	No	Yes	Yes register inspected	No	No criteria No records	No	No	No (repaired when needed)

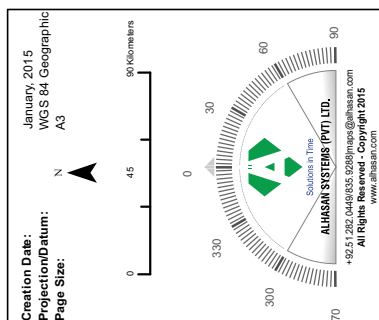
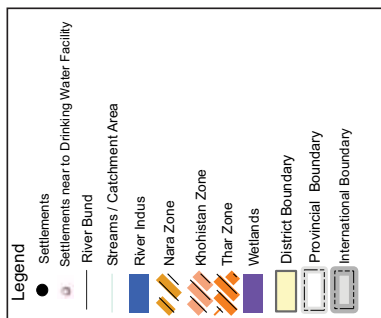
Source: Table 17, Waste Management Monitoring System, Sindh Basic Urban Services Project, PPTA Final Report, Volume II



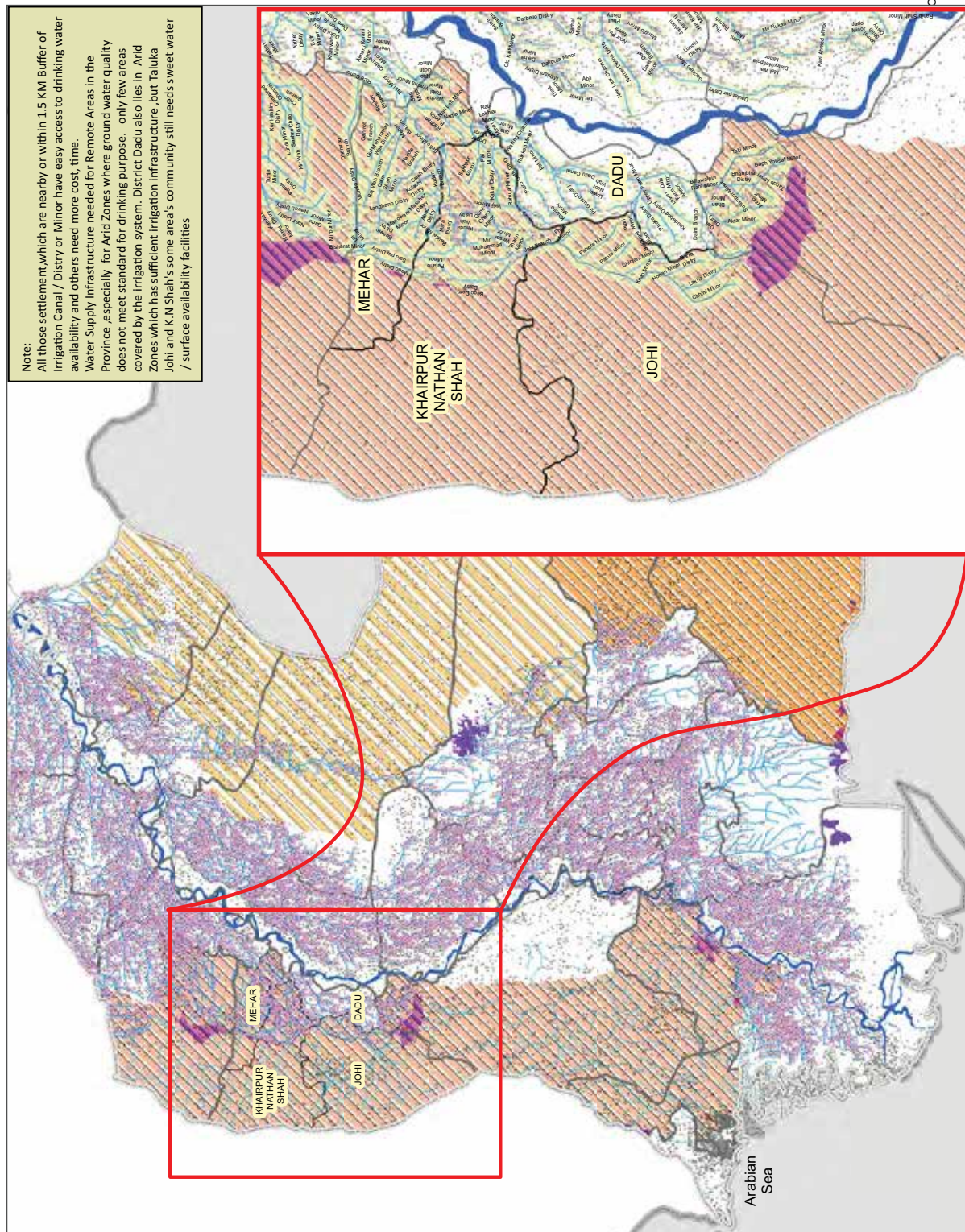
Sindh-Dadu Surface/ Drinking Water Availability Map

Date January 2015

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 Dadu also lies in Arid Zones which has sufficient irrigation infrastructure, but Taluka Johi and K.N Shah's some area's community still needs sweet water / surface availability facilities



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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 males¹⁴. Sex ratio in Dadu is 108 males per 100 females, which is more than the ratio at the National level that is 106¹⁵. 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 rate¹⁶ and poor health care at the district and provincial level¹⁷ are likely to be instrumental for this difference. District Dadu, like majority of the other districts in Sindh, is rural by its characteristics and 79.3 percent of the population resides in rural 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	1,713,407	889,415	823,993	1,358,665	706,493	652,172	354,743	182,922	171,821
00 – 04	278,011	139,736	138,275	221,851	110,994	110,857	56,161	28,742	27,418
05 – 09	284,839	152,571	132,268	227,952	122,552	105,401	56,887	30,019	26,867
10 – 14	202,550	115,868	86,682	159,446	92,360	67,086	43,103	23,508	19,595
15 – 19	174,085	87,168	86,917	135,355	67,842	67,513	38,730	19,326	19,403
20 – 24	161,622	76,471	85,150	127,332	60,499	66,834	34,289	15,973	18,317
25 – 29	132,239	67,504	64,734	104,209	53,217	50,991	28,030	14,287	13,743
30 – 34	102,382	53,696	48,686	80,528	41,902	38,626	21,854	11,794	10,060
35 – 39	80,545	42,521	38,024	64,112	33,778	30,334	16,432	8,743	7,690
40 – 44	74,618	36,296	38,322	59,186	28,642	30,544	15,432	7,654	7,778
45 – 49	58,323	30,665	27,658	46,105	24,186	21,919	12,218	6,479	5,739
50 – 54	48,960	25,684	23,275	39,282	20,744	18,538	9,678	4,940	4,737
55 – 59	31,577	16,957	14,620	24,853	13,305	11,548	6,724	3,652	3,072
60 – 64	33,463	18,032	15,431	27,129	14,694	12,435	6,334	3,338	2,996
65 – 69	17,663	9,514	8,150	14,150	7,617	6,533	3,513	1,897	1,616
70 – 74	15,956	8,332	7,623	13,266	7,038	6,228	2,689	1,294	1,395
75 & ABOVE	16,576	8,399	8,178	13,907	7,123	6,784	2,669	1,276	1,393

Source: Estimated using Table 4 Census 1998

¹⁴ A profil for District Badin, 2009. South-Asia Partnership Pakistan

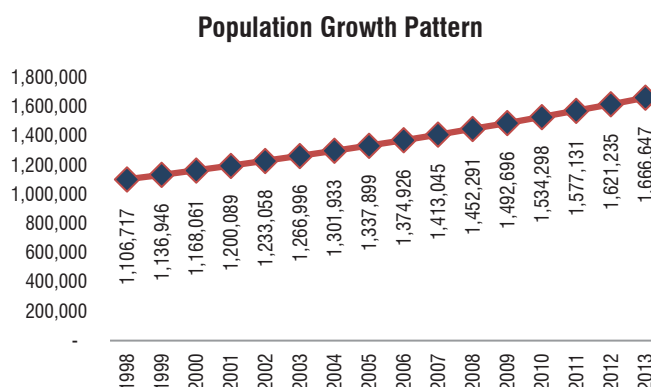
¹⁵ Labour Force Survey 2010-11: *Pakistan Bureau of Statistics*

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

¹⁷ Mean distance from hospital/dispensary is 12 km for Sindh: Pakistan Mouza Statistics, Table 15

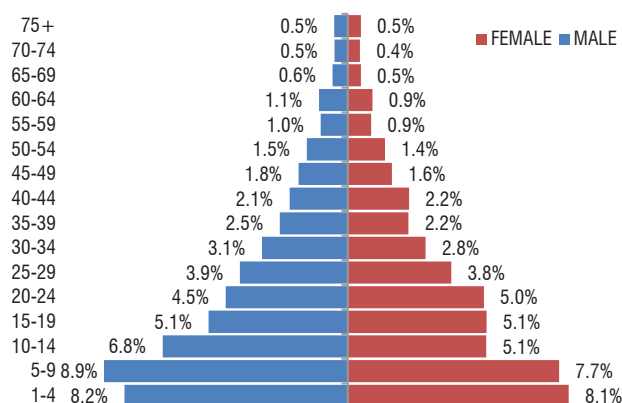
1.2.2 Population Growth Pattern

Total population of the district, in 1998, was 1,106,717¹⁸. Population of district Dadu has an estimated growth rate of 2.65% per annum, which means that population will double itself in 26.41 years¹⁹ from 1998. 44.67 percent of the population is below 15 years of age and 2.93 percent is 65 years or above. The estimated population for 2014 is 1,713,407, showing a 55% increase in 16 years from 1998.



1.2.3 Population Distribution by Age and Gender

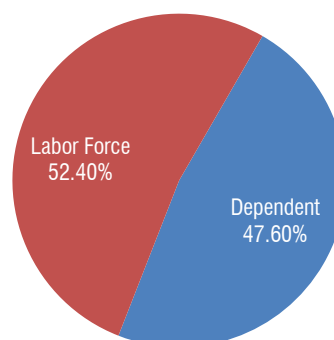
Out of the total population, 52 percent are males and 48 percent are females. Largest cohort of population is 5-9 years, which decreases with 5 years interval. Total population in this cohort is 284,839. Except the age groups 20-24 40-44, in all the rest of the age groups, male population out numbers 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 Dadu district is 47.60 percent of the total population and the working population is 52.40 percent, which shows that dependency ratio²⁰ in the district is 91 percent.

Dependent Population percent



¹⁸ for 4 Talukas

¹⁹ Rule of 70 <http://controlgrowth.org/double.htm>

²⁰ Dependency Ratio = (Population < 15 Years + Population > 65 Years) / Population 15-65 Years

Table 1.2-2: Population Details by Taluka

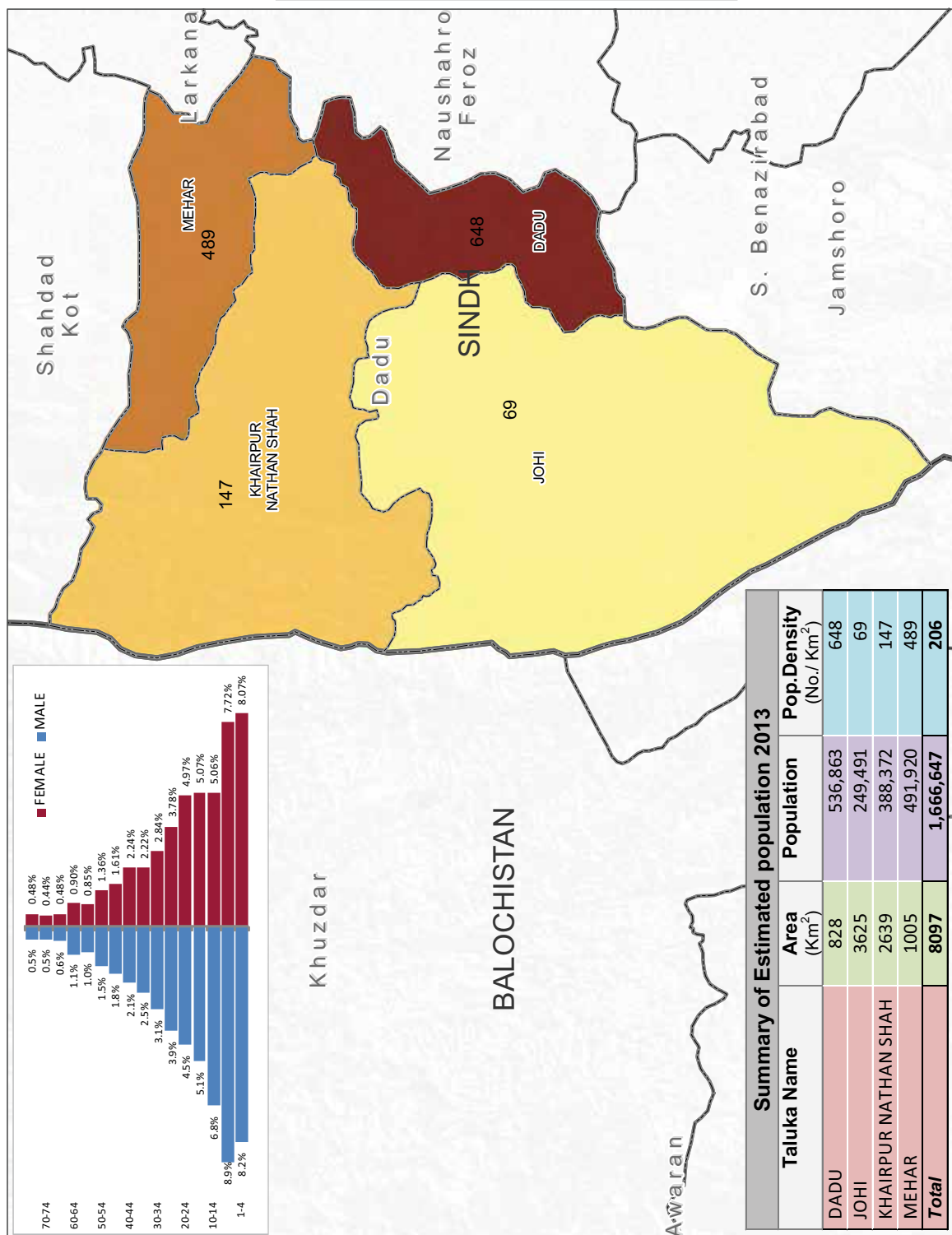
Taluka	Population	Male	Female	Pop Density	Sex Ratio	Average HH Size	Estimated HHs	UCs
DADU	554,794	288,205	266,590	670	108	5.5	100,872	15
JOHI	252,585	132,478	120,107	70	110	5.2	48,574	10
KHAIRPUR NATHAN SHAH	399,596	206,959	192,637	151	107	5.3	75,396	12
MEHAR	506,432	261,371	245,061	504	107	5.6	90,434	15
Total	1,713,407	889,013	824,395	212	108	5.4	315,276	1,713,407

Source: Estimated using Table 1 of Census 1998

Table 1.2-3: UC population of the district

Taluka	Name of Union Council	Population 2014	Taluka	Name of Union Council	Population 2014	Taluka	Name of Union Council	Population 2014
Dadu	Dadu-1	44,889	Johi	Phulji Village	24,471	K.N Shah	Sindhi Buttra	33,302
Dadu	Dadu-2	42,485	Johi	Patt Gul Mohammad	25,565	Taluka K N Shah Total		
Dadu	Dadu-3	33,534	Johi	Kamal Khan	28,586	Mehar	Mehar	43,059
Dadu	Dadu-4	52,564	Johi	Chinni	27,951	Mehar	Baledai	37,645
Dadu	Patt	37,815	Johi	Bhawalpur	27,698	Mehar	Mangwani	29,955
Dadu	Piaro Station	39,611	Johi	Sawaro	22,746	Mehar	Gahi Mahasor	30,855
Dadu	Allahabad	32,611	Johi	Torre	22,509	Mehar	Kolachi	30,516
Dadu	Phulji Station	32,400	Taluka Johi Total			Mehar	Radhan	32,467
Dadu	Makhdoom Bilawal	34,991	K.N Shah	Khairpur Nathan Shah	41,052	Mehar	Thari ri Mohabat	37,087
Dadu	Mounder	33,623	K.N Shah	Kakar	32,017	Mehar	Bothro	37,310
Dadu	Siyal	35,099	K.N Shah	Thalho	33,240	Mehar	Betto	33,604
Dadu	Yar Mohammad Kalhoro	36,000	K.N Shah	Dhani Bux Bughio	31,780	Mehar	Nau Goth	29,800
Dadu	Khudaabad	34,675	K.N Shah	Mitho Babar	29,522	Mehar	Shah Panjo	33,705
Dadu	Muradabad	32,952	K.N Shah	Kandi Chukhi	31,723	Mehar	Fareed Abad	31,788
Dadu	Pipri	31,545	K.N Shah	Burira	31,904	Mehar	Qazi Arif	35,585
Taluka Dadu Total		554,794	K.N Shah	Gozo	32,249	Mehar	Khan Jo Goth	32,331
Johi	Johi	21,920	K.N Shah	Parya	34,738	Mehar	Bali Shah	30,724
Johi	Drigh Bala	23,119	K.N Shah	Sita Road	37,841	Taluka Mehar Total		
Johi	Tando Raheem Khan	28,021	K.N Shah	Chhore	30,228	District Dadu		
						506,432		
						1,713,407		

Dadu-Population Density Map January, 2015



1.3 Livelihood

1.3.1 Main Sources of Livelihood/Income

While towns provides business opportunities to their residents, majority of district Dadu's population lives in the arural areas and are involved in agriculture. The inhabitants of Kheerthar mountain range depend on farming the sailors (*Mallahs*) of Manchhar lake (Portion falling in taluka Johi) earn their livelihood by fishing. Approximately 20% of the district population is serving in Federal & Provincial Government²¹.

Like any other district of Pakistan, Dadu, primarily, is an agro-based district where 70% of the mouzas have reported agriculture sector as the major source of employment for male population. The following table reveals the sources of employment for the people of district Dadu. Out of 307 rural mouzas, 207 (67%) reported agriculture as the source of employment. The table also showss that casual labour is frequent in this district, which is a source of employment for 20% of the mouza population. Services and personal business are also major sources of employment for some of the population. It can be ascertained, from the table given below, 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. Overseas employment is also significant in this district.

Table 1.3-1: Number of Mouzas Reporting Sources of Employment

GENDER	QUANTIFICATION	SERVICE	AGRICULTURE	TRADE	INDUSTRY	PERSONAL BUSINESS	OVERSEAS EMPLOYMENT	LABOUR
MALE	MOSTLY	8	207	-	-	2	1	60
	SOME	155	76	52	26	94	57	191
	NONE	144	24	255	281	211	249	56
FEMALE	MOSTLY	4	121	3	-	15	-	79
	SOME	80	76	9	11	28	20	148
	NONE	223	110	295	296	264	287	80

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

²¹ A Brief Profile of Dadu, Small & Medium Enterprise Development Authority, Government of Pakistan

1.3.2 Agriculture

There are two main crop seasons, in Dadu district; *Kharif* and *Rabi*. The Kharif season starts from April-May and ends in October-November while the *Rabi* starts from November-December and ends in April-May. However due to regional variations in temperature, several factors i.e varieties, availability of water, soil texture etc determine the crop pattern, sowing and harvesting time. The Crops are further categorized into major and minor crops. Wheat, cotton, rice, sugarcane are the major crops of the district and Barely, jowar, gram and mustard fall in the category of minor crops. The annual production of wheat and Rice, over the year 2008-09, was 160 (000 Tonnes) and 206.3 (000 Tonnes) respectively. Other crops, cotton and sugarcane, are also cultivated in the district.

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

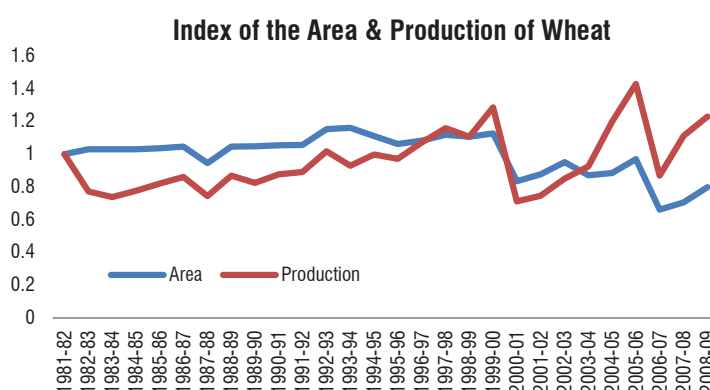
Table 1.3-2: Food and Cash Crops Cultivated in District

Type	Crop	Area Sown in 2008-09 (000 Hectares)	Production in 2008-09 (000 Tonnes)	Area Sown in 2010-11 (Acres) FAO
Food	Wheat	50.2	160	-
	Rice	55	206.3	112,653
	Jowar	2.2	97.5	14,223
Cash	Sugarcane	9.2	38.6	31,194
	Cotton	50.2	160	-

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

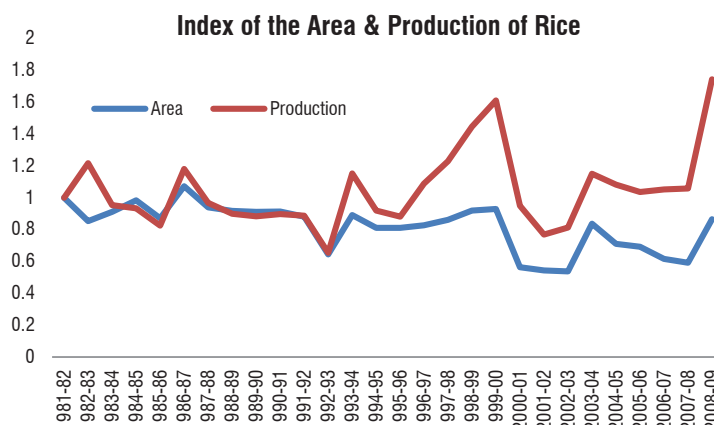
- Wheat

The trends depicted in the corresponding graph for the area and production show that over the last 28 years, area sown has decreased while the production of wheat has increased. This trend shows increase in the productivity of wheat. Moreover, a decrease in the area and production for the year 2005-06 can be justified on the grounds that another district Jamshoro was carved out of Dadu, which decreased the area and production.



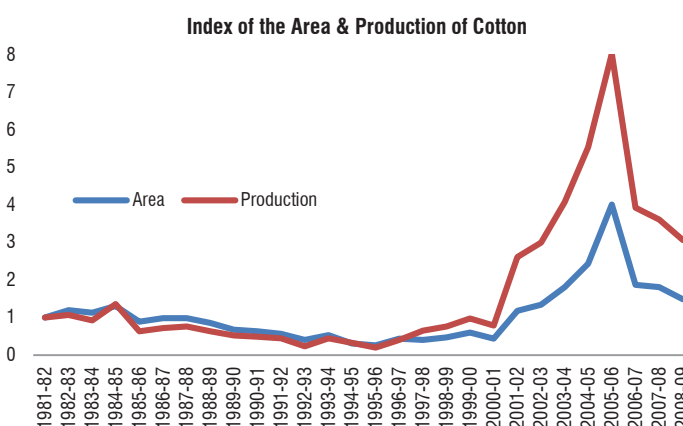
- Rice

The area and production of rice has increased over time in this district. As shown, initially, both the area and production were having the same trends but from 1996-97 onward, the increase in production has been more rapid as compared to the increase in area, Showing increased productivity of this crop.



- Cotton

Cotton crop has shown similar trends in area and production in district Dadu. But from 2001-02 onward, increase in production has been more rapid as compared to the increase in area which shows an increase in productivity of the crop. Again, the decrease in area and production, from 2005-06 onwards, is due to the bifurcation of the district in to two districts.



1.3.3 Industry

With the coordination and support of Small and Medium Enterprise Development Authority (SMEDA), a registered Chamber of Commerce is functioning in Dadu district. Apart from Dadu's Chamber of Commerce and Industries, some other associations of traders are also functioning in each main town of different talukas of district Dadu.

The district is rich in natural resources. Precious stones & reservoirs of gas & petroleum have been explored in taluka Johi. The B.H.P. Company established itself in the district to explore gas & petroleum. Another Foreign company viz: ENI has also setup their base station along the border of Taluka Johi & Sehwan for the same purpose. Small and Medium Enterprise development Authority (SMEDA) has reported 44 small industries (rice husking mills) in two talukas: Mehar and K.N Shah. These mills provide employment to 1,340 people of this area. Other than that, Dadu Sugar Mill is a large scale industry in this district²².

²² A Brief Profile of Dadu, Small & Medium Enterprise development Authority, Government of Pakistan

1.3.4 Livestock

Livestock is one of the major sub-sector of Agriculture and back bone of Pakistan's economy. Its main by-products, including hides and skins, have substantial potential as semi-finished products. A substantial growth in Livestock products such as milk, meat, beef, mutton, poultry and eggs have been noticed, since many years, in district Dadu. Dadu district is rich in livestock and cattle, buffalo, goat and sheep are found in every part of district Dadu. The details are given below²³.

Table 1.3-3: Livestock Population of the district

Cattle	Buffalo	Sheep	Goat	Camels	Horses	Mule	Asses	Poultry
468,802	385,983	283,729	800,064	42,027	3,475	1,907	38,983	500,570

Source: Livestock Census 2006

²³ Livestock Census 2006

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 is produced for meeting food requirement as major crops. Maize, pulses and vegetables are produced in relatively lesser quantities in the district. As the below table shows, wheat and rice are cropped in 81% and 62% of the mouzas respectively, whereas maize and vegetables are cropped in 18% and 9% of the mouzas respectively. Nonetheless, the overall crop based food production is not sufficient to meet the required need of the population in Dadu district²⁴.

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
Dadu District	250	192	80	41	57	3	13	29
Dadu Taluka	59	36	45	28	6	2	11	12
Johi Taluka	74	29	26	2	50	-	1	11
Mehar Taluka	50	68	6	1	1	1	1	4
K.N Shah Taluka	67	59	3	10	-	-	-	2

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. 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-based food against its requirements. Combining both, crop based and animal based food self-sufficiency, Dadu is facing deficiency in total food production²⁵.

²⁴ Food Insecurity in Pakistan (2009), Sustainable Development Policy Institute (SDPI), Islamabad

²⁵ ibid

Although the domestic production of food grains in this district is not sufficient according to the requirement of district population, yet the economic and trade activities of this district ensures the availability of food grains through imports.

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, availability alone cannot make a society food secure. Certain indicators like household income, inflation, child dependency and monthly food expenditures depict access to food. The per capita income in Dadu is between Rs. 11,000/- and Rs. 15,000/-per month, which, according to the food security perspective, is considered very low²⁶. Child dependency (ratio between children and household members in economically active age group) is one of the limiting factors in meeting the daily needs of households and is an important indicator to measure access to food. The increased dependency ratio enhances the spending of the household income 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 Sindh²⁷. 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 of food in the district Dadu depicting the distance of mouzas from the wholesale markets. Average distance from the fruit and vegetable and grain markets of a mouza is 19 km. 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	307	20	18	102	111	64	12
	Percent	100		6	33	36	21	4
Grains Market	Number	307	19	27	112	105	55	8
	Percent	100		9	36	34	18	3
Fruit Market	Number	307	19	13	106	115	64	9
	Percent	100		4	35	37	21	3
Vegetable Market	Number	307	19	14	107	113	65	8
	Percent	100		5	35	37	21	3
Govt. Procurement Centre	Number	307	18	18	123	103	55	8
	Percent	100		6	40	34	18	3

²⁶ Food Insecurity in Pakistan (2009), Sustainable Development Policy Institute (SDPI), Islamabad

²⁷ ibid

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

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 the 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. 45% of the HH use hand pumps and 18% use motor pumps as source of drinking water²⁸. Female literacy rate is 49 % in this district, which is considered very good literacy rate as compared to other districts.

Table 1.4-3: Percentage Distribution of HH by Source of Drinking Water

District	Water Delivery System				
	Tap Water	Hand Pump	Motor Pump	Dug Well	Other
Total	13	45	18	5	19
Urban	14	41	45	0	0
Rural	12	46	11	7	24

Source: PSLM 2010-11

However, the sanitation conditions are relatively poor in district Dadu where 35% of the households use flush toilets and 64% use the non-flush toilets.

Table 1.4-4: Percentage Distribution of HH by Type of Toilet

Flush			Non-Flush			No Toilet		
Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
78	25	35	22	75	64	0	1	1

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 Dadu is a food insecure district of Pakistan.

²⁸ Food Insecurity in Pakistan (2009), Sustainable Development Policy Institute (SDPI), Islamabad

1.5 Health and Immunization

1.5.1 Health Facilities

Table 1.5.1 shows the details of health facilities in the district.

Table 1.5-1: Number of Health Facilities by Type

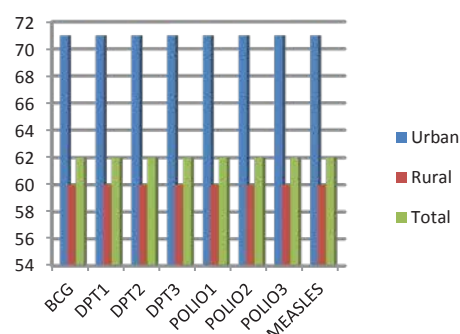
Type	Number	Beds
Teaching Hospital	0	0
DHQ	1	180
THQ	3	75
RHC	3	42
BHU	46	92
Government Dispensary	15	
MCH Centre	3	
Sub-Health Centre	0	
Total	71	389

District Health Profile 2012, District Dadu: TRF 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 of 12-23 months of 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 Dadu, around 62% pregnant women have received tetanus toxoid injections. In the urban areas this percentage is 44% and in the rural areas it is 67%²⁹. Record based³⁰ immunization data of District Dadu shows that 62%

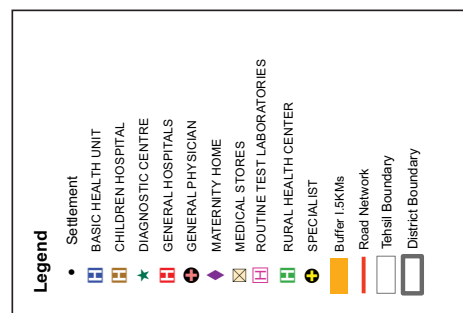
(Male 67%: Female 58%) of the children aged 12-23 months have received full immunization. In the urban areas, this percentage is 71% (Male 71%: Female 71%) and in the rural areas, it is 60% (Male 66%: Female 55%). The corresponding graph shows the percentage of children of 12-23 months that have been immunized by the type of Antigen based on records³¹.



²⁹ Table 3.11, Pakistan Social and Living Standards Measurement Survey (PSLM)2010-2011

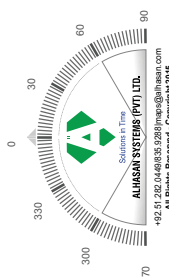
³⁰ Table 3.4 (b) Based on record: Children who reported having received full immunization who also have an immunization card, expressed as a percentage of all children aged 12-23 months. Also immunizations to be classed as fully immunized a child must have received: 'BCG', 'DPT1', 'DPT2', 'DPT3', 'Polio1', 'Polio2'

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



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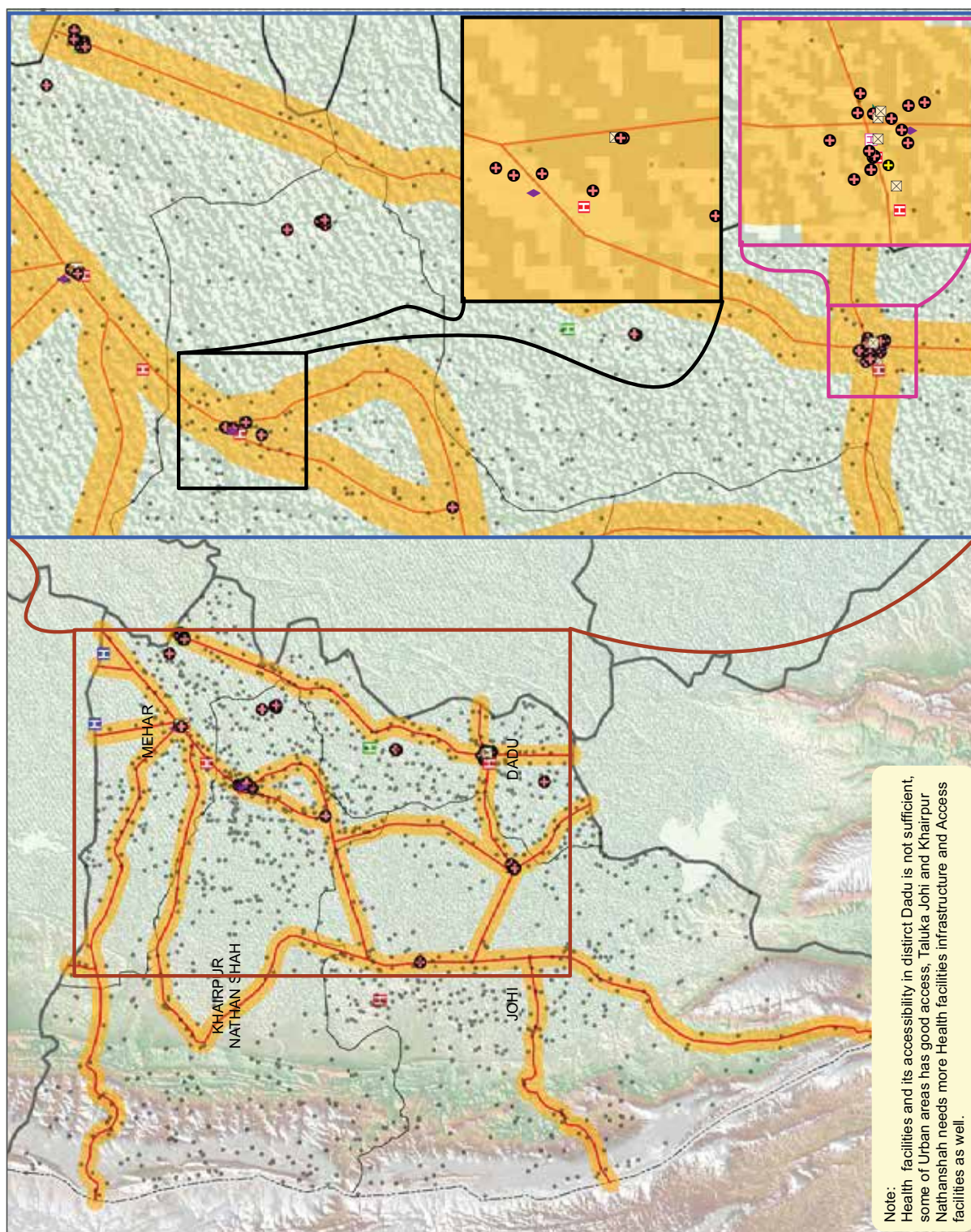


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District Dadu - Health Facilities Map

Date January 2015



1.6 Education

1.6.1 Some Highlights

Literacy Rate (10 years and above)	62%
Adult Literacy Rate (15 years and above)	57%
GPI Primary	0.71
GPI Middle	0.92
GPI Secondary	0.46
GPI Higher Secondary	0.52
Population that has ever attended School	59
Male	73
Female	43
Population that has completed primary level or higher	48
Male	62
Female	32
Student Teacher Ratio	35
Primary	41
Middle	27
Secondary	30
Higher Secondary	40
Primary Participation Rate	59
Male	66
Female	52

Source: Reform Support Unit Sindh 2012-13 and Pakistan Social and Living Standard Measurement Survey 2012-13

1.6.2 District School Enrolment Ratio

As compared to other districts of Sindh, the education status is good in District Dadu. The overall literacy rate (for the population of 10 years and above) is 62%; (males: 79%, females: 42%). For the urban rural comparison, urban literacy rate is comparatively higher than the rural, which is 73%. Among urban community, literacy rate for male is 86% and for female it is 59%; whereas the rural literacy rate is 58%, and in the rural community, literacy rate for male is 77% and for female it is 36%. Adult literacy rate (for the population of 15 years and above) is 57%. Gross Enrolment Ratio³² (GER) for primary level in Dadu is 79% (Male: 87%, Female: 72%), in the urban community it is 83% (Male: 89%, Female: 77%) and in the rural community it is 86% (Male: 70%, Female: 79%). Net Enrolment Ratio³³ (NER) for the primary level is 59% (Male: 63%, Female: 55%), in the urban community it is 60% (Male: 67%, Female: 53%) and in the rural community it is 59% (Male: 63%, Female: 55%). Table 1.6.1 shows details of Gross and Net Enrolment Rates by Rural and Urban Gender at different levels.

Table 1.6-1: : Gross and Net Enrolment Rates by Gender and Locality at Different levels

Urban/ Rural/	Gender	Gross Enrolment Rates	Net Enrolment Rates
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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.

District		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	96%	75%	109%	70%	33%	26%
	Female	87%	65%	69%	59%	35%	25%
	Total	92%	70%	89%	65%	34%	25%
Rural	Male	90%	44%	70%	61%	25%	18%
	Female	73%	28%	40%	55%	14%	6%
	Total	81%	37%	59%	58%	20%	14%
Total	Male	91%	51%	80%	63%	27%	20%
	Female	76%	38%	51%	55%	19%	13%
	Total	84%	45%	69%	59%	24%	17%

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

1.6.3 Gender and Level Wise Details

The total enrollment in District Dadu is 261,510 (Male: 156,166 and Female: 105,344). Out of a total of 6,731 teachers, 5,380 are male and 1,351 are female teachers. This illustrates that one teacher is teaching averagely 39 students. The total boys' schools of District Dadu are 637 and the total female schools are 399. Besides, there are 1,099 mixed gender schools. Thus, the total number of schools is 2,135 and averagely every school has an enrolment of 122 students and a teaching staff of around 3³⁴.

Primary

The total number of primary level schools, that are reported, is 1,173. The total enrolment at the primary level is 208,831. Gender wise 124,006 are boys and 84,285 are girls. Total number of teachers at the primary level is 5,609, out of which 4,509 are male and 1,100 are female teachers. Thus, on an average, each primary school has an enrolment of 104 students with a teaching staff of 3. However, the student class ratio is 54 and each school has averagely around 2 class rooms.

Middle

There are a total of 86 middle schools reported. The total enrolment, at the middle level, is 10,765, of which 5,603 are boys' enrolment, whereas, the girls enrolment is 5,162. The total teachers at the middle level are 386, out of which 287 are male teachers, while, 99 are female teachers. Thus, on an average, each middle school has an average enrolment of 121 students with a teaching staff of 4. However, the student class ratio is 41 and each school has averagely around 3 class rooms.

³⁴ Dadu Education Profile 2012-2013, RSU Sindh

Matric

There are a total of 68 secondary schools in the district. The total enrolment at the secondary level is 30,195, of which 20,724 are boys' enrolment whereas 9,471 are girls' enrolment. The total number of teachers at the secondary level is 1,004, out of which male teachers are 805 and female teachers are 199. Thus, on an average, each secondary school has an enrolment of 444 students with a teaching staff of 15. However, the student class ratio is 65 and each school has averagely around 7 class rooms.

Higher Secondary

There are a total of 15 higher secondary schools. The total enrolment at the higher secondary level is 14,057, out of which 9,271 are boys' enrollment and 4,786 are girls' total enrolment. The total number of teachers at the higher secondary level is 351, out of which 296 are male teachers and 55 female teachers. Thus, on an average, each higher secondary school has an enrolment of 937 students with a teaching staff of 23. However, the student class ratio is 83 and each school has averagely around 11 class rooms.

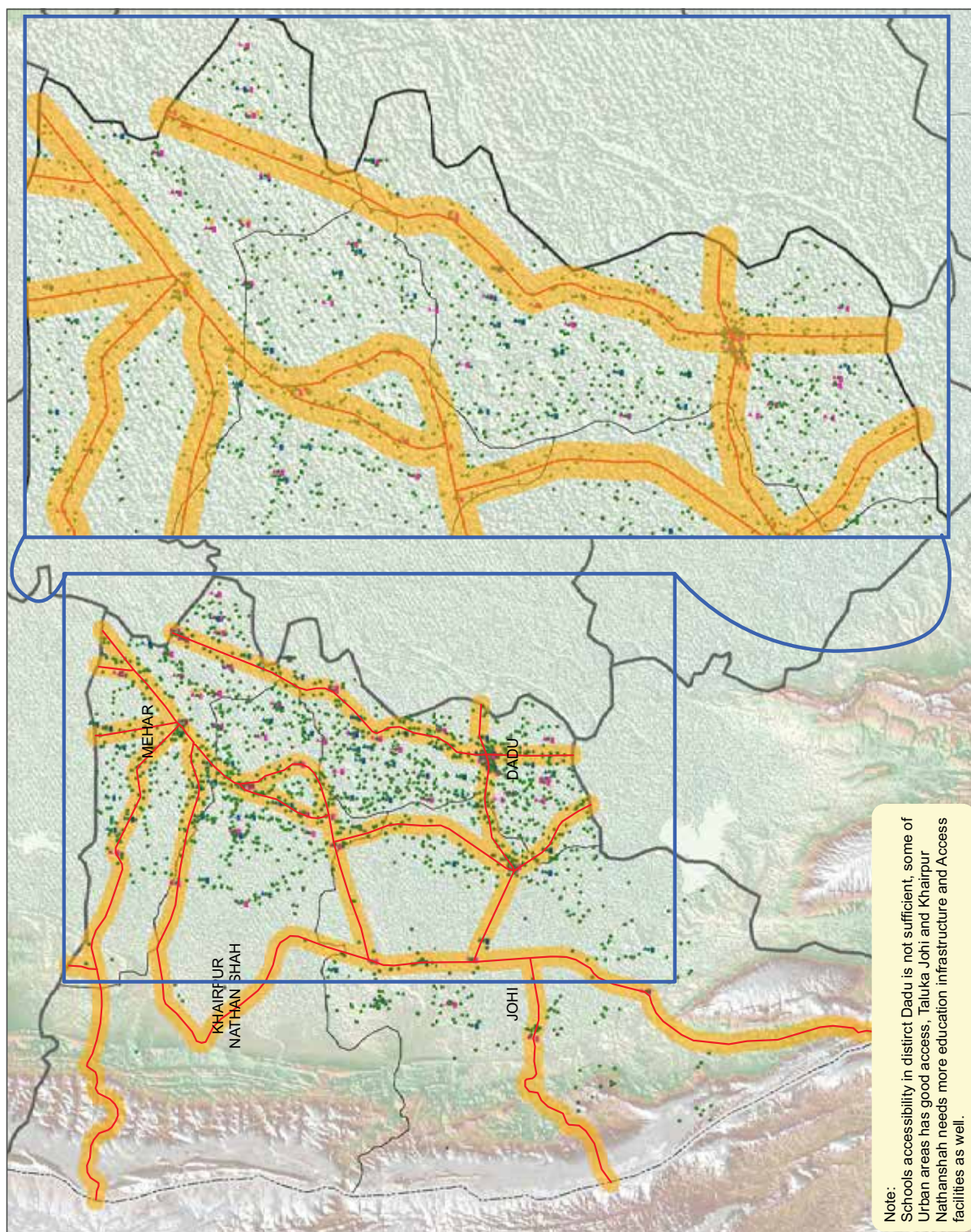
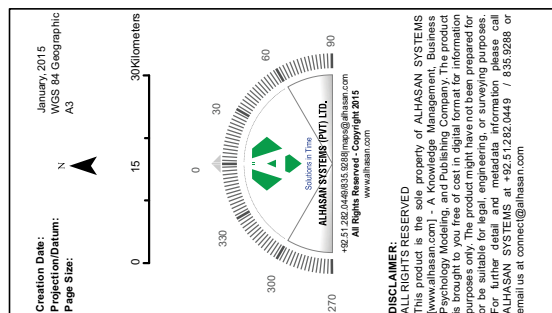
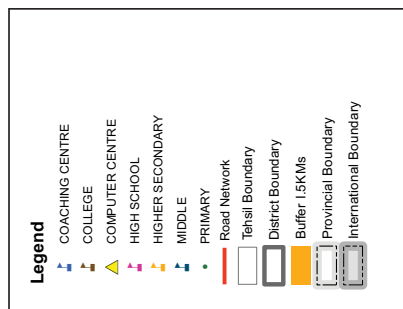
Table 1.6-2: Enrolment and Educational Facilities by level and Gender³⁵

Level	Enrolment			School Facilities				Teachers		
	Boys	Girls	Total	Boys	Girls	Mixed	Total	Male	Female	Total
Primary	120,568	85,925	206,493	586	350	1,027	1,963	3,992	998	4,990
Middle	5,603	5,162	10,765	25	33	31	89	287	99	386
Secondary	20,724	9,471	30,195	22	13	33	68	805	199	1,004
Higher Secondary	9,271	4,786	14,057	4	3	8	15	296	55	351
Total	156,166	105,344	261,510	637	399	1,099	2,135	5,380	1,351	6,731

³⁵ Dadu Education Profile 2013

District Dadu - Education Facilities Map

Date January 2015



2 Disaster History and Its Impact

2.1 Disaster in District

2.1.1 Disaster History

Dadu district has a history of disasters. It was consecutively hit by heavy floods in 2010, 2011 and now again in 2012. The relative severity of floods was ranked as high in district Dadu³⁶. 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 comprises of the districts of Jacobabad, Shikarpur, Kashmore, Larkana and Kamber Shahdadt on the right bank of River Indus and Ghotki, Sukkur, Khairpur, Naushahroferoze and Shaheed Benazirabad districts 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 Bothero, Radhan, Thariri Mohbat, Beto, Gahi Mahessar, Baledai, Kazi Arif, Kolachi, Mehar, Mangwani, Khan jo Goth, Mangwani, Faridabad, Nao Goth, Shah Panjo, Bali Shah, Pipri, Siyal, Pat, Phulji, Moundar, Khudabad, Allahabad, Phulji, Bahawalpur, Pat Gul Mohd. Drigh Bala, Kamal Khan, Johi, Chinni, K.N.Shah Town, Dhani Bux Bughio, Butra, Kande Chukhi, Mittho Babar Thalho, Paria, Chore Qamber, Gozo, Burira³⁷. Vulnerable points of the district are L.S Bund, Mile 58/3 near Patt Village Taluka Dadu, L.S Bund, Mile 77/2 at Siyal Village near Dadu –Moro, L.S Bund, Mile 78/3 at Aminani Village Taluka Dadu, F.P Bund, Zero Point (RD-0(1200 ft)), F.P Bund, RD-50, F.P Bund, RD-147 (800 ft), F.P Bund, RD-211, MNV Drain, RD 0 to 335 (67 miles), Superio Bund, RD -49 (550 ft), GAJ Diversion Bund, RD 0-32 (6.4 miles). Along with the aforementioned floods, Epidemics, casualties due to accidents and environmental degradation occur on yearly basis.

2.1.2 Major Disaster Events in the History of Dadu District

FLOODS	
Flood in District Dadu, 1999 Date: 07 March 1999 Deaths: 14 Affected: 43 Source: www.emdat.be/disaster-list	Floods 2003, District Dadu Date: 29-07-2003 Deaths: 1 Wounded: 0 Crops Affected: 214 hectares Affected Sectors: Agriculture, Health Source: http://pdma.pk/monsoon2012/

³⁶ Flood Facts, Disaster Management Apparatus, 2010

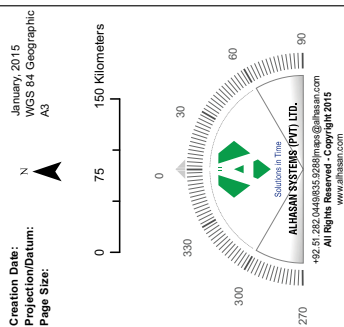
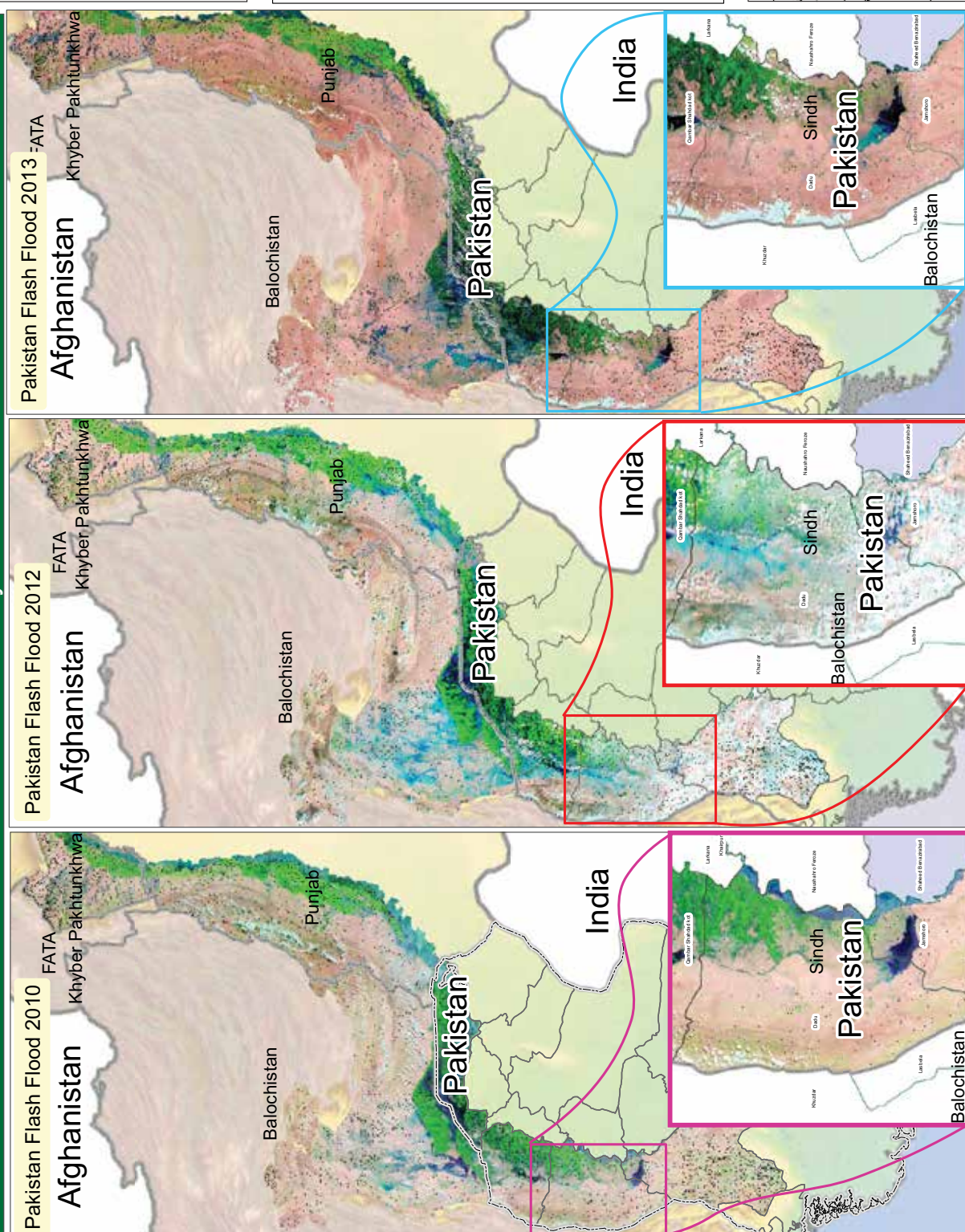
³⁷ Sindh Contingency Plan 2012.

<p>Dadu Flood 2005</p> <p>Date: 26-07-2005</p> <p>Deaths: 0</p> <p>Wounded: 0</p> <p>Affected Sectors: Health</p> <p>Source: http://reliefweb.int/report/pakistan/pakistan-floods-ocha-situation-report-no-5</p>	<p>Rainfall/Flood in District Dadu</p> <p>Date: November 15, 2011</p> <p>Deaths: 19</p> <p>Wounded: 51 (19 male, 13 female, 19 children)</p> <p>Affected Sectors: Agriculture</p> <p>Source: http://reliefweb.int/sites/reliefweb.int/files/resources/1511sitrep.pdf</p>
<p>District Dadu 2012 Flood</p> <p>Date: September 20, 2012</p> <p>Deaths: 1</p> <p>Affected Sectors: Agriculture</p> <p>Source: http://reliefweb.int/sites/reliefweb.int/files/resources/damages_details_20_09_2012.pdf</p>	<p>Flood in District Dadu</p> <p>Date: October 11, 2012</p> <p>Deaths: 1</p> <p>Affected Sectors: Agriculture</p> <p>Source: http://reliefweb.int/sites/reliefweb.int/files/resources/damages_details_11_10_2012.pdf</p>
RAINFALL	
<p>Heavy Rainfall in District Dadu</p> <p>Date: 12 September 2012</p> <p>Deaths: 1</p> <p>Magnitude: Unknown</p> <p>Affects: Unknown</p> <p>Source: http://reliefweb.int/sites/reliefweb.int/files/resources/damages_details_12_09_2012.pdf</p>	<p>Heavy Rainfall in District Dadu,</p> <p>Date: January 23, 2013</p> <p>Magnitude: 0</p> <p>Deaths: 1</p> <p>Crop Affected: 86.6027 hectares</p> <p>Source: http://www.ndma.gov.pk/Documents/monsoon/2012/damages/january/damages_details_23_01_2013.pdf</p>
EARTHQUAKE	
<p>5.4 magnitude earthquake 42 km from Johi, Sindh, Pakistan, 1992</p> <p>Magnitude: 5.4</p> <p>Date: 21-01-1992</p> <p>Depth: 25 km</p> <p>Death: 0</p> <p>Source: http://earthquaketrack.com/quakes/1992-01-21-22-07-58-utc-5-4-25</p>	<p>4.3 magnitude earthquake 32 km from Johi, Sindh</p> <p>Magnitude: 6.8</p> <p>Date: 22-01-1992</p> <p>Death: 0</p> <p>Depth: 33 km</p> <p>Source: http://earthquaketrack.com/quakes/1992-01-22-10-48-39-utc-4-3-33</p>
<p>5.0 magnitude earthquake 33 km from Johi, Sindh</p> <p>Magnitude: 5.0</p> <p>Date: 28-03-1992</p> <p>Death: 0</p> <p>Depth: 10 km</p> <p>Source: http://tribune.com.pk/story/51601/tremors-in-northern-pakistan/</p>	<p>5.2 magnitude earthquake 67 km from Bhan, Sindh</p> <p>Magnitude: 5.2</p> <p>Date: 28-12-1992</p> <p>Death: 0</p> <p>Depth: 43 km</p> <p>Source: earthquaketrack.com/quakes/1992-12-28-08-45-42-utc-5-2-43</p>

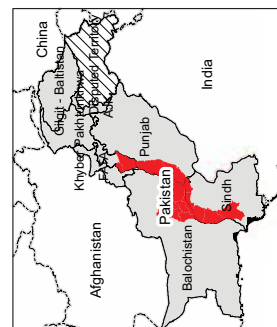
<p>4.3 magnitude earthquake 32 km from Johi, Sindh Magnitude: 4.3 Date: 22-01-1999 Death: 0 Depth: 33 km Source: http://earthquaketrack.com/quakes/1992-01-22-10-48-39-utc-4-3-33</p>	<p>Earthquake-hit Sindh Areas including DADU Magnitude: 7.8 Date: 24 Sep, 2013 Death: 0 Source: http://www.thenewstribes.com/2013/09/24/earthquake-shakes-karachi-hyderabad-balochistan-and-some-parts-of-sindh/</p>
<p>Tremors felt in DADU of the Earthquake, 2013, Date: 28 Sep, 2013, Magnitude: 6.8 Source: http://tribune.com.pk/story/610705/tremors-felt-in-karachi-quetta/</p>	
DROUGHT	
<p>DADU: Drought forces Kachho villagers to migrate to other places Date: 03-06-2003 Description: People of 30 villages of the Kachho area have migrated to other places due to drought. over 100 other children were infected with the disease Deaths: 2 (Girl named Maryam and a boy named Manzoor) Cattle Perished: Over 500 Source: http://www.dawn.com/news/104728/dadu-drought-forces-kachho-villagers-to-migrate-to-other-places</p>	<p>Tackling drought in Sindh: District Dadu Date: 02-09-2012 Deaths: 0 Affected Sectors: Agriculture and Health Source: http://beta.dawn.com/news/746519/tackling-drought-in-sindh</p>
<p>Dadu District: Drought 2014, Date: June, 2014, Deaths: Affected Families: 20,000 (100,000 people), Cattle Perished: 20-25% Source: http://reliefweb.int/report/pakistan/pakistan-drought-assessment-report-district-dadu-sindh</p>	
EXTREME TEMPERATURE	
<p>Heat wave Sindh, Date: 2009, Temp recorded: Unknown, Deaths: 18 Description: At least, 18 people were killed in the heat wave across Pakistan and 16-year-old heat record was broken in different parts of Sindh during the summer of 2009 Source: http://saarc-sdmc.nic.in/pdf/Publications/sadr2009/SADR2009.pdf</p>	
EPIDEMICS	
<p>H1N1 Out Break In Pakistan Date: 18-06-2008, Deaths: 29, Sick: 1, 242 Source: http://www.heartfile.org/pdf/NTS_Working_Paper4.pdf</p>	

Sindh - Dadu District Flash Flood Vulnerability Map from Year-2010 to Year-2013

Date January 2015

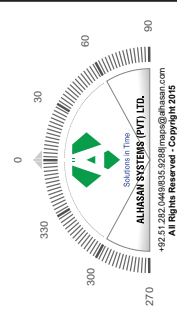
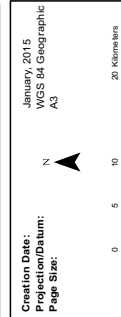
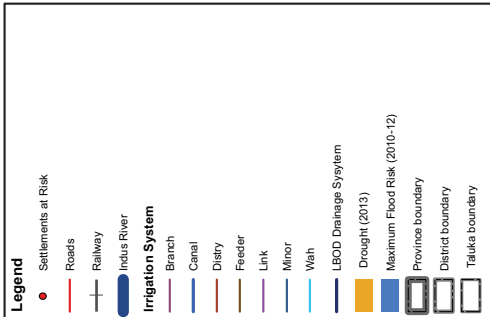
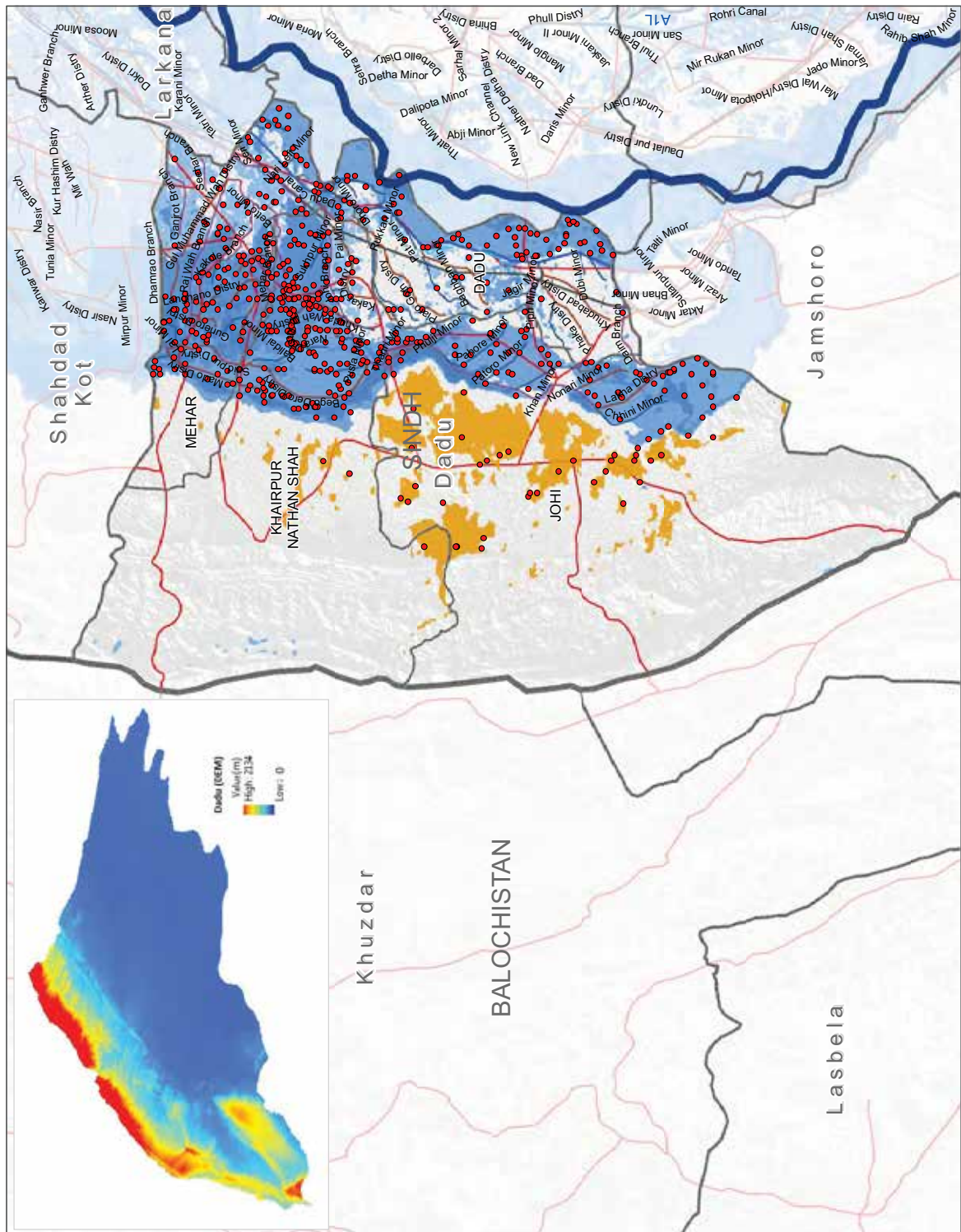


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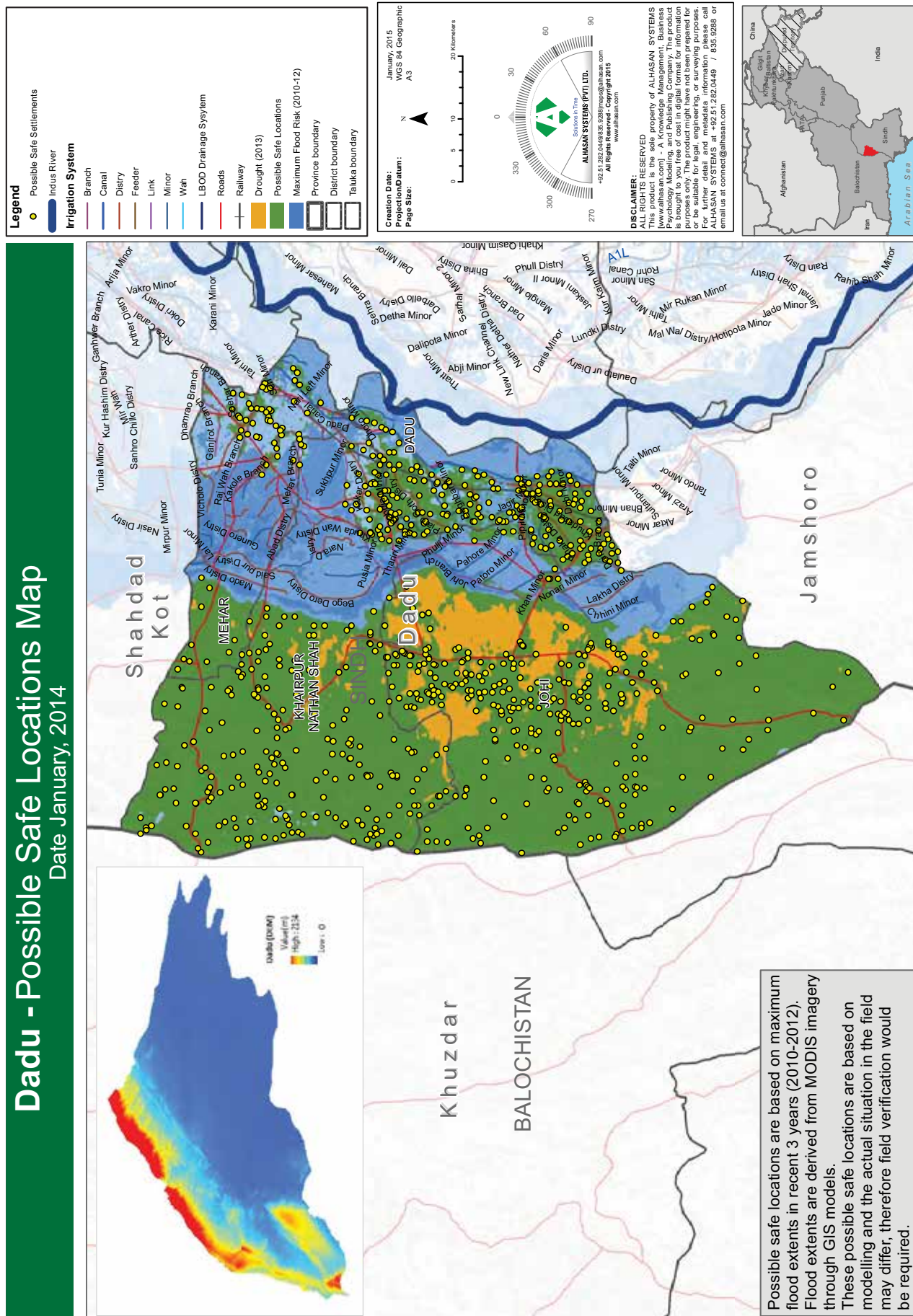
Dadu - Risk Analysis Map

Date January, 2015



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Demography

Dadu district is unfortunate in the sense that, as mentioned earlier, it was hit by heavy floods in 2010, 2011 and now in 2012 again. In 2010 floods, 1,166 villages/settlements of 40 UCs were affected. 920,105 persons were affected and there were 27 casualties and 327 injuries. In 2011 floods³⁸ 1,454 villages/settlements of 52 union councils in 4 talukas were affected. A population of 325,000 persons was affected and there were 19 casualties and 161 injuries. Table 2.2.1 shows the losses and damages summary.

Table 2.1-1: Summary of Losses and Damages in Floods 2010 and 2011

Attribute	Figure 2011	Figure 2010	Source
Total Households 2010		281,446	Estimated
Affected Households	54,167	153,351	
Total UCs		52	PDMA
UC Affected	52	40	OCHA
Total Revenue Villages		351	PDMA
Villages/Settlements Affected	1,454	1,166	PDMA/OCHA
Total Houses Affected	18,594	168,112	
Partially Damaged	13,051	n/a	PDMA
Destroyed	5,543	n/a	
Kacha	n/a	120,412	PDMA
Pakka	n/a	47,700	
Total Population		1,528,679	Estimated
Affected Population	325,000	920,105	OCHA
Death	19	27	NDMA/PDMA
Injuries	161	327	
Total Area		2,000,985	PCO
Total Affected Area	187,811	320,742	PDMA/NDMA/OCHA
Crop Area Affected	97,248	284,630	

Table 2.1-2: Taluka wise losses and damages

	Total Population	Affected Population		Total Area Acres	Affected Area	
		2010	2011		2010	2011
DADU TALUKA	480,853	145,959	108,483	204,638	Tehsil wise breakdown	87,396
JOHI TALUKA	240,436	81,265	140,520	895,785		27,560

³⁸ Summary of Losses and Damages as of 17/02/2012, PDMA Sindh

KHAIRPUR NATHAN SHAH TALUKA	356,557	314,196	26,547	652,203		36,866
MEHAR TALUKA	450,833	378,685	49,450	248,358		35,989
Total	1,528,679	920,105	325,000	2,000,985	320,742	187,811

The latest situational update for the 2012 floods/Rains, in the district

According to PDMA Sindh, as of 19th November 2012, only 1 casualty is reported. According to the same source, no villages and population was affected. Only 214 hectares of crop area inundated. With no population affected 1,000 ration bags were distributed in terms of relief³⁹. World Food Programme (WFP) was actively involved in relief activities in 26 calamity hit villages declared by the government. It pulled out all its boats and relief activities after receiving reports from National Disaster Management Authority and Provincial Disaster Management Authorities that there are zero rain-affected people in the district. The reasons for the discontinuation of relief activities, received to Sindh Relief Department from WFP were

- Government remains the first responder in such humanitarian situation and there is no international appeal for humanitarian assistance from government
- The government, PDMA and NDMA declared that no population was affected in District Dadu so it becomes difficult for WFP to justify their humanitarian interventions in the district

This decision will have worsening impacts on the lives of 40,000 people living in marooned villages. Mr. Panhwar, Provincial Coordinator of humanitarian cell of Sindh Relief Department in his relief operation report mentioned that 26 villages of 6 UCs namely 1) UC Fareedabad (Beneficiary Families: 2,246), 2) UC Chorre Oambar/Mado (Beneficiary Families: 220), 3) UC Pat Gul Muhammad (Beneficiary Families⁴⁰: 730), 4) UC Drigh Bala (Beneficiary Families: 219), 5) UC Sanwaro (Beneficiary Families: 616), and 6) UC Chinni (Beneficiary Families: 284), were affected due to flood water⁴¹. In the report he mentioned that the operation was carried out with the help of boats provided by WFP. In response to WFP decision, he said that distribution of NFIs and other relief goods to the affected people would get delayed without motor boats and people would start dying of cold. According to NDMA, as of 16th September Kashmore-Kandhkot, Jacobabad, Shikarpur, Sukkur, Ghotki and Kambar-Shahdadkot were declared as calamity hit areas but not Dadu. On the other side, Haleem Adil Sheikh⁴², Advisor to Chief Minister Sindh on Relief, started relief operation in the marooned villages on November 2nd, 2012 rejecting PDMA/NDMA reports and termed them false. According to him, Dadu was the most affected districts by the Hill Torrents coming from Balochistan and Hamal Lake, affecting the lives of 40,000 people in six union councils. Different politicians from Sindh including MPA Nathan Shah, Imran Zafar Leghari, Syed Ghulam Shah Jilani criticized the false reporting of the prestigious institutions of PDMA and NDMA. PPP MNA and ex minister, Mr. Rafique Ahmad Jamali is an eyewitness of the destruction of

³⁹ Consolidated District Profile 19-11-2012, PDMA Sindh

⁴⁰ Beneficiary Families were provided with i) Standard Food Bag, ii) Water Coolers, iii) Jerry Cans and iv) Mosquito Nets

⁴¹ Relief Operation Report Final District Dadu, Sindh Relief Department

⁴² Has provided, in his field visit report to district Dadu, a list of 14 villages as of October 2012 that were highly affected and he also mentioned that boats for relief purposes are required for 2 months

26 villages and thousands of acres of inundated land in the district. He said that he would complain the prime minister against PDMA/NDMA officials for sending false reports to international relief agency⁴³.

2.1.3 Impact of Disaster on Agriculture and Livelihood

As reported earlier, District Dadu has been hit by floods in 2010, 2011 and 2012. Separate analyses of the impact of these floods are given as under:

Impact of Floods 2010:

Due to the floods of 2010, 40 union councils and 173 dehs were affected. 920,000 people were affected as flood water continued to fly across Mehar, KN Shah & Johi Talukas. The water stayed in the area for four months. During relief phase, 18,000 people lived in camps, afterwards these IDPs returned to Mehar, K.N Shah and Johi, where water level receded. A total of 224,630 acres of crop area was affected. 168,112 houses were damaged, out of which 47,700 were in settled area and 120,412 houses in *katcha* area were affected. The government established 412 relief camps in the district⁴⁴.

Impact of Floods 2011:

The floods of 2011 had a significant effect on this district, as 47 union councils were affected in 4 talukas. Out of a total population of 2,231,448, 15% of the population i.e. 325,000 persons were affected. Within the affected population, 49% were males and 51% were females. 1,454 villages were affected where 18,594 houses were damaged⁴⁵. A total of 164,297 acres of land was sown, out of which 97,248 acres (59%) were damaged

Table 2.1-3: : Crop Loss and Area Damaged Due to Floods 2011

Major Crops	Area	
Cotton	Area sown (Acre)	31,194
	Area Damaged (Acre)	23,395
	%	75%
Rice	Area sown (Acre)	112,653
	Area Damaged (Acre)	61,959
	%	55%
Sugarcane	Area sown (Acre)	14,233
	Area Damaged (Acre)	6,263
	%	44%
Other	Area sown (Acre)	6,217
	Area Damaged (Acre)	5,631
	%	91%
Total Area Sown		164,297
Total Area Damaged		97,248

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

⁴³ <http://dawn.com/2012/11/24/false-pdmandma-report-wfp-pulls-out-boats-from-rain-hit-dadu-villages/>

⁴⁴ PDMA, Sindh

⁴⁵ Summary of Losses/Damages due to Floods 2011, PDMA, Government of Sindh

Impact of 2012 Floods:

Comparatively, Floods 2012 had a very mild effect on district Dadu. As of 19/11/2012, no damage has been reported except for one death and damage to 214 acres of sown area⁴⁶.

2.1.4 Analysis of Food Security Situation

It has been previously established that district Dadu is food insecure district of Pakistan. This district is agro-based with majority of the households engaged in agriculture farming, livestock rearing activities and casual labor. Among these three types of households, empirical studies have shown that poverty has been relatively higher in the non-agriculture households, followed by livestock households and small farmers⁴⁷. It has been shown in the previous section that many individuals of flood affected areas have lost their homes (18,594 houses were damaged due to floods 2011), their crops have been destroyed (59% of the crop area damaged due to floods 2011) and heads of livestock have been lost. All the social indicators show higher level of poverty and deprivation in these areas with large household size, poor literacy level, higher mortality rate and poor level of infrastructure with poor access to education and health facilities.

Through the destruction of roads, transport and market infrastructure, the floods have a significant negative impact on commodity market. This phenomenon hinders the socio-economic access of food in the district. While comparing the prices after the flood with the July 2010 Federal Bureau of Statistics prices, the prices of rice and wheat have increased in flooded areas by about 10 percent in Sindh. The price of sugar, a key commodity, has increased by an average of about 20%⁴⁸.

Thus the flood affected people of district Dadu have to face a number of key challenges to recover their livelihood, agriculture and livestock; directly affecting the food security situation.

2.1.5 Health

During 2011 floods, out of 45 BHUs, 9 BHUs were reportedly damaged and the only Rural Health Centre was also damaged⁴⁹. In response to these floods, health cluster reported that International Medical Corps (IMC) distributed 10,000 mosquito nets. 18 medical teams were put in place, 6 by IMC and 12 by Merlin. WHO provided 5 health facilities. During these floods it lack of communication was observed

⁴⁶ Detail of Damages Sindh, NDMA

⁴⁷ Arif, et al (2010), "The 2010 Flood and Poverty in Pakistan: A Preliminary District-level Analysis", Pakistan Institute of Development Economics Islamabad, Background Paper for Conference on the "The Environments of the Poor", 24-26 Nov. 2010, New Delhi

⁴⁸ Arif, et al (2010), "The 2010 Flood and Poverty in Pakistan: A Preliminary District-level Analysis", Pakistan Institute of Development Economics Islamabad, Background Paper for Conference on the "The Environments of the Poor", 24-26 Nov. 2010, New Delhi

⁴⁹ WHO, G. N. (8th to 12th September, 2011). Health Initial Rapid Assessment, 22 flood affected districts in Sindh. Islamabad

among government offices. It was observed that reporting mechanism was not timely, systematic and comprehensive⁵⁰.

During 2011 rains/floods, Merlin placed 13 medical teams in the district for a quick response to the rains/floods. Care Int. put 1 team in each BHU. Tardeep Rural Development Programme (TRDP) provided medical support in 2 UCs of Dadu. Along with these organizations, Muslim Aid supported health operations in Tehsil Head Quarters Hospital⁵¹. According to 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.

2.1.6 Education

During 2010 floods, Out of a total of 2,136 schools, 672 schools were damaged by floods, 45 were damaged by torrential rains, 184 schools were used as IDP camps and 102 schools were reportedly damaged by a combination of floods, rains and IDP camps⁵². Whereas in the same source total damaged schools are reported as 996. Schools damaged by levels are

- Primary: 925
- Middle: 24
- Secondary: 39
- Higher Secondary: 8

During 2011 floods, 44 schools (boys': 32, girls': 12) were destroyed and 128 (boys': 106, girls': 22) were partially damaged⁵³. As of 8th October 2012, no schools were reportedly damaged by the 2012's floods

⁵⁰ Dadu District Profile, Dec 2010. UNOCHA

⁵¹ Dadu District Profile, April. UNOCHA

⁵² Flood Report 2010-11, RSU Sindh

⁵³ District Wise School Damage Assessment & Schools used as IDPs due to Monsoon Rains 2011, UNICSF

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”⁵⁴. 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’.

⁵⁴ The “Urban Governance and Community Resilience Guides” (ADPC, 2010)

Hazard matrix of District⁵⁵

Hazard	Frequency	Area affected/union councils	Severity/Force	Year
Floods	Monsoon	Whole district	High	2010,2011, 2012
Heavy rains	Monsoon	Entire district	High	2010,2011, 2012
Epidemics	Seasonal	Whole district	Low	Every year
Droughts	Rare	Entire district	Low	1997-2002,
Earthquake	Sometimes/rare	Whole district	Low	----
Transport Accidents	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 hazard⁵⁶”. 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 ability to affect

⁵⁵ Sindh Contingency Plan 2012

⁵⁶ Participant's Course workbook (ADPC)

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
<p>The district is prone to various natural hazards. River Indus flows North to South along the eastern boundary of the district. The District is flanked by Khirthar range with highest elevation of 6,878 ft. on the West. This topography makes the district vulnerable to riverine and torrential floods.</p>	<p>According to 1998 census, total population of the talukas that formed this district was 1,106,707 persons (estimated population for 2013 is 1,666,647). The district has an estimated⁵⁷ growth rate of 2.65% per annum, which means that the population will double itself in 26.41 years⁵⁸ 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.</p>	<p>Sometimes some NGOs run projects with the Top Down Approach; they draft a plan in their offices and just present it to the vulnerable communities. As a result, projects do not produce fruitful results and do not remain sustainable.</p>
<p>The soils of Dadu district are deficit in nitrogenous and phosphatic nutrients. That's why the use of fertilizers has increased in the area, damaging the quality of water and affecting aquatic life.</p>	<p>Like majority of the other districts in Sindh, district Dadu is rural by its characteristics. 79.30 per cent of the population resides in rural areas as compared to the 20.70 per cent that resides in the urban areas. Most people in the rural areas lack job opportunities, health and educational facilities which escalate the risk against different hazards. [Floods, rains, droughts]</p>	<p>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.</p>
<p>Small and big industries contribute in polluting the environment. Contaminated and polluted water and greenhouses gases from factories chimneys degrading the environment.</p>	<p>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 Dadu district is 47.60 per cent of the total population and the working population is 52.40 per cent, which shows that dependency ratio⁵⁹ in the district is 91 per cent, which is very high and as such makes the population highly vulnerable</p>	<p>In rural areas of the district, women are marginalised in disaster risk reduction process because of social, economic, biological and physical differences. Disaster impacts women and men differently, even within the same household. Women have less social, economic and political power and are not represented in formal leadership structures.</p>
<p>The District lacks required funds for the mitigation and preparedness activities. The people don't have boats, life jackets and no first aid boxes.</p>	<p>Lack of coordination amongst all the stakeholders is a major hindrance in implementation and progress of the Disaster Risk Reduction process.</p>	<p>Some old age and conservative people are of the view that all disasters are Act of Nature and are reflection of our bad deeds.</p>
<p>In the whole district, piped water is available to only 20 per cent of the housing units. By drinking unsafe and contaminated water people get vulnerable to hepatitis and other water born disease.</p>	<p>Community-based disaster drills are an important aspect of emergency management, yet so neglected by the district authorities. These drills provide a chance to practice the full spectrum of disaster response.</p>	<p>Advocacy seminars and awareness campaigns regarding disaster risk reduction are insufficient.</p>

⁵⁷ Estimated for 2013

⁵⁸ Rule of 70 <http://controlgrowth.org/double.htm> retrieved on 05-03-2012

⁵⁹ Dependency Ratio= (Population < 15 Years + Population > 65 Years)/ Population 15-65 Years

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.

There is a lack of Community Based Disaster Risk Reduction (CBDRM) projects in the vulnerable areas of the district. Focus of the different organizations working in the area is only towards relief side.

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. Therefore, gravity of the situation demands for a paradigm shift from reactive approach to a proactive one.

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 hazards⁶⁰.

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
The total health facilities in district Dadu are 71. There are four hospitals, three Rural health centres (RHCs), forty six Basic Health Units (BHUs), three Mother Child	The overall estimated literacy rate for year 2012-13 (for the population of 10 years and above) is 62 %; for males it is 79 and for females it is 42%. For the urban rural	Local and indigenous knowledge of the people of the district is their real strength. The local people use their local and

⁶⁰ Participant's Course workbook (ADPC)

Physical/material	Social/organizational	Attitudinal/motivational
Health centre (MCH) and fifteen 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.	comparison, urban literacy rate is higher than the rural. Literate people can easily be mobilized and made aware of the different disaster risks.	traditional approaches to overcome the negative impacts of hazards.
Livestock is one of the major sub-sector of agriculture and backbone of country economy. Most farmers in Dadu, traditionally keep a few heads of livestock, ranging from bullocks for draft to buffaloes or cattle for milk and poultry for eggs & meat.	The police administration in district Dadu is based on 4 police sub-divisions, 15 police stations and 23 police posts. Police maintain law and order situation and also helps in evacuation management activities in time of need ⁶¹ .	Sometimes local vulnerable communities, before rainy season, take mitigation measures by strengthening their roof tops and boundary walls etc.
In Dadu District the forest area is spread over 217.0 thousand hectares which is 18.7% of the total area under forest in Sindh. Dadu district produced 239.0 thousand cubic feet timber wood and 78.0 thousand cft fire wood at the value of Rs.1167.7 thousand which contributes about 6.6% of the total value of forest Timber & Fire wood in Sindh in 1997-98 ⁶² .	At the district level, District Disaster Management Authority DDMA acts as a policy making institute and prepare Disaster management and relief plans for the district and coordinates with other stakeholders.	The teachers, young educated students and youth assist the social workers working in their communities. They organize gatherings for mobilization sessions and act as a catalyst in the field.
District Dadu has number of small manufacturing units. There are three types of major specific Industries in the district which cover Cement, Sugar and Pharmaceutical Industries. Besides this, two Industrial Estates are established under Sindh Small Industries Corporation in Dadu district. These industries are the source of employment and are also useful in the economic uplift of the people.	Contingency Plans prepared by the DDMA Dadu has assigned roles and responsibilities to different district departments which has formulated their strategies for extreme situations and made mobile teams for providing in time relief in emergency and post disaster.	Rural communities have a strong social bond and help each other in time of need.
Dadu district being most mountainous area of the Sindh province inherits rich mineral resources. Coal and lime stone are present in the area along with other minerals which generate handsome income for the district.	After the 2010, 2011 and 2012 floods/rains, different NGOs /INGOs have focused their attentions on shelter, wash, and livelihood activities. These organizations include OXFAM, SRSP, HOPE, CARE, IOM, UNICEF etc ⁶³ . They provide funds and relief stuff to the affected people, to enable them to stand on their own.	Continuous disaster situation 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.
The district has good rail road network. The Railway Line runs along with the eastern border of the district. The Indus Highway passes through the major towns of the district and functions as the main arterial road connecting other link roads which provide access to rural areas. These roads can be used as evacuation point in flood	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.	In post flood activities, Psycho-Social problems of the people (especially children and women) were addressed by the psychologists, hired by different organizations. Religious scholars (Ulemas) also contribute their part by counselling flood affected people.

⁶¹ Ibid⁶² Ibid⁶³ UNOCHA Flood 2010, District Dadu

Physical/material	Social/organizational	Attitudinal/motivational
<p>disaster. Good roads are also helpful in carrying out relief activities.</p> <p>The total number of schools in the district is 2,135. Out of which 1,027 are primary schools, 31 are middle schools, 33 are secondary, and 8 are higher secondary schools. These school buildings are also used as shelter and evacuation centres in emergency.</p> <p>District Dadu has number of small manufacturing units. There are three types of major specific Industries in the district which cover Cement, Sugar and Pharmaceutical Industries. Besides this, two Industrial Estates are established under Sindh Small Industries Corporation in Dadu district. These industries are the source of employment and are also useful in the economic uplift of the people.</p>	<p>Union council secretaries 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.</p> <p>Law Enforcement Agencies are important stakeholders in relief activities. Jawans (Soldiers) of Pakistan Army assist the affected communities directly and help them in search and rescue and evacuation, by providing transport facilities. Army doctors provide medicines and other health facilities to the affected people especially to the children and women.</p>	

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.
- NGOs working in the education sector should organize community-based programs that provide girls with opportunities to develop their skills (i.e., livelihood skills), providing information to parents about their children's learning or about the benefits of education.
- Affected or damaged schools should be repaired and reconstructed on priority basis with DRR principles in view.
- 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 incorporate 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.

- 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.
- Awareness regarding investment in the DRR sector should be initiated in order to avoid future threats.
- Waste Water treatment projects should be initiated in district Dadu to avoid deterioration of aquatic environment.

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.
- 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

- 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.
- Taluka Municipal workers should monitor the quality of 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 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.
- District Disaster Management Authority should appeals for assistance through media at the national and international level.
- NGOs should follow the bottom up approach for the initiation of any CBDRM project. The bottom-up approach implies that whole process should start at the community level. Community members should invite to participate in every step of the planning process. It will give a sense of ownership to the community who in turn constructively contribute to achieve project objectives.

5 Coordination and Support Services

5.1 Important Contacts

5.1.1 Departmental Focal Points

S#	Department	Office In charge	Designation	Location	Office
1	Administration	Mr.Nasir Abbas Samro	DC	Dadu	025-9200250
		Mr Anees Ahmed Dasti	ADC-I	Dadu	025-9200277
		Mr.Tariq Anwar Kokar	ADC-II	Dadu	025-9200278
2	Agriculture	Mr. Ameer Ali Nizamani	DDO-Agriculture	Dadu	025-9200290
3	Health	Mr.Javed Aman	DHO-Health	Dadu	025-9200087
4	Education	Mr. Maqsood Qureshi	DEO-Education	Dadu	025-9200210
5	Works & Services	Haji Perphio Sadu	Do (W&S)	Dadu	025-9200282

5.1.2 Emergency Response

S.No	Name or Organizations	Office Contact
1	Edhi Ambulance	115
2	Electricity Complaint	118
3	Police Emergency	15
4	Telephone (Complaint)	1218
5	Telephone Enquiry	1217
6	Sui Gas Help line	1199
7	PIA Flight enquiry	114
8	TCS Courier	025-4611689

5.1.3 List of NGOs Working in District

Name	Contact
Foundation for Urban and Rural Development (FURD)	0254-004776/ 0300-3252979
Quatulaeen	022-444501/ 0300-3795423
HANDS	025-4610011, 021-34532804
Gorakh Foundation	025-4610401/03003645129

Name	Contact
Strengthening Participatory Organization (SPO)	051-2228681-4
CARE	051-2855924-5, 2254738-9, 2254738-9
ACF	051-2250212
ADMIRAL DEVELOPMENT ORGANIZATION	0300-3270452
UNICEF	051-2097700
Pakistan Red Crescent Society (PRCS)	051-9250404-5/051-9250494
Medical Emergency Relief International (Merlin)	051-8438494
Community Development Organization (CDO)	051-4901011
American Refugees Committee (ARC)	051-2654101-3
Ghot Sudhar Sanghat Sindh	0254-730530, 0344-3888564
Pakistan National Forum on Women's Health (PNFWH)	021-32231534
Sukkar Blood and Drugs Donating Society (SBDDS)	071-5612024
Relief Department Emergency Cell	0298-772435
Muslim Aid	051-2102249/ 051-2102252
WHO	051-9255077
Secours Islamique France	051-2294826
Shah Abdul Latif Bhitai Welfare Society (SALBWS)	021-34680660
Society for Environmental Actions Re-Construction and Humanitarian Response (SEARCH)	0254-711160
Excel Development Organization (EDO)	0254-710174/ 0300-3270050
International Medical Corps (IMC)	091-5851984-6
Foundation for Urban and Rural Development	0092-25-4004776, 0092-25-4016378

Source: HIM Pakistan

5.2 Health Facilities

List of health facilities are provided by WHO for 2010

TEHSIL	UC	NAME	TYPE
Dadu	Allahabad	TAJUJI	BASIC HEALTH UNIT
Dadu	Allahabad	IBRAHIM PANHWAR	BASIC HEALTH UNIT
Dadu	Kalhora	SAMTANI	BASIC HEALTH UNIT
Dadu	Khudabad	PHAKA	BASIC HEALTH UNIT
Dadu	Makhdoom Sahib	BHAWAL PUR	BASIC HEALTH UNIT
Dadu	Makhdoom Sahib	RAWAT KHAN LAGHARI	BASIC HEALTH UNIT
Dadu	Makhdoom Sahib	MAKHDOOM BILAWAL	BASIC HEALTH UNIT
Dadu	Muradabad Channa	KAMAL KHAN LUND	BASIC HEALTH UNIT
Dadu	Pat	PAT	BASIC HEALTH UNIT

TEHSIL	UC	NAME	TYPE
Dadu	Pat	SITA VILLAGE	BASIC HEALTH UNIT
Dadu	Phulji Station	MONDER	BASIC HEALTH UNIT
Dadu	Phulji Station	SAEEDPUR	BASIC HEALTH UNIT
Dadu	Phulji Station	PHULJI STATION	BASIC HEALTH UNIT
Dadu	Piara Station	PIARO GOTH	BASIC HEALTH UNIT
Dadu	Piara Station	KHERO	BASIC HEALTH UNIT
Dadu	Pipri	PIPRI	BASIC HEALTH UNIT
Dadu	Sial	AMINANI	BASIC HEALTH UNIT
Dadu	Phulji Station	PURANO DERO	DISPENSARY
Dadu	Piara Station	JAT SHAHDAD KHAN	DISPENSARY
Dadu	Sial	CIVIL HOSPITAL, DADU	HOSPITAL
Dadu	Monder	DADU	MATERNAL & CHILD HEALTH CENTRE
Johi	Bahawalpur	ALLAHYARANI	BASIC HEALTH UNIT
Johi	Drigh Bala	HAJI KHAN	BASIC HEALTH UNIT
Johi	Pat Gul Mohammad	PAT GUL MUHAMMAD	BASIC HEALTH UNIT
Johi	Phulji	PHULJI VILLAGE	BASIC HEALTH UNIT
Johi	Tando Rahim Khan	WAHI PANDHI	BASIC HEALTH UNIT
Johi	Tor	DRIGH BALA	BASIC HEALTH UNIT
Johi	Tor	TOUNG	BASIC HEALTH UNIT
Johi	Chhini	THANDO RAHIM KHAN	DISPENSARY
Johi	Bahawalpur	TALUKA HOSPITAL, JOHI	HOSPITAL
Khairpur Nathan Shah	Butra	DHANI BUX BUGHIO	BASIC HEALTH UNIT
Khairpur Nathan Shah	Gozo	GOZO	BASIC HEALTH UNIT
Khairpur Nathan Shah	Gozo	SATANI CHANDIA	BASIC HEALTH UNIT
Khairpur Nathan Shah	Kakar	KALO KHOHAR	BASIC HEALTH UNIT
Khairpur Nathan Shah	Kakar	CHOWKHANDI	BASIC HEALTH UNIT
Khairpur Nathan Shah	Kandechukhi	BAID	BASIC HEALTH UNIT
Khairpur Nathan Shah	Mitho Babar	KHANPUR	BASIC HEALTH UNIT
Khairpur Nathan Shah	Thalho	TALUKA HOSPITAL, KHAIRPUR Nathan	HOSPITAL
Khairpur Nathan Shah	Butra	SITA ROAD	RURAL HEALTH CENTRE
Mehar	Baledai	BALEDAI	BASIC HEALTH UNIT
Mehar	Bali Shah	AGHAMANI	BASIC HEALTH UNIT
Mehar	Bali Shah	BALI SHAH	BASIC HEALTH UNIT
Mehar	Beto	ESSO KHAN THEBO	BASIC HEALTH UNIT
Mehar	Beto	BETO	BASIC HEALTH UNIT
Mehar	Bothro	SOJHRO GORAR	BASIC HEALTH UNIT
Mehar	Khan-jo-goth	FARIDABAD	BASIC HEALTH UNIT

TEHSIL	UC	NAME	TYPE
Mehar	Kolachi	KOLACHI	BASIC HEALTH UNIT
Mehar	Kolachi	MANGWANI	BASIC HEALTH UNIT
Mehar	Mangwani	CHHORE	BASIC HEALTH UNIT
Mehar	Nao Goth	NAU GOTH	BASIC HEALTH UNIT
Mehar	Nao Goth	RADHAN STATION	BASIC HEALTH UNIT
Mehar	Nao Goth	THARIRI MUHABBAT	BASIC HEALTH UNIT
Mehar	Thariri Muhabat	BUT SERAI	BASIC HEALTH UNIT
Mehar	Beto	TALUKA HOSPITAL, MEHAR	HOSPITAL

PAKISTAN

DEVELOPMENT PERSPECTIVE

PAKISTAN CITY DISTRICT DEVELOPMENT PERSPECTIVE KARACHI, SINDH



PAKISTAN CITY DISTRICT DEVELOPMENT PERSPECTIVE LAHORE, PUNJAB



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