

**WASH NEED ASSESSMENT FOR 6 DISTRICT UNDER  
UNICEF**

**INTERVENTION REPORT  
HANGU**

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## 1.1 General

Water is a basic need for human in a living environment, and there is no concept of life without this basic need. In the recent age the issues regarding availability of clean water to the inhabitants is one of the biggest challenges in the country. In urban areas the problem is much swear regarding quality of water however in rural areas the aspect of quality & quantity both are to be considered.

Water is widely distributed on Earth as freshwater and salt water in the oceans/streams/rivers and it is directly influencing our lives. The water available on the earth is 97% saline, mostly in the form of oceans/seas and salty lakes etc, whereas the freshwater just makes 3%. The fresh water is very unevenly distributed and all fresh water was found in two form that are ground water and surface water. The approximate distribution can be assessed in following Figure 1:

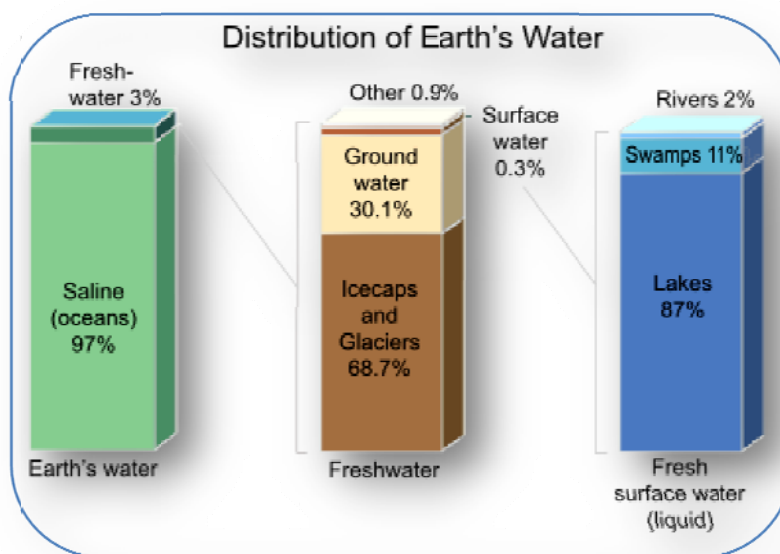


Figure 1 Distribution of Earth's Water

However, fresh groundwater is of great value, especially in arid countries such as Pakistan. Its distribution is broadly similar to that of surface river water, but it is easier to store in hot and dry climates because groundwater storages are much more shielded from evaporation than are dams.

The situation in Pakistan is rather worst where the available fresh water is already insufficient and about 4MAF (Million Acre-feet) of industrial and domestic wastewater is produced every year, of which merely 3% gets treated while the remaining is directly discharged into freshwater bodies. Similarly, in urban areas 60,000 tons of solid waste is generated daily, out of which only 60% is collected. All that is rapidly deteriorating the water quality in the already water stressed country.

In Pakistan, according to the Joint Monitoring Program of the World Health Organization and UNICEF, access in Pakistan to an improved water source increased from 83% in 1990 to 91% in 2004. In the same time, improved sanitation coverage increased from 37% to 59% (see Table 1)

<b>Access to Water and Sanitation in Pakistan (2004)</b>				
		<b>Urban (34% of the population)</b>	<b>Rural (66% of the population)</b>	<b>Total</b>
Water	Broad definition	96%	89%	91%
	House connections	49%	15%	27%
Sanitation	Broad definition	92%	41%	59%
	Sewerage	40%	6%	18%

**Table 1 Access to Water and Sanitation in Pakistan (2004)**

It has also been reported that almost 40% of diseases in the country are water-borne and is taking a major chunk of the national health budget. People have to spend substantial portion of their income on fighting with these water-borne diseases which is further adding to the financial miseries of the poverty stricken citizens. Rising public and global concern over water quality has been sensitized by the planners and policy makers to make necessary arrangements for provision of safe water. However, planning and implementation of projects for provision of safe water could not be realized unless baseline survey of water quality status, sewage and solid waste disposal etc. is made available so that remedial measures could be devised accordingly by the responsible agencies.

## 2.1 Project Brief

Local Government and Rural Development Department (WATSAN Cell), along with UNICEF has taken the initiative to carry out baseline surveys to assess the WASH service sector situation in six chosen districts of KPK. The project aims to assess the availability of WASH services to the communities, analyze the gaps and needs assessment and suggests the interventions along with costing in the project areas. The project areas comprises of the following districts;

- i. District D.I.Khan
- ii. District Kohat
- iii. District Bannu
- iv. District Lakki Marwat
- v. District Tank
- vi. Distirct Hangu

Figure.2 highlights the project area in the regional context. The six chosen districts fall in the KPK area with Federally Administered Tribal Areas on the north-west and south-west, the Northern Areas on the north, the Punjab province on the eastern side and Baluchistan province on the south western side.

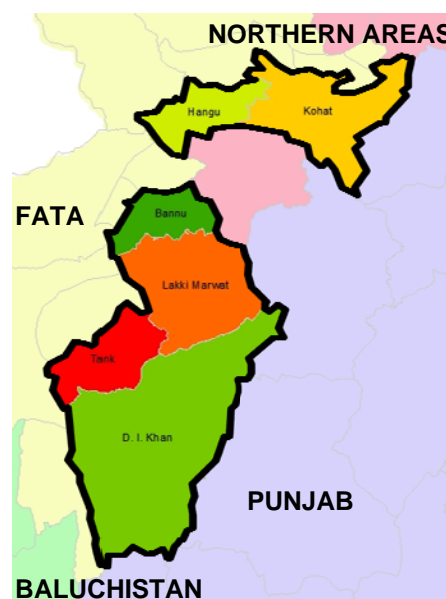


Figure 2 Location of DIKhan w.r.t Six Southern districts of KPK

The report under consideration deals with only District Hangu, however separate reports are to be presented for each district.

The project under consideration deals mostly with rural localities, therefore the quality, quantity and ease of availability are equally important factors to be considered. This report reflects the picture of water and sanitation in District Hangu after detailed analysis of collected data. This report also describes the data collection and analysis using different techniques. Consequently, various possible interventions are also proposed for the flood affected areas in hangu

### **3.1 Study Area**

As stated the scope of this report is limited to District Hangu, which has a spread of more than 1097 Sq.Km with an estimated population is about 0.5 Million for the current year. District Hangu consists of 2 tehsils which are sub-divided in 19 union councils. The Figure 3 shows the location of union councils in District Hangu.



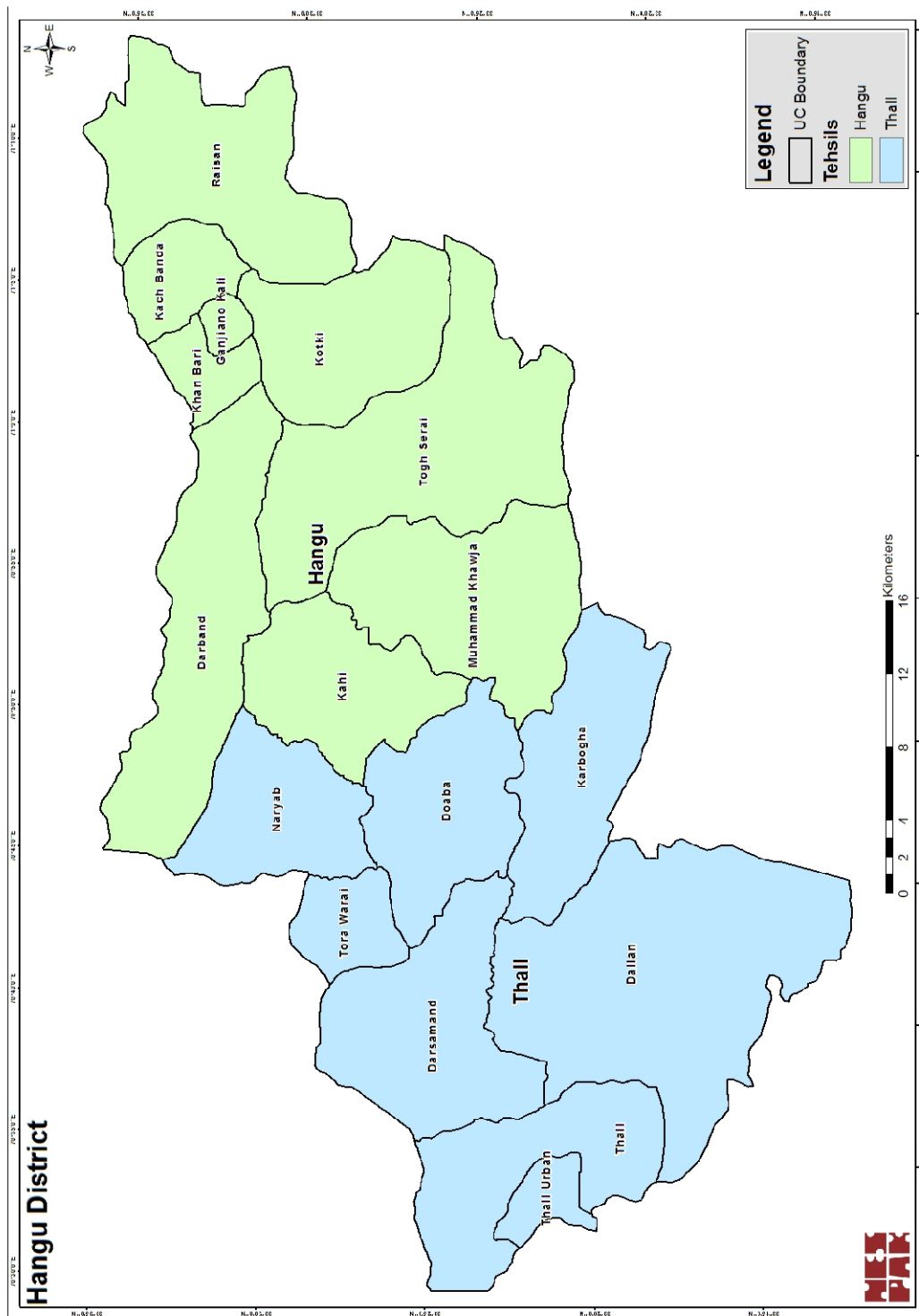


Figure 3 Union Councils in Hangu District

## 4.1 Data Collection and Sample Size

Efforts have been made to collect the maximum data regarding water and sanitation in the project area in the minimum possible time. For this purpose the questionnaire at four different levels has been established which includes:

1. General Information on Community/Villages
2. House Hold Survey
3. Educational Institutional Survey
4. Health Institutional Survey

The entire flood affected area in Hangu is covered by 2 teams and each team is comprised of 4 to 5 members including Team Leader, local community representative, engineers/sub-engineers and sociologist to carry out the field surveys for need assessments regarding water & sanitation.

It is revealed from the study of the secondary data available regarding settlements of Hangu district that the total No. of affected villages are reported as 28 and all of them have been surveyed at house hold level. The following Table 2 provides the details of the villages surveyed including information regarding population and size of the sample collected in these areas.

**Table 2 U/C wise Population Breakdown**

Tehsil Hangu						
Tehsil	UC	Total Villages	Visited Villages	Total Population	Affected Population	No of Proformas
Hangu	Darband	37	2	17925		5
Hangu	Ganjano Kali	2	1	21597	6479	16
Hangu	Kach Banda	16	4	30013	9004	22
Hangu	Kahi	7	0	24745		0
Hangu	Khan Bari	1	1	23675	7102	11
Hangu	Kotki	7	3	31380	1569	13
Hangu	Muhammad Khawja	9	0	19978		0
Hangu	Raisan	16	2	31625	9488	13
Hangu	Togh Serai	14	1	4137	805	11
Hangu	Tora Warai	5	0	1899		0

Tehsil Thall						
Tehsil	UC	Total Villages	Visited Villages	Total Population	Affected Population	No of Proformas
Thall	Dallan	39	1	29020		3
Thall	Darsamand	21	2	33686		10
Thall	Doaba	12	3	24018		37
Thall	Karbogha	12	0	32644		0
Thall	Naryab	7	4	18072	904	26
Thall	Thall	25	2	23741	1187	13
Thall	Thall Urban	8	2	27008	8102	20

Detail of the villages covered in this survey is given in Table 3:

S.No.	VILLAGE	UNION COUNCIL	TEHSIL	AREA (ACRES)	POPULATION
1	Kote Man	Naryab	Thall	283	6000
2	Sanghar Banda	Naryab	Thall	203	8000
3	Hassan Zai	Naryab	Thall	174	7000
4	Naryab	Naryab	Thall	221	10000
5	Lal Gul Pir	Raisan	Hangu	18	600
6	Lakhti Banda	Kotki	Hangu	56	4000
7	Javedah Banda	Kotki	Hangu	212	10000
8	Bahadar Banda	Kacha Banda	Hangu	160	5000
9	Shakhan Banda	Kacha Banda	Hangu	63	3000
10	Kach Banda	Kacha Banda	Hangu	72	4500
11	Ganajana Kalay	Khan Bari	Hangu	127	9000
12	Ghari Bazar	Khan Bari	Hangu	132	9000
13	Rasian	Raisan	Hangu	151	9000
14	Sarra Ghundi	Thall Urban	Thall	105	2000
15	Bijli Ghar	Thall	Thall	227	8000
16	Doaba	Doaba	Thall	143	8000
17	Jadid Banda	Doaba	Thall	303	6000
18	Sarozai	Doaba	Thall	136	5000
19	Hamid-Ullah Ban	Kacha Banda	Hangu	66	2500
20	Kalyarosam	Darband	Hangu	29	1500
21	Karna China	Darshmand	Thall	11	500
22	Maruf Banda	Naryab	Thall	30	150
23	Marzin	Darshmand	Thall	73	300
24	Sayid Khasan	Dallan	Thall	10	400
25	Syedhan Banda	Kotki	Hangu	15	100
26	Tasim Banda	Darband	Hangu	11	100
27	Tarkot	Thall Urban	Thall	6	500
28	Thall	Thall	Thall	347	10000

## 5.1 Analysis of data

GIS interface has been developed based on various parameters provided in proformas developed with concurrence of WATSAN CELL. Use of GIS interface provides the opportunity to relate the collected information on spatial basis. Review of the collected information on this basis helped in identification of problematic areas and extent of problem. (Refer Annexure 3)

Keeping in view the spread of the data the district Hangu is divided into three parts namely:

- 1) Area dominantly administered by PHED (Green)
- 2) Area dominantly dependent on ground water (Amber)
- 3) Area dominantly dependent on the availability of surface water (Red)

The information regarding quality and quantity is also incorporated in these areas. The detailed maps identifying reported sources of water in the areas covered in this survey are provided in Annexure-4.

The secondary data available with satellite imageries regarding topographic details is also studied for identification of the possible interventions. The elevation map developed in this context is given in Annexure-1. This map is based on digital terrain model with contour interval of 90m. The approximate elevation for each union council on the basis of this digital terrain model is given in Annexure-2

### 5.1.1 Existing Water Supply System

Presently the community of District Hangu is facing scarcity of drinking water in urban and rural localities. In most of the areas ground water of good quality has been reported by the community, however the quantity of water is insufficient for the people. The issue got worst after the flood in year 2010; the major reasons for paucity of drinking water are enlisted here under:

- Damage of water sources and existing water supply networks;
- Increase in water demand, due to emergence of IDPs;

- Natural increase in population;
- Water rights for certain communities
- Affect on water tables in flood affected areas
- Contamination at water sources
- Land owner ship and administrative issues
- Less coverage of line departments due financial constraints

The above mentioned factors are of vital importance, while analyzing the data and proposing the interventions regarding water supply system in Hangu.

### 5.1.2 Water Sources in Hangu

The reported quality of water is not objectionable as in most of the areas consumers are satisfied with the quality of available water. However, the present sources of water mostly pertains the low yield tube wells/bore holes in the project area, whereas no sources for the utilization of surface water has been reported.

Keeping in view this situation interventions are proposed for improvement of water supply system based on utilization of acceptable quality of ground water available in the areas of District Hangu.

The ground water sources are identified as follows:

- Hand pumps
- Protected Dug Well
- Unprotected Dug Well
- Tube Wells/Boreholes

The most commonly used water source is of unprotected dug well with 36.36% and second most used source is of Hand Pumps with 30.68%, then comes the category of Protected dug well with 15.91%. On the other hand a major proportion is getting water from tube wells & public taps or even from tankers. The point to ponder is that only 6.82% of the whole district's population is enjoying piped water supply system. The utilization of water sources reported in Hangu is summarized in following Figure 4:

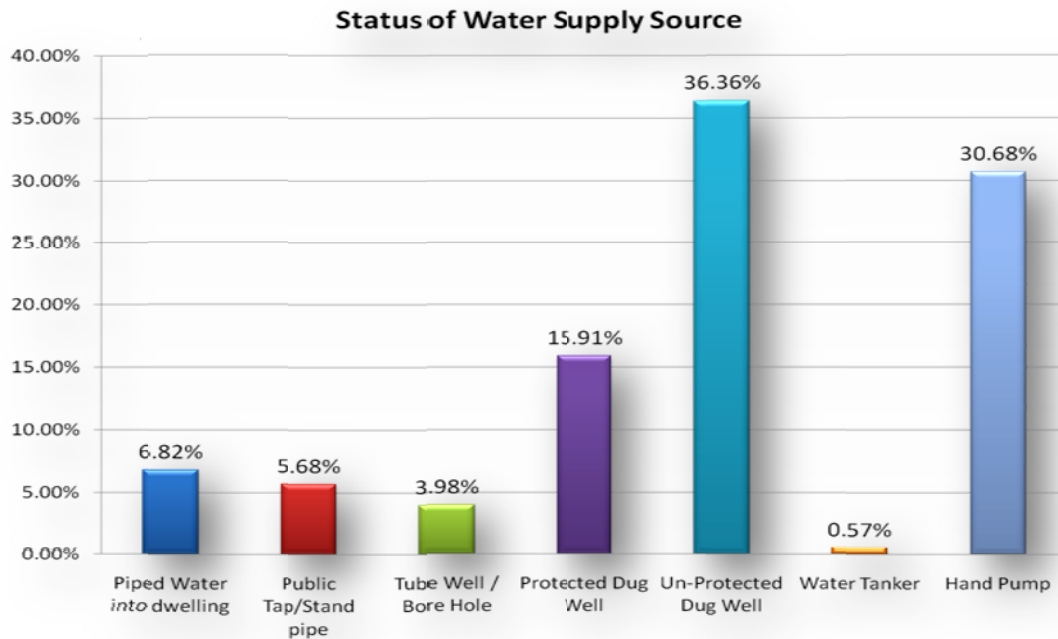


Figure 4 Status of Water Supply Source

### 5.1.3 Water Quality in Hangu

The study of the collected data reveals that only 6.17% of the population are not satisfied with quality of water. While 90.74% recorded that the drinking water seems ordinary, means it is not that bad in taste or smell. However, it was not termed clear or with sweet smell. Nevertheless, only 3.09 % population was provided with good water that smelled good as well. It reflects that water, which is the basic necessity of a human beings, even that is either not provided by the government, or it is available to them with a very poor quality that it is in smell, color or even taste.

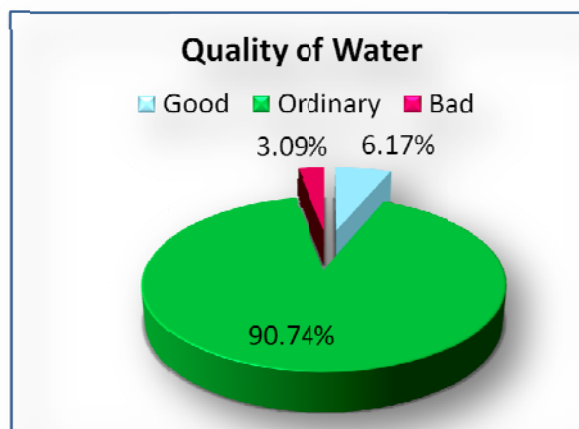


Figure 5 Quality of Water

### 5.1.4 Water Fetching in Hangu

It has been reported that the water available at the door step to the population is very limited in Hangu, therefore a considerable percentage of people has to fetch the water from various sources. These sources are mostly wells in the vicinity of their residences. According to the recorded data the water source is just 11-20 minutes far from 46.10% of the respondents, this percentile actually includes the population who use public taps, hand pumps or bored wells nearby their dwellings. Second highest percentage is of those persons for whom water source is available at a distance of 1-10 minutes from their dwellings. The important aspect to note is that there are such inhabitants, who have to travel for an hour and even more than that; this population percentage represents a figure of 3.90 & 0.65%.

Folowing Figure 6 represents staitcs for fetching the water:

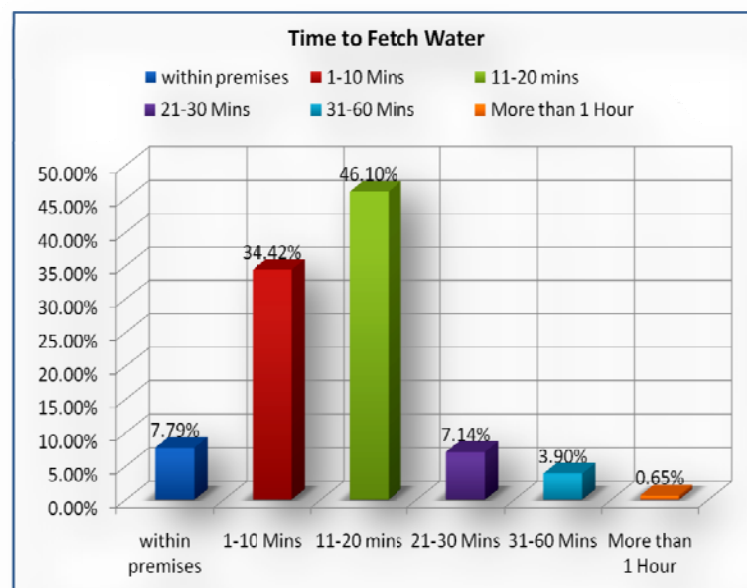


Figure 6 Time to fetch Water

### 5.1.5 Capacity of Water Storage

The water storage is an important and major compnent of water supply system. The storage is primarily important in case of distribution networks, however, there is no well defined water supply network in the project area. The current stauts regarding water storage in district Hangu is reported as 57% of population has an access to water



storage tanks of various capacities, whereas 43% has no storage reservoirs. The percentile breakup regarding storage facilities are shown in Figure 7:

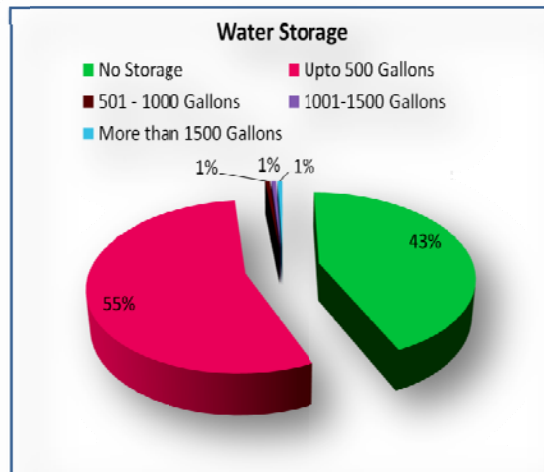


Figure 7 Capacity of Water Storage

### 5.1.6 Water Treatment Facility

The facility of water treatment at house hold level is not established in Hangu. Most of the people are not even familiar with the types and techniques of the water treatment. The analysis of the collected data is not very encouraging as over 97% respondents did not know how to treat water prior to drinking. The people who practiced some kind of treatment mostly try to control turbidity by staining, filtering or sedimentation applied was about only 3%. The major reason for the unawareness of consumers with the water treatment methods is availability of good/ordinary quality of water. This factor of availability of good water has reduced the trend of water treatment in project area.

### 5.1.7 Sewerage System

The concept of sewerage network in Hangu is very limited, majority of the surveyed areas are not provided with a piped sewerage system. People are using traditional ways to avail this facility. The household survey was conducted regarding availability of Latrines in the targeted areas so as to assess the level of sewerage facility in the project area. It has been reported that the Pit Latrines are the mostly used by the community, ranging upto 83% of the population. The rest of the population is using different ways including flush and fields as well. The overall study prevails that 73% of population is

availing the facility of latrines in the project area and rest of them are not beneficiary for this facility. The graphical presentation of availability of latrines is given in Figure 8:

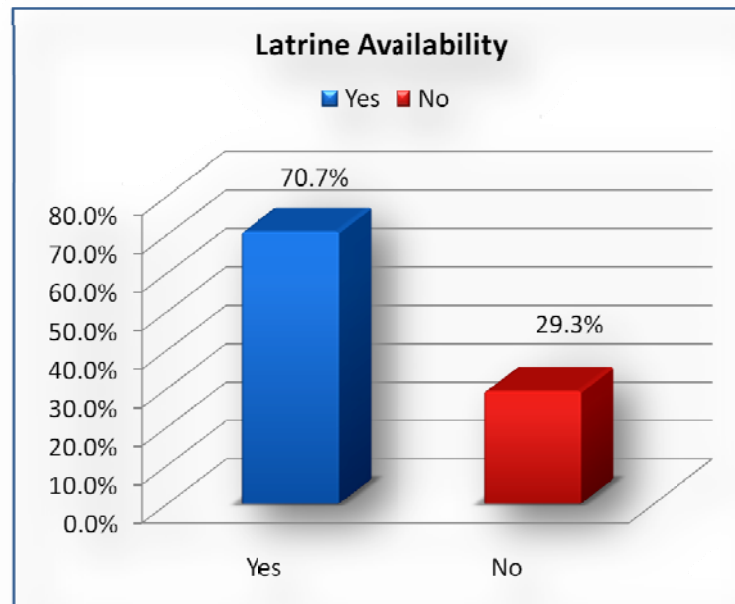


Figure 8 Type of Latrine

#### 5.1.8 Drainage System

The conditions of roads in the affected villages is miserable and there is no proper system of drainage along the road sides. However, the open drains exist in many areas but they are not clean to be operational to its full capacity. The damaged drains are also observed in the project area which results in partial operation of drains. According to the primary data results, response of household members reflected that 20% households have drains in their streets including damaged and partially operating drains, while rest of them do not have drains in their area.

During the household survey the reason for clogging of drains was also enquired so as to assess the extent of problem. Partial functioning of the drains is attributed to recent flood damages by 65% of the respondents. Whereas 18% of the respondent considers lack of maintenance as a major cause of clogging. On the other hand 1% of respondents considered influx of IDPs and over burdening of drains responsible for drain clogging without mentioning the conditions of drain prior to arrival of IDPs. 14% respondents were indifferent and gave miscellaneous reasons for drain clogging.

## 6.1 Interventions of Water Supply

The primary data collected from community surveys and secondary data acquired from various agencies has been used for the analysis regarding WASH assessment in the project area.

The overall situation of WATSAN is not promising in these areas. The present surveys conducted in these areas are limited only to the identification of problem. Whereas, in order to alleviate the suffering of people or to improve the existing level of services regarding WATSAN a detailed survey is needed at village level along with water quality and quantitative tests in the area. However the analysis of collected data showed numerous problems in WATSAN sector, and short term interventions are proposed hereunder in Table 4 for affected villages:

S.No.	Union Council	Village	Tehsil	DISTRICT	AREA (ACRES)	Population	Proposed Intervention	Approx Budgetary Cost (Rs. Million)
1	Naryab	Kote Man	Thall	Hangu	283	6000	01 Tube well, transmission main, storage tanks with 8 nos. of community water distribution station with pipe line	17.00
		Sanghar Banda	Thall	Hangu	203	8000	2 Tube well, transmission main, storage tanks with 12 nos. of community water distribution station with pipe line	29.00
		Hassan Zai	Thall	Hangu	174	7000	2 Tube well, transmission main, storage tanks with 10 nos. of community water distribution station with pipe line	28.00
		Naryab	Thall	Hangu	221	10000	2 Tube well, transmission main, storage tanks with 14 nos. of community water distribution station with pipe line	31.00
		Maruf Banda	Thall	Hangu	30	150	1 Tube well, transmission main, storage tanks	10.50

S.No.	Union Council	Village	Tehsil	DISTRICT	AREA (ACRES)	Population	Proposed Intervention	Approx Budgetary Cost (Rs. Million)
2	Raisan	Lal Gul Pir	Hangu	Hangu	18	600	1 Tube well, transmission main, storage tanks	10.50
		Rasian	Hangu	Hangu	151	9000	2 Tube well, transmission main, storage tanks with 8 nos. of community water distribution station with pipe line	30.00
		Rasian	Hangu	Hangu	151	9000	2 Tube well, transmission main, storage tanks with 8 nos. of community water distribution station with pipe line	30.00
3	Kotki	Lakhti Banda	Hangu	Hangu	56	4000	1 Tube well, transmission main, storage tanks with 6 nos. of community water distribution station with pipe line	14.50
		Javedah Banda	Hangu	Hangu	212	10000	2 Tube well, transmission main, storage tanks with 14 nos. of community water distribution station with pipe line	31.00
		Syedana Banda	Hangu	Hangu	15	100	1 Tube well, transmission main, storage tanks	10.00
4	Kacha Banda	Bahadar Banda	Hangu	Hangu	160	5000	1 Tube well, transmission main, storage tanks with 7 nos. of community water distribution station with pipe line	15.50
		Shakhan Banda	Hangu	Hangu	63	3000	1 Tube well, transmission main, storage tanks with 4 nos. of community water distribution station with pipe line	13.50
		Kach Banda	Hangu	Hangu	72	4500	1 Tube well, transmission main, storage tanks with 6 nos. of community water distribution station with pipe line	15.00
		Hamid-Ullah Ban	Hangu	Hangu	66	2500	1 Tube well, transmission main, storage tanks with 4 nos. of community water distribution station with pipe line	13.00

S.No.	Union Council	Village	Tehsil	DISTRICT	AREA (ACRES)	Population	Proposed Intervention	Approx Budgetary Cost (Rs. Million)
5	Khan Bari	Ganajana Kalay	Hangu	Hangu	127	9000	2 Tube well, transmission main, storage tanks with 13 nos. of community water distribution station with pipe line	30.00
		Ghari Bazar	Hangu	Hangu	132	9000	2 Tube well, transmission main, storage tanks with 13 nos. of community water distribution station with pipe line	30.00
6	Thall Urban	Sarra Ghundi	Thall	Hangu	105	2000	1 Tube well, transmission main, storage tanks with 3 nos. of community water distribution station with pipe line	12.50
		Tarkot	Thall	Hangu	6	500	1 Tube well, transmission main, storage tanks	10.50
7	Thall	Bijli Ghar	Thall	Hangu	227	8000	2 Tube well, transmission main, storage tanks with 11 nos. of community water distribution station with pipe line	30.00
		Thall	Thall	Hangu	347	10000	1 Tube well, transmission main, storage tanks with 14 nos. of community water distribution station with pipe line	31.00
8	Doaba	Doaba	Thall	Hangu	143	8000	2 Tube well, transmission main, storage tanks with 11 nos. of community water distribution station with pipe line	29.00
		Jadid Banda	Thall	Hangu	303	6000	1 Tube well, transmission main, storage tanks with 8 nos. of community water distribution station with pipe line	17.00
		Sarozai	Thall	Hangu	136	5000	1 Tube well, transmission main, storage tanks with 7 nos. of community water distribution station with pipe line	15.50

S.No.	Union Council	Village	Tehsil	DISTRICT	AREA (ACRES)	Population	Proposed Intervention	Approx Budgetary Cost (Rs. Million)
9	Darband	Kalyarosam	Hangu	Hangu	29	1500	20 Tube well, transmission main, storage tanks with 2 nos. of community water distribution station with pipe line	12.00
		Tasim Banda	Hangu	Hangu	11	100	1 Tube well, transmission main, storage tanks	10.00
10	Darshmand	Karna China	Thall	Hangu	11	500	1 Tube well, transmission main, storage tanks	10.50
		Marzin	Thall	Hangu	73	300	1 Tube well, transmission main, storage tanks	10.50
11	Dallan	Sayid Khasan	Thall	Hangu	10	400	1 Tube well, transmission main, storage tanks	10.50
<b>Total</b>								<b>557.50</b>

The estimated cost has been worked out on the following basis:

Avg. Yield of Tube well = 0.1 cusecs

Water Demand = 10GPCD

In addition to above mentioned cost estimate, there are no. of existing water supply schemes that have been damaged in the recent flood. Estimates of the line department are provided in Table 5 for reference. We are of the opinion that addressing these interventions would facilitate the department in alleviating the suffering of affected communities.

**Table 5 Cost of Repairing Existing WSS**

S.No.	Name of Scheme	Total Cost (Rs. Million)
1	WSS Kotki Bala	1.69
2	WSS Zargari	1.317
3	WSS Lodhi khel	1.193
4	WSS Mirobak	1.802
5	WSS Pirano Darband	0.368
6	WSS Chapan Waziran	1.073
7	WSS Shao Khel Ouch Bazar	0.827
<b>Total</b>		<b>8.27</b>

Therefore, total cost of water supply intervention in District Hangu is Approx Rs. 565.77 Millions.

## **7.1 Interventions of Sanitation**

The intervention related to sanitation covers the existing street improvement, provision of drains along the streets and provision of latrine facility in the flood affected villages/IDPs of war against terrorism residing in the host communities. Following Table 6 presents the cost for intervention regarding street improvement and provision of drains:

Table 6 Intervention for Street Improvements

S.No.	VILLAGE	UNION COUNCIL	TEHSIL	AREA (ACRES)	Estimated Area Of Streets (SFT)	Approx. Length of Streets(FT)	Approx.Cost (Rs. Millions)
1	Kote Man	Naryab	Thall	283	1232748	123275	123.3
2	Sanghar Banda	Naryab	Thall	203	884268	88427	88.4
3	Hassan Zai	Naryab	Thall	174	757944	75794	75.8
4	Naryab	Naryab	Thall	221	962676	96268	96.3
5	Lal Gul Pir	Raisan	Hangu	18	78408	7841	7.8
6	Lakhti Banda	Kotki	Hangu	56	243936	24394	24.4
7	Javedah Banda	Kotki	Hangu	212	923472	92347	92.3
8	Bahadar Banda	Kacha Banda	Hangu	160	696960	69696	69.7
9	Shakhan Banda	Kacha Banda	Hangu	63	274428	27443	27.4
10	Kach Banda	Kacha Banda	Hangu	72	313632	31363	31.4
11	Ganajana Kalay	Khan Bari	Hangu	127	553212	55321	55.3
12	Ghari Bazar	Khan Bari	Hangu	132	574992	57499	57.5
13	Rasian	Raisan	Hangu	151	657756	65776	65.8
14	Sarra Ghundi	Thall Urban	Thall	105	457380	45738	45.7
15	Bijli Ghar	Thall	Thall	227	988812	98881	98.9
16	Doaba	Doaba	Thall	143	622908	62291	62.3
17	Jadid Banda	Doaba	Thall	303	1319868	131987	132.0
18	Sarozai	Doaba	Thall	136	592416	59242	59.2
19	Hamid-Ullah Ban	Kacha Banda	Hangu	66	287496	28750	28.7
20	Kalyarosam	Darband	Hangu	29	126324	12632	12.6
21	Karna China	Darshmand	Thall	11	47916	4792	4.8
22	Maruf Banda	Naryab	Thall	30	130680	13068	13.1
23	Marzin	Darshmand	Thall	73	317988	31799	31.8
24	Sayid Khasan	Dallan	Thall	10	43560	4356	4.4
25	Syedana Banda	Kotki	Hangu	15	65340	6534	6.5
26	Tasim Banda	Darband	Hangu	11	47916	4792	4.8
27	Tarkot	Thall Urban	Thall	6	26136	2614	2.6
28	Thall	Thall	Thall	347	1511532	151153	151.2
<b>Total Cost</b>							<b>1474.1</b>

Therefore, total cost of Street Improvement Intervention in District Hangu is Approx Rs. 1474.10 Millions.



Following Table 7 presents the cost for intervention regarding provision of latrines in the project area:

**Table 7 Intervention for Latrine Facility**

S.No.	Village	UC	Tehsil	No. of Laterines Required	Approx. Cost (Rs. Million)
1	Doaba	Doaba	Thall	34	2.02
2	Jadid Banda			25	1.51
3	Sarozai			21	1.26
4	Ganjana Kalay	Ganjano Kali	Hangu	125	7.50
5	Bahadar Banda	Kach banda	Hangu	179	10.71
6	Shakhan Banda			107	6.43
7	Kach Banda			161	9.64
8	Hamid-Ullah Banda			89	5.36
9	Tarkot	Thall Urban	Thall	75	4.48
10	Sarra Ghundi			15	0.90
<b>Total</b>					<b>49.80</b>

Therefore, total cost for provision of Latrine facility is Approx Rs. 50.0 Millions.

### 8.1 Interventions for Education Facilities

The education sector of district Hangu is also badly affected by the flood and IDPs. Therefore this sector also needs some intervention regarding water and sanitation. The reported data is analyzed and it is proposed that each institute should be served by the water supply system in its respective village. In addition to this each institute may be furnished with a water storage tank. The budgetary cost of storage tanks is approx. Rs. 0.1 Millions for 12 affected Institutes. (Refer Annexure-6)

For provision of Latrine facility following Table 9 presents the requirements;

**Table 8 Intervention for Education Facilities**

S.No.	Union Council	Tehsil	District	InstitutionName	Institution Level	Local Students	IDP's Students	Total Students	No.of Laterines Required	Approx. Cost (Rs. Million)
1	Kotki	Hangu	Hangu	G.P.S Haj Khel Banda	Primary	108	25	133	5	0.33
2	Ganjiano Kali	Hangu	Hangu	Hangu Model School	Secondary	120	10	130	5	0.32
3	Ganjiano Kali	Hangu	Hangu	GGHS Hangu	Secondary	575	10	585	21	1.23
4	Ganjiano Kali	Hangu	Hangu	GPS no 3 Hangu	Primary	678	240	418	15	0.90
5	Ganjiano Kali	Hangu	Hangu	GPS No 4 Sangirh	Primary	600	80	680	24	1.42
6	Ganjiano Kali	Hangu	Hangu	GPS Ganjana Kalay	Primary	90	8	98	4	0.26
7	Ganjiano Kali	Hangu	Hangu	GGPS Gunjana Kalay	Primary	260	24	284	10	0.63
8	Khan Bari	Hangu	Hangu	GPS Hangu	Primary	220	50	270	10	0.60
9	Kacha Banda	Hangu	Hangu	GPS Kach Banda	Primary	0	0	0	1	0.06
10	Khan Bari	Hangu	Hangu	GGHS School Bahdar Kalay	Secondary	250	15	265	10	0.59
11	Raisan	Hangu	Hangu	GPS Babar Mala	Primary	135	25	160	6	0.38
12	Raisan	Hangu	Hangu	GPS New Abdi Raisan	Primary	15	60	75	4	0.21
<b>Total Cost</b>										<b>6.92</b>

*Therefore, total cost for intervention for educational institutions is about Rs. 7.0 Millions.*

### 9.1 Interventions for Health Facilities

The health sector of district Hangu is also badly affected by the flood. Therefore this sector also needs some intervention regarding water and sanitation. The reported data is analyzed and it is proposed that each health unit should be served by the water supply system in its respective village. In addition to this each health unit may be furnished with a water storage tank. The budgetary cost of storage tanks is approx. Rs. 0.1 Millions for 3 affected health units/hospitals. (Refer Annexure-7)

For provision of Latrine facility following Table 8 presents the requirements;

**Table 9 Interventions for Health Facilities**

S.No.	Union Council	Tehsil	Heath unit	Laterines Required	Approx. Cost (Rs. Million)
1	Togh Serai	Hangu	Dispensary	5	0.25
2	Ganjiano Kali	Hangu	Tehsil Head Quarter Hospital Hangu	10	0.5
3	Raisan	Hangu	Al Shawwal Community Centre	5	0.25
<b>Total Cost</b>					<b>1.00</b>

*Therefore, total cost for intervention for health units is about Rs. 1.1 Millions.*

### 10.1 Summary of Cost

The overall summary of estimated rough cost for the proposed intervention regarding WASH projects in district Hangu are presented in Table 9 hereunder:

Table 10 Cost Summary

S.No.	Sector	Approx. Cost (Rs. Millions)
1	Water Supply	565.77
2	Sanitation (Street improvements and provision of Latrines)	1524.10
3	Water & Sanitation for Education Facilities	7.00
4	Water & Education for Health Facilities	1.10
<b>Total Cost</b>		<b>2097.97</b>

**Therefore, total cost for interventions in District Hangu is about Rs. 2.10 Billions.**

# Annexure-1

# Annexure-2

# Annexure-3

# Annexure-4



# Annexure-5

# Annexure-6

# Annexure-7