

Health Initial Rapid Assessment Report

22 Flood affected districts in Sindh

8th – 12th September 2011



Overview

In the aftermath of Sindh floods-2011, the Provincial Health Department in collaboration with National Health Emergency Preparedness & Response Network (NHEPRN), Cabinet Division and WHO carried out the Health Initial Rapid Needs Assessment in 22 flood affected districts. WHO teams in the field carried out the assessment throughout these districts, using the assessment tool approved by NHEPRN

(National Health Emergency Preparedness & Response Network). The objective was to provide a quick overview of health services available to the affected populations in different districts and various health issues that have arisen as an aftermath of the devastation. Identification of needs and gaps in the provision of health services and to prioritize essential needs within the health sector for an initial comprehensive humanitarian response.

The information generated through the initial rapid assessment covers the entire geographic dimension of the disaster, affected population and vulnerable groups, as well as the accessibility to health facilities, existing services and information on Water quality & Sanitation.



The data collection was undertaken from the 8th to 12th of Sep 2011, based on information provided by the EDO-H (Executive District Health officer), in 22 affected districts of Sindh. The information has been jointly compiled and analyzed by WHO and NHEPRN.

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Highlights:

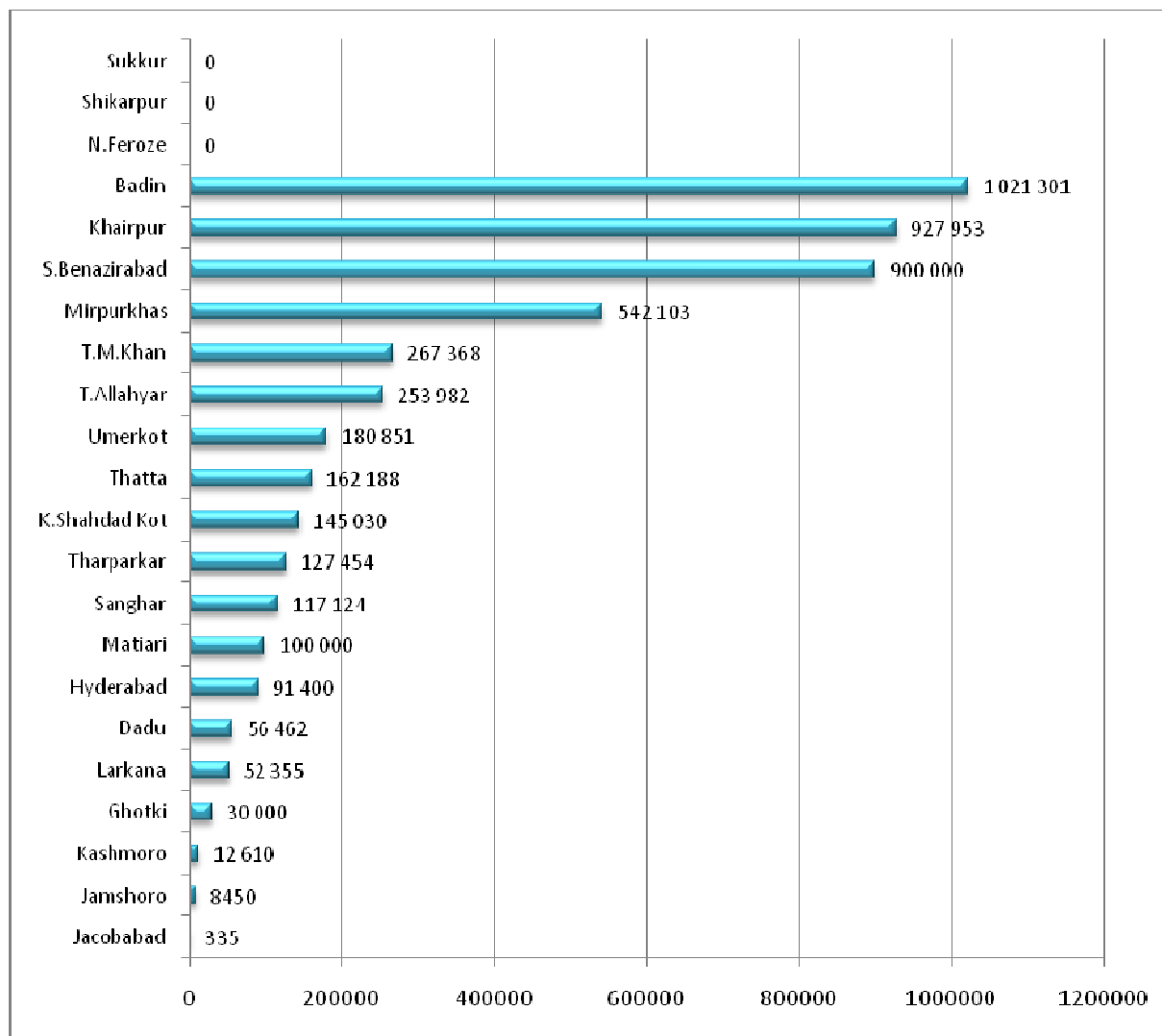
- Around 5 million people (4,966,966) have been affected due to the recent heavy monsoon in Sindh; estimates of 31% of flood's affected population are females as compared to 27% males.
- **Tando Allahyar** is the only flood affected district reported inaccessible till 11th of September 2011. As far as accessibility of the districts was concerned 21 districts out of 22 have been reported accessible with various means; bridges, cars, 4WD, light trucks, and heavy trucks
- Based on the Initial rapid assessment, out of total of 839 health facilities 224 (13% of BHUs and 11% of RHC) are non functional due to inaccessibility, submersion in water or infrastructure damage.
- The supply of essential medicines was found to be adequate till the end of the month, however if not replenished there would be acute shortage by the end of the month.
- Essential EmOc services have been disrupted at 40% of the health facilities and need to be immediately supported.
- The supply of clean potable water has been disrupted in almost all the flood affected districts. Provision of aqua tabs and chlorine required for all the affected districts. In addition tankers and bladders are needed for the supply of clean drinking water to the affected population
- Disease Early Warning System (DEWS) that was established during the last year flood is well in place and the system has detected 193 alerts out of which 36 were confirmed outbreaks but were responded through the Rapid Response Team and contented within 48hrs.

1. Affected population and Vulnerable groups

According to NDMA, around 5 million people (4,966,966) have been affected due to the recent heavy monsoon in Sindh; estimates of 31% of flood's affected population are females, compared to 27% males. Badin district represents the most affected area with more than 1,021,301 affected population and 382,562 damaged household (210,407 fully damaged and 172,155 partially damaged). Numbers of the affected population per district has been presented in figure 1, while summary table of losses and damages published by NDMA is annexed for easy referencing.

Although Sukker, Shikarpur and N. Feroze has been declared as flood affected districts, no affected population is reported by NDMA. While in N. Feroze district the damaged houses is 54,950 (according to NDMA) and number of 3,006 families is reported affected based on the conducted rapid needs assessment.

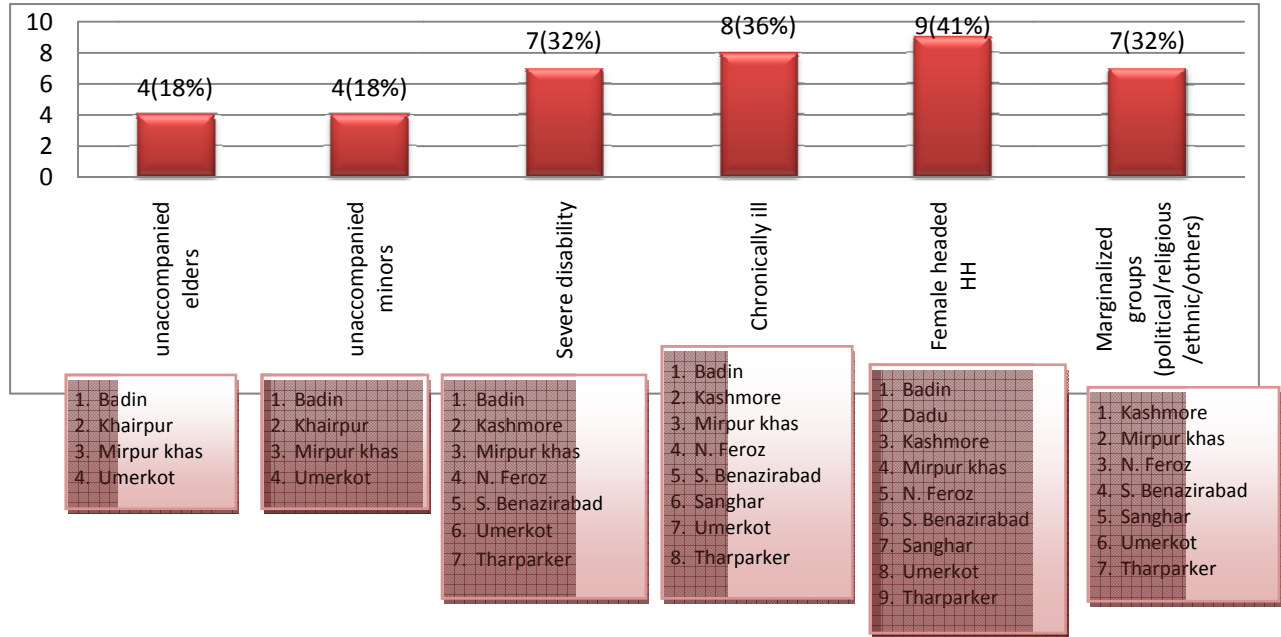
Figure 1: Affected population per district -NDMA 10 Sep 2011



Vulnerable groups:

The most presented vulnerable groups across the 22 flood affected districts are females heading households; presented in nine districts (41%) out of the total 22 flood affected districts, as shown in figure 2 below.

Figure 2: Number of districts with vulnerable groups present



2. Accessibility to flood affected districts

By assessing the physical accessibility to affected districts, it is found that 21 districts out of 22 has been reported accessible with various means; bridges, cars, 4WD, light trucks, and heavy trucks. Summary of total districts accessible by specific mean is grouped in Figure 3.

Up to 11th Sep 2011, **Tando Allahyar** is the only district reported inaccessible. It has 253,982 affected populations, 27,697 damaged houses, and seven persons died, according to NDMA statistics 10th Sep 2011.

Sanghar district is reported accessible but no available information on accessibility means, and T.M. Khan district is reported accessible but no accessible means is reported. Refer to the figure 4 for more information on physical accessibility means by district.

Check points are installed in nine districts (i.e., Ghotki, Khairpur, N. Feroz, Kashmore, Shikarpur, Jaccobabad, Larkana, Kamber, and Tharparkar) with movement authorization required in eight of them except Shikarpur.

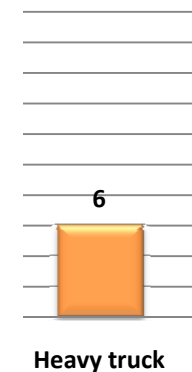
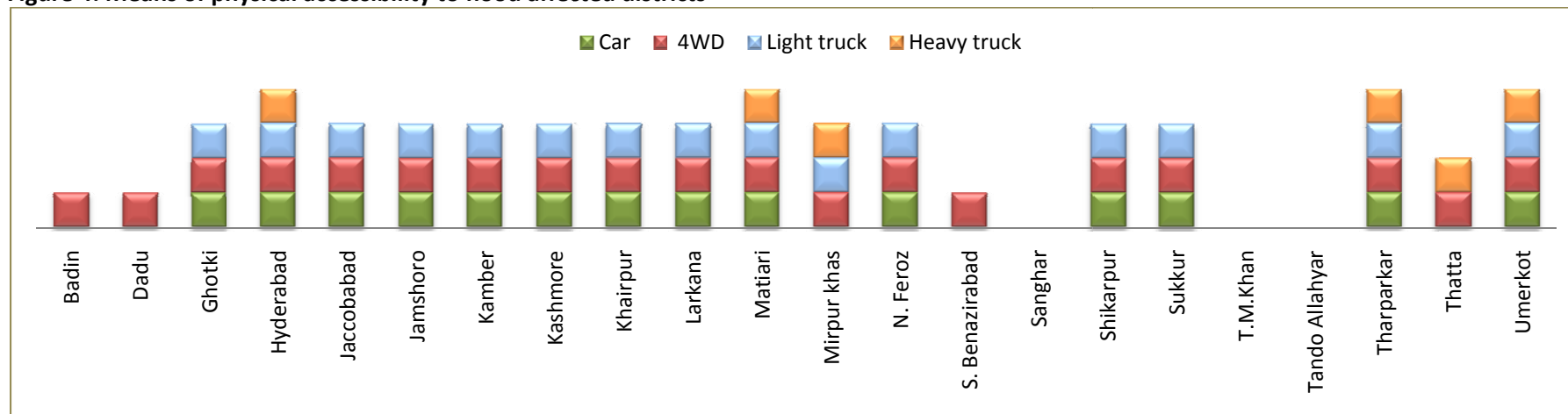


Figure 4: Means of physical accessibility to flood affected districts



3. Healthcare situation

The overall healthcare situation that has emerged due to the recent flood in Sindh indicated that 33% of the Basic Health Units (BHU) have been made unserviceable while 11% of the Rural Health Centres (RHC) are unable to provide health services to the flood affected population due to inaccessibility or damage to the infrastructure. The supply of essential medicines was found to be adequate till the end of the month, however if not replenished there would be acute shortage by the end of the month. Essential EmOc services have been disrupted at 40% of the health facilities and need to be immediately supported. The supply of clean potable water has been badly disrupted in almost all the flood affected districts. However the Disease Early Warning System (DEWS) that was established during the last year flood is well in place and the system has detected 193 alerts out of which 36 were confirmed outbreaks but were responded through the Rapid Response Team and contented within 48hrs.

3.1 Health facilities Status and accessibility

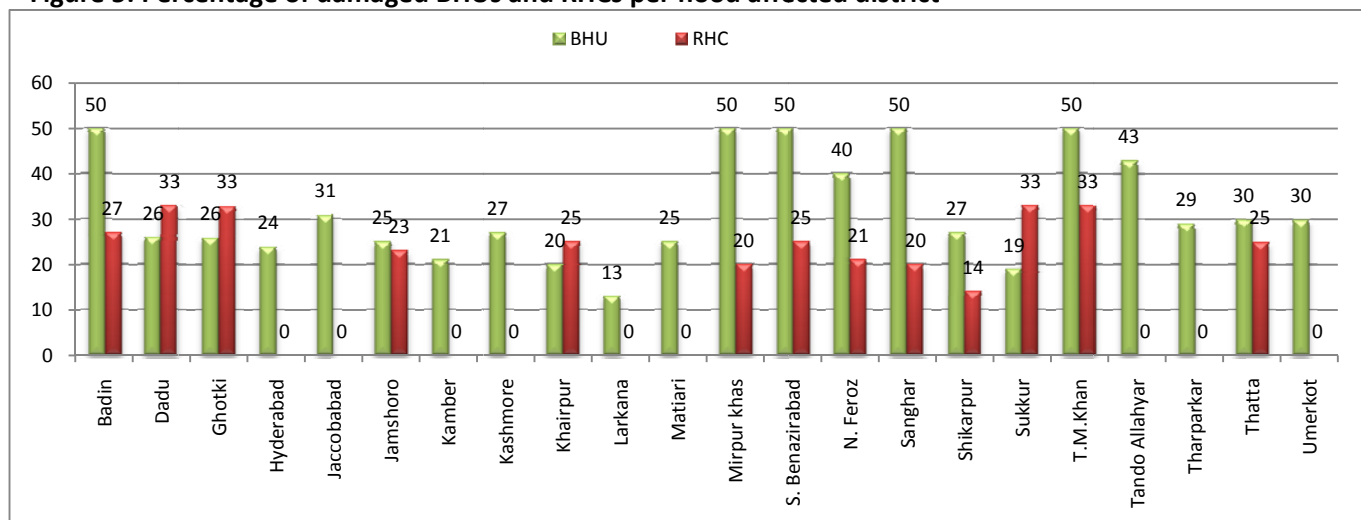
Based on the conducted rapid assessment, about 1,290 functioning and accessible Hospitals and clinics has been reported in the 22 flood affected districts, number and classification per health facility type is shown in Table 1, while the proportion of functioning & accessible HFs across flood affected districts is presented in Figure 5.

Table 1: Distribution of functioning & accessible health facilities per district

Districts	BHUs			RHCs			District Hospital (DHQ)
	TOTAL	Damaged	%	TOTAL	Damaged	%	
Badin	37	19	50	11	3	27	1
Dadu	35	9	26	3	1	33	1
Ghotki	27	7	26	3	1	33	1
Hyderabad	21	5	24	2	0	0	8
Jacobabad	26	8	31	4	0	0	1
Jamshoro	16	4	25	4	1	23	1
Kamber	19	4	21	2	0	0	1
Kashmore	22	6	27	2	0	0	0
Khairpur	71	14	20	8	2	25	1
Larkana	23	3	13	5	0	0	2
Matiari	20	5	25	5	0	0	1
Mirpur khas	38	19	50	5	1	20	1
S. Benazirabad	36	18	50	8	2	25	8
N. Feroz	43	17	40	14	3	21	1
Sanghar	56	28	50	5	1	20	6
Shikarpur	33	9	27	7	1	14	1
Sukkur	26	5	19	3	1	33	1
T.M.Khan	14	7	50	3	1	33	1
Tando Allahyar	14	6	43	1	0	0	3
Tharparkar	31	9	29	2	0	0	1
Thatta	44	13	30	8	2	25	1
Umerkot	30	9	30	6	0	0	4
Total	682	224	33	111	20	11	46

* Tando Allahyar district is inaccessible

Figure 5: Percentage of damaged BHUs and RHCs per flood affected district



Average time required to reach health facilities on foot, in the flood affected districts:

Health facilities in 12 districts are accessible within one hour walking, while two districts (Sanghar & Tharparkar) reported 1-2 hours accessibility to health facilities on foot or by cart. Accessibility within more than 2 hours is reported in five districts (i.e., Sukkur, Khairpur, Jacobabad, Larkana, and Kamber). Percentage of districts accessible within specific time durations is presented in Figure 6.

3.2 Communicable disease Surveillance and Response Flood:

Infectious and communicable diseases are a major Public Health concern and remain the prime cause of morbidity and mortality throughout Pakistan. Pakistan is at high risk for epidemics for a large number of reasons such as over-crowded cities, unsafe drinking water, insufficient sanitation, poor socio-economic conditions, poor health awareness, low vaccination coverage and insufficient health system.

The risk of disease outbreaks further increases during the humanitarian crisis. To a large extent, the epidemics that can occur are predictable through the monitoring of local epidemiological trends. With effective control measures, the expected epidemics can either be avoided altogether or mitigated significantly. WHO in collaboration with the department of health and the health cluster partners has established a Disease surveillance and response network known as the Disease Early Warning System in the disaster affected areas in Pakistan. Following standard cases definition, alert and outbreak threshold immediate alerts are for the epidemic prone diseases are generated, timely investigated and responded and controlled. The DEWS network is function in Sindh province since the 2007 flood but its coverage has been extended in the whole province after the 2010 flood.

In Sindh after the August 2010 flood till date total **1,414 alerts** for different DEWS priority diseases were generated, investigated, **244 outbreaks** were identified, responded and controlled effectively.

From 1st January to 29th July 2011 total **1,111 alerts** were generated and investigated. **180 outbreaks** were identified and responded and controlled.

Brief description of the alerts outbreaks for the most common disease is follows (covering 7 months period)

Alert /outbreak	AWD (Cholera)	Measles	Malaria	Pertussis	Tetanus/Neonatal Tetanus
# of alerts	247	497	13	91	92
# of Outbreaks	96	55	1	15	-
# of cases recorded	500	1434	666,711	534	95

From 1st August to 8th September 2011 a total of 222 alerts were generated and investigated. **37 outbreaks** were identified and responded and controlled. Brief description of the alerts outbreaks for the most common disease is follows (covering the 1 month recent post flood period in Sindh)

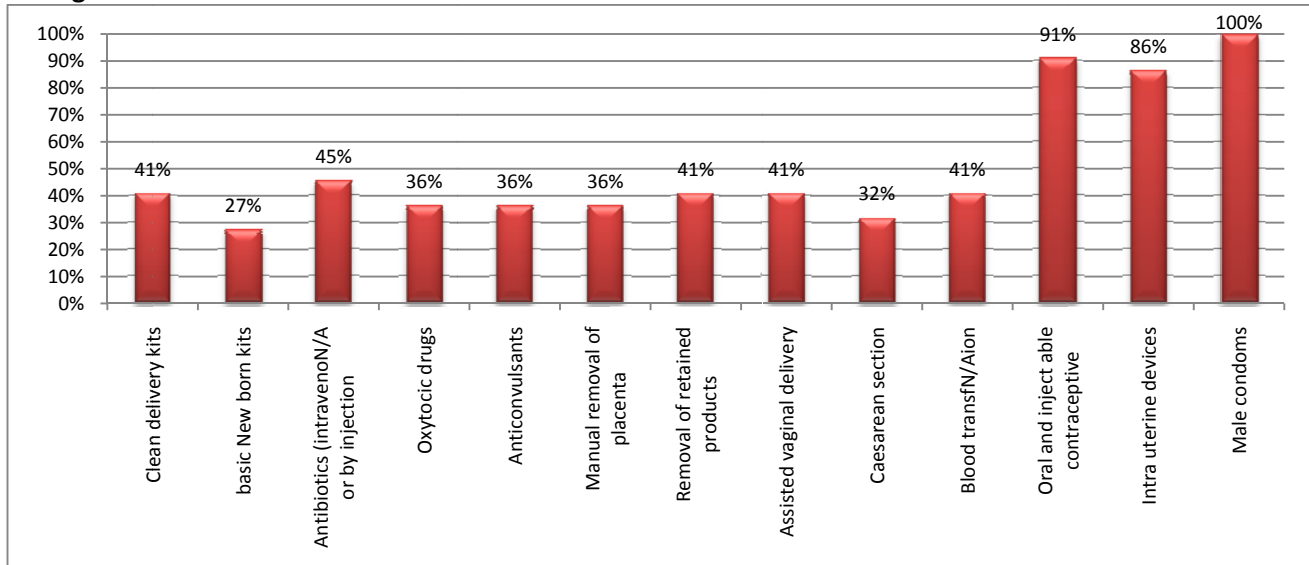
Alert /outbreak	AWD (Cholera)	Measles	Malaria	Pertussis	Tetanus/Neonatal Tetanus
# of alerts	118	23	7	11	34
# of Outbreaks	29	2	3	2	-
# of cases recorded	373	41	-	53	39

Districts Thatta, Badin, Dadu, Mirpur khas, Tharparkar, Khairpur, Tando Muhammad Khan, Nowshero Feroz and Ghotki are particularly at high risk of outbreaks

3.3 Provision of maternal and child healthcare services

Maternal and child health services were found to be available in around 40% of the total health facilities with acute shortage of basic newborn kits, while 73% and 64% did not have sufficient supply of Oxytocysin and anticonvulsants respectively. The shortage of these essential drugs would in turn hamper conduction of C-Section and assisted deliveries.

Figure 7: Provision of maternal and child healthcare services across 22 flood affected districts



3.4 Availability of stock of Medicine, equipment, consumables, and vaccines

As per the data collected 32% of the flood affected health facilities have adequate stocks, medicines, equipments and other consumables at least for one to two weeks while 50% health facilities reported having marginally adequate stocks. However 18% of the health facilities have insufficient medicines and consumables to provide effective PHC services to the affected population. It is pertinent to mention that the availability of medicine and consumables is largely due to the fact that sufficient buffer stocks were pre-positions at Hyderabad and Sukkur hub and made available at short notice.

Vaccines and other stocks of injectables were found to be sufficient in 32% of the health facilities while 45% reported marginally adequate stocks. 23% of the facilities had insufficient availability of vaccines which need to be replenished to insure continued vaccination programs. The Office of Director General Sindh has requested for strengthening the cold chain and it is worth mentioning that the National EPI Program has dispatched all available vaccines to the provincial health authorities.

Table 2: Summary on health indicators assessed on RNA, by total districts:

Indicator		Total Districts	%
Availability of stocks medicine, equipment, consumables	Sufficient	7	32%
	Marginal	11	50%
	Insufficient	4	18%
How long stocks of medicine will last?	one week	7	32%
	two weeks	9	41%
	3 weeks	1	5%
	4 weeks	5	23%
Availability of stocks of vaccine and injection equipment	Sufficient	7	32%
	Marginal	10	45%
	Insufficient	5	23%
How long stocks of vaccine and injection equipment will last?	one week	4	18%
	two weeks	7	32%
	3 weeks	0	0%
	4 weeks	7	32%

Table 3: Availability stock of Medicine, equipment, consumables, and vaccines

District	medicine, equipment, consumables		vaccine and injection	
	availability of stocks medicine, equipment, consumables	How long stocks of medicine will last?	availability of stocks of vaccine and injection equipment	How long stocks of vaccine and injection equipment will last?
Badin	Sufficient	4 weeks	Sufficient	4 weeks
Dadu	*Insufficient	4 weeks	Sufficient	4 weeks
Hyderabad	Sufficient	one week	Sufficient	one week
Ghotki	Marginal	one week	Sufficient	N/A
Jacobabad	Marginal	One week	Sufficient	one week
Jamshoro	Insufficient	one week	Insufficient	two weeks
Kamber	Marginal	N/A	Marginal	4 weeks
Kashmore	Marginal	4 weeks	Marginal	N/A
Khairpur	Marginal	one week	Marginal	two weeks
Larkana	Sufficient	one week	Insufficient	one week
Matiari	Sufficient	4 weeks	Sufficient	4 weeks
Mirpur khas	Marginal	one week	Marginal	one week
N. Feroz	Sufficient	4 weeks	Sufficient	4 weeks
Sanghar	Marginal	3 weeks	Marginal	4 weeks
Shikarpur	Sufficient	one week	Insufficient	one week
Sukkur	Insufficient	two weeks	Insufficient	two weeks
T.M.Khan	Insufficient	two weeks	Insufficient	two weeks
Tando Allahyar	Sufficient	two weeks	Sufficient	4 weeks
Tharparkar	Marginal	4 weeks	Marginal	N/A
Thatta	Marginal	two weeks	Marginal	two weeks
Umerkot	Marginal	two weeks	Marginal	two weeks
S. Benazirabad	Marginal	two weeks	Marginal	two weeks

*Insufficient in many health facilities in the district

N/A ≡ No Available information

The table below shows the distribution of medicines and other supplies by WHO which was done through the Sindh hubs at Hyderabad and Sukkur from 12th August till 13th September, 2011. The data does not include medicines that have been supplied by provincial health department, PRCS and other partners.

Table 4: Distribution of Essential Medicine in Sindh:

SUMMARY OF DISTRIBUTION IN HEAVY RAIN AFFECTED DISTRICTS OF SINDH (FROM 12 AUG TO 13 SEPTEMBER 2011)													
DISTRICTS	EHK	DDK	ASSORTED MEDICINES	HYGIENE KITS	GERRY CAINS	FILTERS	ASV	AQUA TAB	RDT	Mosquito NETS	GAS CYLINDERS	BASIC FAMILY KIT	Population Coverage
Thatta	7	1	34079	100	280	40	50	37000			50		42500
Tharparkar	0	1	90353	0	0	0	200	32000			0		500
Badin	3	2	170586	290	1120	252		224000			75		19000
Tandoallahyar	1	4	96000	92	710	80		64000			73		8000
Tando m khan	0	3	18235	65	530	117		80000			0		1500
Mirpurkhas	1	3	89788	70	450	100		128000		80	0		7500
Jamshoro	0	2	0	0	0	0	0	0			0		1000
Dadu	1	0	1250	20	30	20	0	16000		80	0		6000
Beenazeerabad	0	2	0	50	0	0	0	0		80	0		1000
Dept of community medicines LUMHS	0	1	10168	0	0	0	0	0			0		500
Matiyari	0	2	3575	0	90	0	0	0	400		0		1000
Umerkot	0	1	104894	0	0	0	100	0			0		500
Sanghar			400	25	60			80000					
Director general health services sindh	0	0	0	0	0	0	500	0					0
Director malaria control program sindh									56080	5600			0
Sukkur	0	2	6172	35	130	30	100	64000				2	1000
Khairpur	2	2	3604	15	40	20	100	64000	900			1	13000
N-Feroze	1	2	900	15	40	20	100	32000				1	7500
Larkana	3	4	8553	40	260	60	50	64000		125		5	20000
Kambar	3	4	4664	30	110	40	100	64000		150		2	20000
Kashmore	0	2	0	30	80	40	0	64000				2	1000
Jacobabad	1	2	3331	30	80	40	0	64000	150			2	7000
Shikarpur	3	1	2334	100	0	0	0	400	120			0	18500
Ghotki	0	2	4458	30	110	50	0	64000				2	1000
Total	26	43	653344	1037	4120	909	1300	1141400	57650	6115	198	17	178000

4. Water & Sanitation

All of the districts designated as “Most Affected “, require immediate and urgent mitigation measures to safe guard and protect the health of the affected communities. This requires close collaboration between departments of health and water supply agencies as well as partnership with the other relevant national and UN agencies for taking the appropriate mitigation measures as well as raising awareness amongst communities in safe guarding and protecting their health.

The flood caused major damages to the existing infrastructure (already damaged from 2010 flooding) of water supply, drainage and sewerage system. Water systems, public facilities, electricity, and transportation are paralyzed which is having a major impact on the livelihoods of the affected people.

Flood events can wash high levels of Faecal matter into existing water sources and hence increase the possibility of microbiological contamination. Hence all water supply schemes need to be treated and disinfected (chlorine, Alum and Pur-Sachets) in all flood affected districts as shown in the graphs. Accessibility is another problem which is exacerbating the situation in all affected districts except Jamshoro and Tando Alla Yar, but information of water status is not available at the time of data collection in Matiari, S.Benazirabad, T.M Khan and Tharparker (Figure 8)

Figure 8: Districts suffering from water quality and accessibility problems

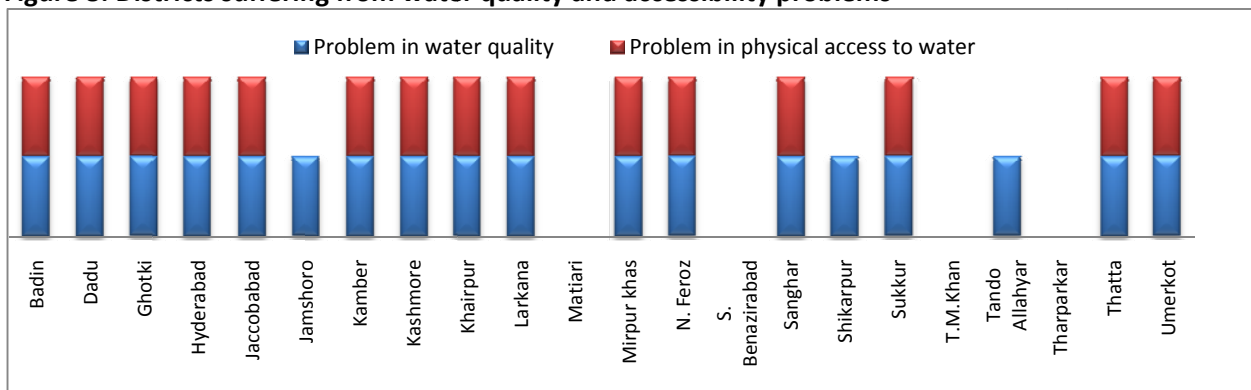
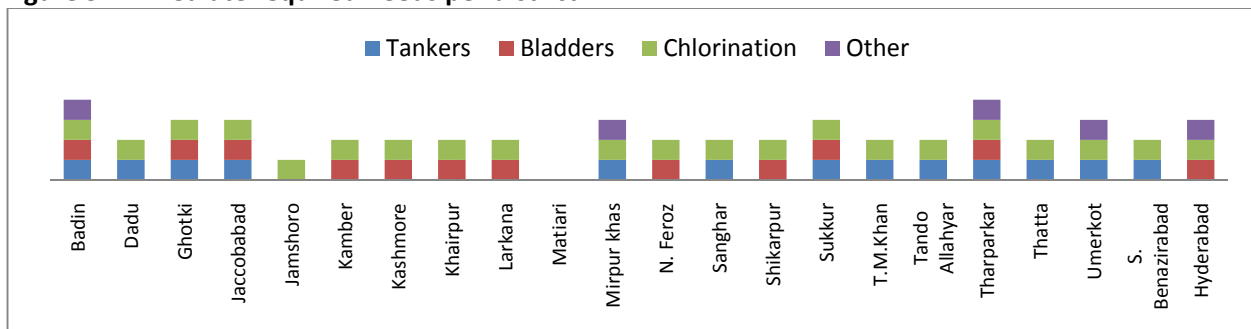


Figure 8 illustrates whether the districts are suffering from both water quality and accessibility problems. For example, most of the flood affected districts do not have access to clean water while Tando AllahYar is only having a problem in water quality.

(Fig. 9) shows immediate requirement of water supply, storage, transportation and drinking water disinfectant requirements. Dewatering and carcasses removal is required in 14 districts.

Figure 9: Immediate required needs per district



These graphs will facilitate the concerned agencies and authorities, in Pakistan, to take appropriate prevention, mitigation, remedial and rehabilitation measures in protecting and safeguarding the health of the affected communities in each of the union council as well as in deciding the closure of the affected wells. It is of utmost importance that the water is totally safe from biological contamination, because it has immediate, direct and adverse health effects.

5. Findings and Immediate Needs

- Provision of safe water supply by ensuring water quality and Environmental Health
- Sustain and strengthen Disease Early Warning System (DEWS)
- Maintain continuous supply of essential medicines and vaccines to the affected districts.
- Management of AWD through provision of standard guidelines and establishment of diarrheal treatment centers.
- Measures to be taken for the control of vector borne diseases like malaria in the affected districts
- Provision of Maternal and Child Healthcare services ensuring Minimum Initial Service Package (MISP)
- Management of malnutrition including establishment of sentinel sites for severe malnutrition
- Deployment of mobile clinics for areas with poor accessibility to health facilities
- Strengthening of referral services to secondary health facilities for patients with life threatening conditions and for emergency obstetric and newborn care through provision of ambulances
- Rehabilitation/temporary arrangements at the health facilities for the provision of primary health care services
- Health Education/ Awareness through social mobilization and mass communication
- Provision of psycho-social and mental health services for the affected population