Coordinated Assessments

Multi-sector Initial Rapid Assessment

PDMA/ NDMA / HCT

Punjab Floods

17-20 Sept, 2014

Executive Summary

In September 2014, the Government of Pakistan requested support from the Humanitarian Country Team in Pakistan (NGOs and UN) to undertake a joint rapid assessment in Punjab following flooding impact. Although a number of districts in Punjab were impacted by the floods, five districts of varying degrees of flooding were identified for data collection - **Hafizabad, Mandi Bahauddin, Chiniot, Jhang and Multan.** A sample of 541 villages were visited to gather data from key informants to provide a snapshot of the impact, possible areas for immediate intervention, and to understand the impact of any assistance provided to date. The enumeration teams were comprised of local government, NGO, and UN staff members; of the 63 enumeration teams, more than 50% had a female enumerator. One female enumerator is recommended per team; however, many of the supporting institutions and organizations reported they had limited numbers of female staff.

The methodology used was the multi-sector initial rapid assessment (MIRA), which has been developed with the NDMA and provincial level disaster management authorities (DMAs). This method aims to use a rapid technique through interviews with key informants, for example, Imams, Maliks, teachers, lady health workers, and others, to gather a basic understanding as to the impact of the crisis and the populations' condition as a result. *The information provided herein is only relevant to the areas within each district impacted, and in no way reflect any area of the rest of the district.*

The enumeration teams found massive impact to agriculture; a number of real and potential public health concerns – for both the affected population and the non-affected populations; and evidence of recovery activities by the communities themselves. The total population affected by the flood is estimated to be approximately 1.8 million in Pakistan (extrapolated from SUPARCO flood extent satellite imagery layered on the 2011 Land scan dataset – based on the maximum flood extent).

Overview

A late and concentrated Monsoon spell, coupled with major water discharges through the eastern rivers, especially the Chenab, resulted in massive flooding in Gilgit-Baltistan, Azad Jammu and Kashmir, and Punjab. On 12 September, 2014, the National Disaster Management Authority (NDMA) formally requested the international community to roll out the joint mechanism for a multi-sector rapid assessment (MIRA) in five (5) of the affected districts in Punjab. The Provincial Disaster Management Authority (PDMA), Punjab provided the list of districts to be assessed. Under the leadership of the Chairman NDMA, the DG PDMA, and the Humanitarian coordinator, joint teams comprised of NGO, CSOs, government and UN staff undertook the rapid assessment, using the pre-approved MIRA methodology, and collected data from key informants between 16-20 Sept, 2014, in Chiniot, Hafizabad, Mandi Bahauddin, Jhang, and Multan.

Table 1: District wise population in the flood affected areas

District Name	Total population as per the Bureau of Statistics	Affected population in the areas of the districts impacted	% Affected Pop
Chiniot	1,362,830	35,367	3%
Hafizabad	1,178,030	210,018	18%
Jhang	2,656,240	385,970	15%
Mandi Bahauddin	1,611,360	226,645	14%
Multan	4,367,380	89,194	2%
Total	**11,175,840**	**947,194**	**8%**

Objective:

The MIRA methodology aims to get a quick overview of the immediate situation, as relief efforts are ongoing. The sampling technique consciously aims to assess more of the worst affected areas than those minimally affected.

As the assessment teams noted acute losses, people who were trapped, or other issues of concerns, these were flagged in real time to the district authorities for immediate action. As such, some of the needs identified in this report are expected to have been met by the relevant authorities by the time of report writing.

For this MIRA, some additional questions were added at NDMA's request to inform an understanding as to the impact on infrastructure, such as housing and roads. This report provides some information in this regards, but the limited baseline data prohibits the ability to accurately quantify the impact to these areas.

Methodology (Punjab Flood MIRA process):

The MIRA process for this roll out was as follows:

1) The questionnaire template in place was reviewed, and adapted for the flood context. Three questionnaires per location were developed: One for a male key informant; one for a female key informant; and a direct observation form which the enumerators complete, based on their observation in the affected community.

2) PDMA Punjab was briefed on the MIRA process. They indicated which 5 affected districts they required the MIRA, and identified Hafizabad, Chiniot, Mandi Bahauddin, Jhang and Multan.
3) An estimate number of villages affected based on the satellite imagery, as calculated by NDMA. This was assessed to be some 1,317 villages and settlements. The sampling technique to identify the villages to gather data was calculated based on a required 95% confidence interval in the data (+/- 5% margin of error), using a representative sampling technique. In consultation with the district officials and local actors, a list of impacted villages was developed. Based on this information, the total number of actual affected villages reduced to some 928 villages. The sample was calculated as 578 villages in total to be assessed. Additionally, teams were instructed to assess each of the identified villages for actual impact, prior to data collection, and to seek guidance from their District Area Coordinator, where the impact was less than assumed. This allowed a flexibility to ensure the worst affected areas were assessed. *Sample size is given in the table 1 below.*
4) Field deployment of an ATT member and one OCHA person to each district to be assessed was undertaken. These teams provided briefings to the relevant local authorities, visited NGOs, CSOs, and other relevant authorities to mobilize enumerators, logistical support, and to gain further insight to the impact of the floods on the communities.
5) Team composition required 3 people per team, with not less than one female and one government representative per team. Enumerators drawn from local communities/local authorities.
6) A one-day refresher training was held for all enumerators on 16 September, in each of the five districts. During this training the enumerators were orientated as to the objective, methodology, questionnaires, data entry – using both paper and PDAs, code of conduct, and how to identify key informants.
7) Data collection took place predominantly between 17-20 Sept; however, in Jhang, an additional day was required to access areas.
8) Data entry took place in real time where possible, and was completed on 20 and 21 Sept. Data cleaning addressed any errors of entry, and the data was then shared with the relevant sector focal points for analysis. A joint working session with the ATT, NDMA and PDMA briefing developed the joint analysis of the data. The sector focal points then undertook their sector analysis and imputed their finding and recommendations into this report.

Table 2: MIRA Sample Size

District	Male Key Informants (KI)	Female Key Informants (KI)	Direct Observation (DO)
Chiniot	84	43	59
Hafizabad	112	92	89
Jhang	182	101	168
Mandi	69	66	75
Multan	94	99	86
Total	**541**	**401**	**477**

Limitations

- In some cases, baseline data was not available with the authorities for comparison and verification.
- Many of the village and settlement lists provided by authorities were out of date;
- Some villages were completely inaccessible.
- Logistical support for the teams was a challenge.
- Ensuring sufficient number of female enumerators was difficult.
- The PDA/Digital data collection in the field was a challenge.
- Many enumerators were new to the MIRA process and received one day training which might be a limitation in conducting KI interviews such as probing questions etc. for specific answers.

Key Findings of the Assessment:

- ***Community Restoration***: Restoration of access for communities is essential, such as with boats where water remains and road repairs where damages limit or impede physical access.
- ***Education***: Education facilities were impacted, but to varying degrees. Large numbers of children were reported to be out of school after the flood.
- ***Food Security:*** Massive impact to agriculture, in particular to the standing crops and fodder for livestock.
- ***Health:*** Standing water poses massive threat to public health, in particular for water borne, vector borne, and hygiene preventable illnesses.
- ***Nutrition:*** Pre-existing vulnerabilities, especially among children under five, breastfed babies, and pregnant and lactating women are potentially exacerbated as a result of this crisis.
- ***Protection:*** Some communities reported difficulty accessing assistance and appropriate assistance, and criminal acts were reported by over half of the women.
- ***Shelter and NFIs:*** Some homes have been impacted, but the levels of damage vary. The type of housing structure supports a quick recovery, but support with shelter repairs kits is necessary.
- ***WASH:*** Access to sufficient quantities of safe drinking water is critical, in particular where water sources may have become contaminated. Previous poor hygiene and sanitation practices poses a risk for the populations well-being, such as the practice of open defecation, and the lack of use of soap for hand hygiene.

Key Challenges

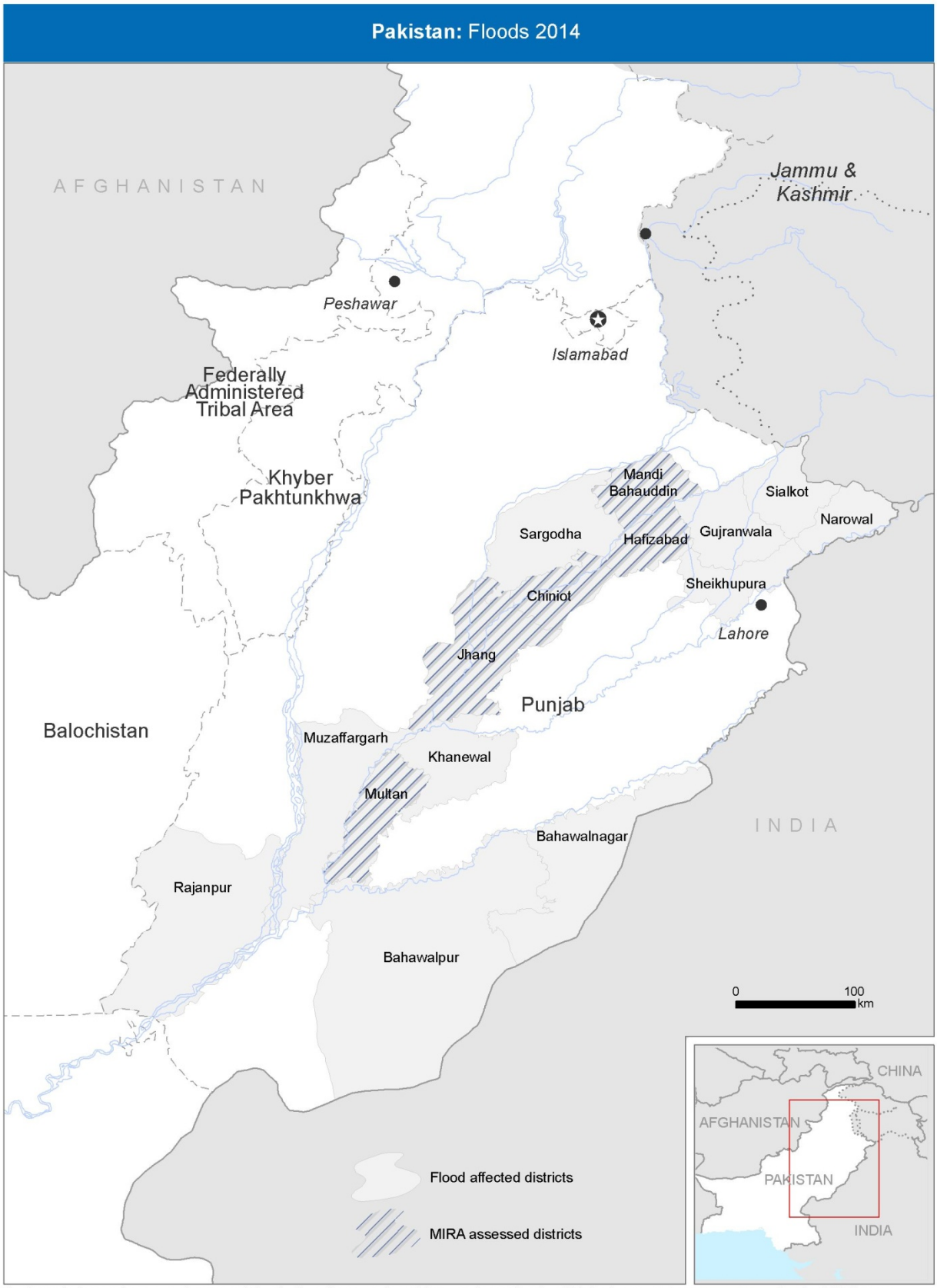
- Physical access to areas due to standing water.
- Standing water is becoming stagnant, posing a significant health risk to people and animals.
- The standing water presents an increased risk during the current dengue season.
- The absence of baseline data to triangulate the MIRA findings.

Key Recommendations:

The Government of Pakistan continues to fulfill its role as the primary responsibility to provide protection and assistance to the affected population as citizens of Pakistan. The following actions are recommended:

- As many of the communities are moving quickly into recovery, it is necessary to understand the impact in some key sectors, such as health, education, agriculture and others, for rehabilitation and recovery.

- A detailed technical assessment of the impact to the agriculture sector to assess loss, prevent market destabilization, and promote production for subsequent agricultural seasons.
- Public Health issues must be addressed, including pre-existing poor hygiene and sanitation practices, such as open defecation, which increase health risks during a flood.
- All measures must be taken to ensure mitigation and prevention measures to continue to preserve life and prevent loss of assets, in the form of resilience building and DRR.



The boundaries and names shown and the designations used on this map do not imply official edorsements or acceptance by the MIRA team.

Humanitarian Context/Background

A late monsoon spell commencing on 4 September triggered flash flooding in Gilgit Baltistan, Azad Jammu and[1] Kashmir, causing major damage through landslides and avalanches. The hill torrents carrying floodwater with flashy peaks caused exceptional increase in river levels. The floodwaters entered northern Punjab and created devastation in its path, further impacting central and southern districts as it moved down to Indus River.

To date, a reported 282[2] people died and 489 were injured in the floods in Punjab. The National Disaster Management Authority (NDMA) reported some 1.8 million persons affected in Punjab, with more than 42,795 houses partially and fully damaged. An estimated 2.413 million acres of cropped area has been affected in Punjab, most when crops were almost ready to harvest.

Although a large area of Punjab was impacted by the floods, in many areas the water has receded significantly; the relief activities reduced according to the needs, and recovery activities have commenced. The NDMA/PDMA report shows the intensive relief activities continuing in Jhang and the southern districts.

The activation of appropriate action based on the early warning systems (EWS) resulted in a coordinated effort to move people to safer places and averted greater loss to life. In Punjab, some areas most affected were those impacted in 2013, where some 1.5 million people suffered flooding. Some houses have been completely destroyed while others are partially damaged; significant loss of livestock and livelihoods were noted, with massive crop damage. In addition, the school year has just commenced, and with schools submerged and requiring repair, school going children risk impact to their education until schools are made functional.

The flooding took place at the end of the summer, and temperatures begin to lower with the season change. People require appropriate NFI and shelter support to resist the impact of the temperature changes, which includes increased vulnerability to illness. Healthcare and WASH provisions are essential to prevent any outbreaks. Attention would also be required to address the specific needs of the vulnerable groups of the affected areas.

Humanitarian Impact and Needs:

The damage to **agriculture** is extensive. The flooding took place as many of the main crops stood ready to harvest. The impact was arbitrary, where waters gathered up to the nearest protective mechanism. Damage to crops and stored grain has the potential to create acute food shortage for both humans and livestock. The impact of the crop loss and damage, along with the loss and impact to livestock has the potential to lead to a medium to short-term blow to the markets, where price hikes are already reported. As such, there is a risk to the broader **food security** wellness of the affected communities and beyond. Given the difference in the socio-economic status of the affected districts, the southern districts of Punjab experienced pre-flood vulnerabilities and higher poverty score would require additional assistance. For these districts, agriculture remains the main source of income, and with thousands of hectares of land submerged including damage to standing crops (cotton, rice and sugarcane), the affected people would require alternate livelihood opportunities to help them get back to their normal

[1] Referred to by the UN as Pakistan Administered Kashmir
[2] NDMA Monsoon Weather Related Report, 25 Sept 2014

lives. There are concerns if the water does not recede in some areas within next one to two months, it will affect the next wheat crop season. Support in food security and livestock recovery is critical.

Health is a major area of issue, due to the stagnant water, which increased the possibility of water born disease, exacerbated by poor sanitation. Coupled with this, the dengue season is in course. Health staff operating in the area reported increasing levels of upper and lower respiratory tract infections, hygiene preventable illnesses, such as scabies and diarrhea as among the most commonly observed ailments. Any outbreak would complicate the health situation in the affected areas, with the potential to impact both affected and non-affected populations. A proactive health response, including vaccination, supply of required medicines, establishment / strengthening of DEWS is one of the critical needs, along with significant measures to improve public health.

Very limited or poor **sanitary** conditions pose a serious health risk to the entire population. The floods aggravated the situation, with limited access to safe drinking water and the increased risk of contaminated food. Technical support is required to help in improving the basic sanitary conditions in order to minimize the health hazards associated with it. Provision of sufficient quantities of safe drinking **water** is critical. Poor **hygiene** practices will increase the risk of disease spread and potential outbreaks. A comprehensive effort on hygiene promotion is critical.

Across all the districts there are reports of damages to dwellings. In the northern and part of the central areas affected, there is partial **damage to houses**, which require relatively minimal efforts to repair. In Jhang, and the southern districts, many houses suffered significant damage. Many of the flood affected people are residing in the open or in temporary shelters. Those with inadequate provisions require short term shelter solutions (plastic sheets, bamboo, and poles) to protect them from the elements, particularly in view of the approaching winter season. Many people were noted to have remained as proximate as possible to their homes and properties, to safeguard their assets, and to enable them return as quickly as possible.

The population of Southern Punjab experience high level[3] of both acute and chronic malnutrition, prior to the floods. The current conditions have the potential to further compromise the **nutrition** status of the most vulnerable, in particular children under 5 years, and pregnant and lactating women. A common coping mechanism during crisis of this nature is the early cessation of breastfeeding for babies, and the introduction of other food stuffs. A comprehensive effort to identify and treat malnourished children, pregnant and lactating women, and promotion of appropriate young child feeding and breastfeeding is essential.

These floods came as the school year commenced for many children. A number of schools have been reported as impacted, some with a little was water entry, while others are reported to have been destroyed. Communities in Hafizabad reported where possible, they were undertaking cleaning of the schools after the floods, to enable children return to their **education**. Regardless of how minimal the impact, almost all schools in the affected areas paused in their function during the worst of these floods, thus impacting on the children's education. An in-depth review of the impact under the Provincial Education Department is necessary to identify the areas which require urgent support to return the children to school. In sites where the damage to the school structure is such that it prevents the school reopening, there must be a facilitation of a temporary education facilities.

[3] National Nutrition Survey 2011 – Punjab SAM rates 4.8%; GAM rates 13.7%

Throughout the areas impacted, the physical environment has undergone significant changes. In some areas small crossing and bridges were affected, smaller access roads are impassable, either due to water damage or deep standing water. **Community restoration** of infrastructures, non-farm livelihoods, and governance structures will be essential to enable communities to recover and withstand future shocks.

Response to Date:

The initial response was with regards to search and rescue activities, and provision of immediate relief items, such as food, emergency health services, shelter, potable water, NFIs, animal fodder and veterinary services. The army and Rescue 1122 led the evacuation and rescue efforts, with over 680,000 people assisted to safety.

Concurrent with these activates in the northern districts, authorities commenced proactive evacuation of the central and southern Punjab districts, most vulnerable to the approaching floods. The proactive use of this early warning system, saved thousands of lives, minimised suffering, and allowed people time to secure their assets.

To date, the response has been managed by the district and provincial authorities, with support from the federal level. A cash transfer system is being considered by the Punjab government to provide additional support for the affected populations, which aids timely recovery.

At the height of the response some 457 government-established in Punjab relief camps provided relief services and items to those affected by the population, of which 180 camps were in existence at the time of MIRA data collection. These camps provided immediate health care services, and referral, cooked food, water, and provision of NFIs, such as tents, blankets, soaps, and sleeping mats. Many of the flood affected population accessed these camps for short periods only, waiting for the water to recede. In the relief camps in Multan, district authorities, such as revenue, health, and police officials were present in the administration areas of the camp to provide immediate and timely support for the affected populations. As of 25 Sept, there are 73 relief camps reported as operational, with some 52,000 people continuing to access services provided there.

International Response:

The support which the UN and humanitarian partners provided to the response to date has been to carry out the Multiple Initial Rapid Assessment and provision of predominantly rescue, health and WASH supplies. The humanitarian communities have received some bilateral requests for items such as boats, emergency health kits, anti-dote for snake venom, water purification tablets, and high energy biscuits. Upon communication with, and clearance by, the relevant authorities, and where these supplies existed, they were provided.

NGOs operating in the areas impacted played a key role. Many took part on the support for search and rescue, provision of immediate emergency health care, and basic NFIs and food provision. Others work in support sectors, for example in health, are ensuring that flood affected populations can access their services.

Response Challenges:

Currently, threats to public health and physical access are the significant challenges. The standing water poses a huge threat to the wellbeing of the entire community of Punjab. The increased risk of water borne illnesses, hygiene preventable illnesses, coupled with the challenge of access to sufficient

quantities of safe drinking water present a significant challenge to the affected population and those attempting to respond.

Most of the areas impacted in Punjab require a boat to access populations and provide them with relief items. However, the access situation is gradually improving across northeast and central Punjab with the gradual decrease in the flood water levels. During this assessment process, the teams found a number of villages in Jhang and Multan which were inaccessible.

Sector Specific Findings

These findings are ***relevant only to the affected area of each district,*** and in no way reflect the other areas of these districts. The percentages of losses are related to the percentages of the responses reported by the key informants.

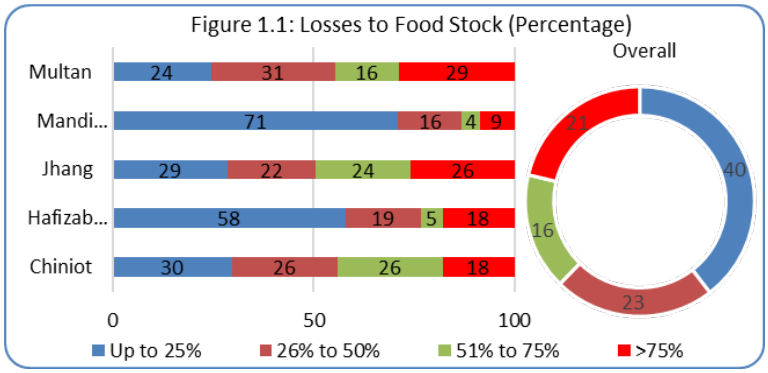
1. FOOD SECURITY

In order to determine the food security status of the flood affected communities some key indicators on food security were included in MIRA survey. These relate to the four pillars of food security; food availability; access to food, food utilization, and stability (of the other three pillars over time).

1.1. Flood impact on food availability

The assessment results showed that the floods have made a devastating impact on standing crops. Mainly the *Kharif* major crops (rice, cotton and sugarcane) were damaged, which may result in lower crop yields. It is also expected that the effects of the flood may have some negative impacts on the major *Rabi* crop (wheat). Generally, the floods may impact the food availability in the short-to-medium term since households have lost their food stocks while markets and livelihood sources were affected. Overall, on average, about 77% of the crops were damaged due to floods in the affected areas of the five districts. District-wise analysis of the affected areas shows Multan as the most affected district followed by Jhang, where around 93% and 83% of crop losses were reported, respectively. Thus, the crop losses can have negative impact on the food availability in the coming months.

Another factor that can jeopardize food security of the households in the surveyed communities is the loss of their food stocks. Overall, households in affected areas across the districts lost on average 42% of their food stocks. Specifically, around 21% of the households were reported to be in more vulnerable condition, as they lost huge proportion (75%) of their food stock *(Figure1.1).* Reportedly, food stock losses were most serious in Districts Jhang, Multan and Chiniot where households lost about 50% of their food stocks. Analysis of the food stock sufficiency shows that almost one third of the households have food stocks that are sufficient to last for about only a week. Situation in terms of food stock sufficiency was relatively alarming in Multan and Chiniot where almost half of the households have stock for less than a week time period *(table 1.1 provides district wise details of food security).*



Food security: Table 1.1

Districts	Food stock losses (%)	HHs with food stock available for one week (%)	Assistance received (%)
Chiniot	48.3	47.0	32.7
Hafizabad	31.3	17.6	47.8
Jhang	50.9	22.2	16.6
Mandi Bahuddin	20.7	22.0	27.8
Multan	52.6	50.0	26.4
Overall	42.9	30.7	28.7

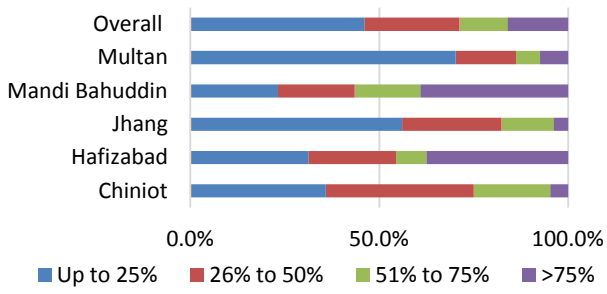
Functioning market also plays an important role in the food availability. The analysis of the direct observations recorded by the enumerators show that around 40 percent of the markets across the impacted areas of the five districts were not functioning at the time of survey. Most of markets in the flood affected areas of Chiniot have been reported non-functional (58%) while in Hafizabad about 48% of markets were non-functional. Overall, food availability in the functioning markets did not seem to be a matter of immediate concern as about 61% of the respondents informed that plenty of food was available in the local markets. Some 34% of the key informants informed that food was not available in adequate quantities in the markets.

Furthermore, across the flood affected areas of the five surveyed districts, less than one third (29%) of the total population have received some kind of food assistance. District Hafizabad was reported to be the only district where almost half of the surveyed population has received food assistance. Thus, in the given scenario, the population in the affected communities might need food assistance where the floods have disrupted their source of livelihood.

1.2. Flood impact on access to food

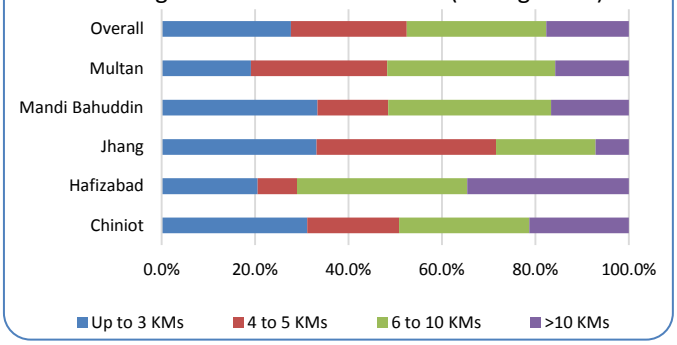
The access to food is the physical and economic ability of a household to acquire adequate amounts of food. In terms of economic access to food, the survey results indicate that overall around 38% of the households surveyed have adequate resources to buy food. Comparatively, among the five priority districts surveyed, Multan, Jhang, and Chiniot are more vulnerable to food insecurity in terms of economic access. On average, around 23%, 28%, and 37% households in the flood affected areas of Multan, Jhang, and Chiniot, respectively, have adequate resources to purchase food, whereas other districts, Mandi Bahauddin (59%) and Hafizabad (52%) are in slightly better position (*Figure 1.2)*. Prior to the current floods, these five districts were categorized as food secure districts[4]. *District-wise details of ability of households to buy food are provided in.*

Figure 1.2 : Households having adequate resources to buy food (percentage)



From physical access to markets perspective, the average distance of nearest functioning markets to communities was analyzed. The results show that on average people have to travel a distance of 6.79 km. Comparing among the districts, households in Hafizabad have to travel the farthest (8.87km) followed by households in Chiniot (7.20km) and Multan (7.04km) while households in Jhang and Mandi Bahauddin travel 5.26km and 6.61km, respectively. Thus, considering access to

Figure 1.3: Access to Market (average KMs)

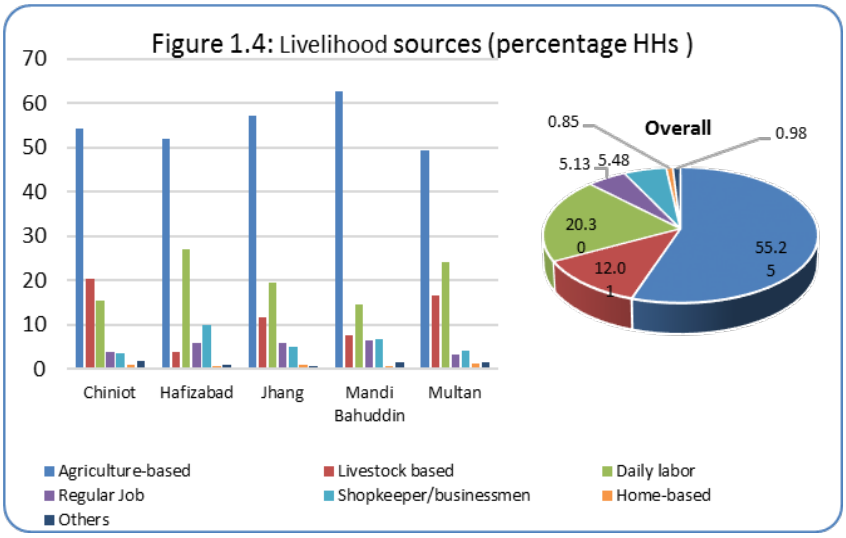


[4] A joint study on Food Security titilled "FOOD INSECURITY IN PAKISTAN 2009"carried out in 131 districts accros Pakistan by World Food Programme (WFP), Swiss Development Corporation (SDC), and Sustainable Development Policy Institute (SDPI) in 2009.

markets, households residing in Hafizabad, Chiniot and Multan are comparatively more vulnerable compared to the other districts (Mandi Bahauddin and Hafizabad). *Further district-wise details of households in terms of access to market are provided in Figure 1.3*.

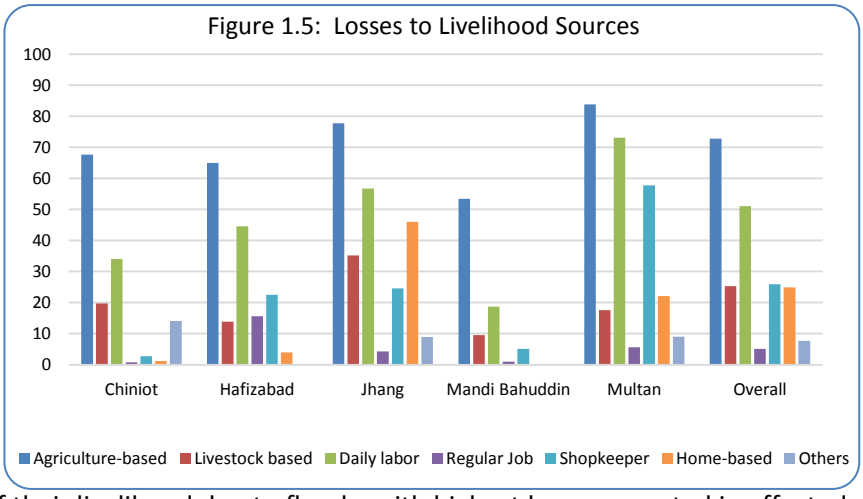
1.3. Flood Impact on Livelihood

Agriculture was the prime source of income for floods affected communities before the floods. 55% of the households reported agriculture as their primary source of income. Along with agriculture, day laborer (20.3%), livestock (12%), business/shop keeping (5.5%) and regular jobs (5.1%) were reported as important livelihoods by the affected communities. Livestock based livelihood was relatively higher in the flood affected areas of Chiniot and Multan in comparison to other districts. Similarly, proportion of day laborers was higher in the affected areas of Hafizabad and Multan. *District wise details of livelihood sources are given in figure 1.4.*



The income sources have been negatively impacted by the floods. The agriculture sector was severely impacted as 72.8% of the households reported loss of their livelihood due to floods. Highest losses were reported in the flood affected areas in Multan (83.8%) and Jhang (77.8%). *Figure 1.5 provides further details.*

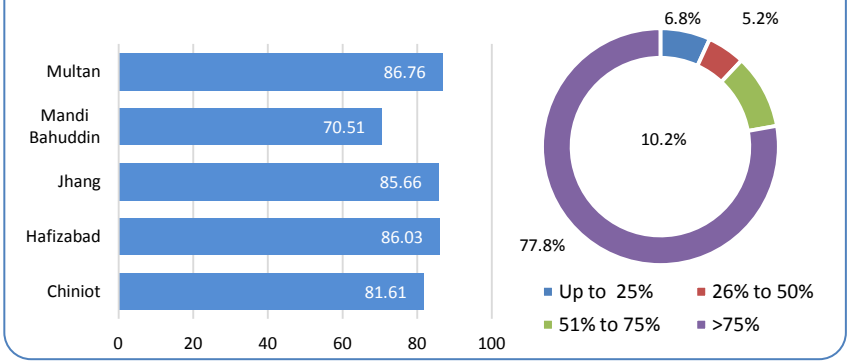
The livestock sector was also impacted due to loss of livestock and sometimes due to distress selling right after the floods. In rural context of Pakistan, livestock farming at household level is prime liability by female members. According to the findings, out of those households that earned income from livestock rearing, 25% reported loss of their income source in the flood affected areas. About 50% of the day laborers in affected communities also reported loss of their livelihood due to floods, with highest losses reported in affected areas in Multan (73%). One fourth of those who were associated with business/shop keeping for income earning were also affected by the floods. Home-based earning by women, often considered as



secondary source of income in rural context, was also reported as worse affected due to floods as one forth of such households reported loss of their livelihood. Those holding regular jobs, either in Government or in private sector have reported as being more stable income-wise in this context. Similar responses from male and female KIs further confirmed these findings

Average ownership of small and large ruminants at household level in the flood affected areas was reported 5.35 animals. Some 12.5% reduction in livestock ownership was reported after the floods. Highest reduction was reported in districts Chiniot (16.5%) and Jhang (14%). Remaining livestock were also on risk due to lack of required inputs including fodder, shelter and also due to likelihood of diseases. More than 80% of the fodder stocks were destroyed/ devastated due to floods and affected communities facing severe shortage of fodder for their animal. *District wise details are provided in figure 1.6.*

Figure 1.6: Losses to Fodder Stock (Percentage)



Furthermore, likelihood of animal diseases has also been increased after the floods. At the time of assessment communities reported likelihood of Foot and Mouth Disease, external parasites, internal parasites, Hemorrhagic Septicemia and Black Quarter in their animals.

1.4. Flood impact on utilization of food

Availability of clean water and appropriate sanitation practices are necessary for proper utilization of food. As per the findings, 38% of the communities reported that available water is not clean. Out of them 84.5% of the flood affected communities reported change in odor/smell, 87.17% reported change in taste of water, and 50.48% mentioned that solid impurities are visible in water in the aftermath of floods.

Furthermore, 13.8% of the households reported that they generally practice some treatment to clean the water before drinking. Toilet facility within household is available only for 42.4% of the households.

1.5. Recommendations

2. Although food availability in the markets seems to be not a major problem as majority of markets are still functioning, food insecurity at the household level is of concern, as indicated by lack of purchasing capacity for most families and also very little household food stock. Therefore, addressing the household food security needs through food and/or cash support to the most vulnerable households is important.
3. Agriculture sector is the most affected sector due to floods. An immediate support to farmers in de-watering coupled with provision of seeds, fertilizers and lost agriculture tools is vital as cultivation of Rabi crops generally starts in mid-October and continues till end of November.

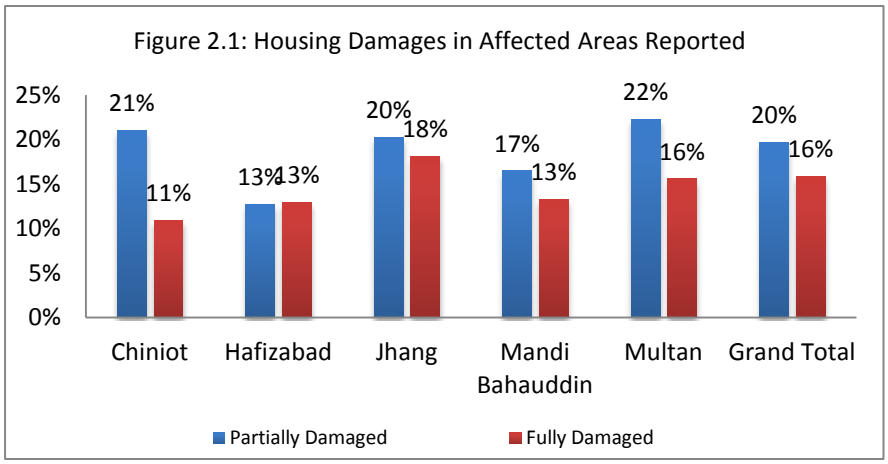
4. Provision of feed/fodder, animal shelter and necessary medication is vital to keep the remaining livestock alive as more than 80% of the fodder stocks have been lost due to floods. Along with this, restoration of lost animals is also essential to ensure complete livelihood recovery and household food security.
5. Since mostly women are involved in livestock and home based activities, therefore, losses to their livelihoods need to be factored while designing relief and early recovery programmes

Since floods have impacted public infrastructure including roads, irrigation channels, water points, pathways etc., therefore, conditional assistance is recommended. This will also support day labourers in livelihood recovery as they were also affected and lost their income sources

2. Shelter and NFIs

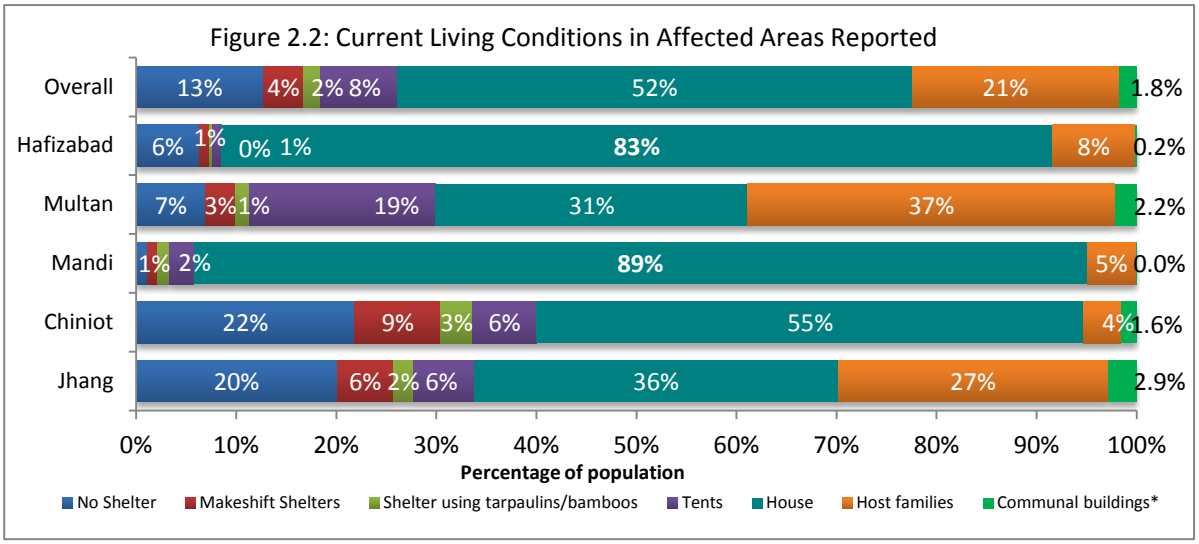
2.1. Damaged or Destroyed Houses in the Flood Affected Areas

Overall, in the affected areas of the five districts assessed, key informants reported that 20% of houses are partially damaged and 16% of houses are fully damaged. The extent of damage to houses varies among districts. The highest reports of fully damaged houses were recorded in affected areas of Jhang (18%), followed by Multan (16%). Similarly, affected areas of Multan, Chiniot and Jhang reported the highest levels of partial damages to houses. In comparison, damage to houses is not as substantial in districts such as Hafizabad, where 13% of the houses are partially damaged and 13% of houses are fully damaged. *Figure 2.1 provides the housing damages as reported*. A follow-up technical assessment would be required to understand the severity of structural damages and specific recovery needs.



2.2. Current Living Conditions in the Affected Areas

The MIRA findings on current living conditions in affected areas indicate that 13% of the total assessed population were without shelter at the time of the assessment, while 4% were living in makeshift shelters, 8% in tents and 1.8% in communal buildings (such as schools, hospitals and government buildings). Meanwhile, 21% were living with host families. Just over half of the assessed population in affected areas of 5 districts, or 52%, continued to live in their own homes, with figures highest in Mandi Bahauddin (89%) and Hafizabad (83%). *See details in Figure 2.2.* This finding was supported by

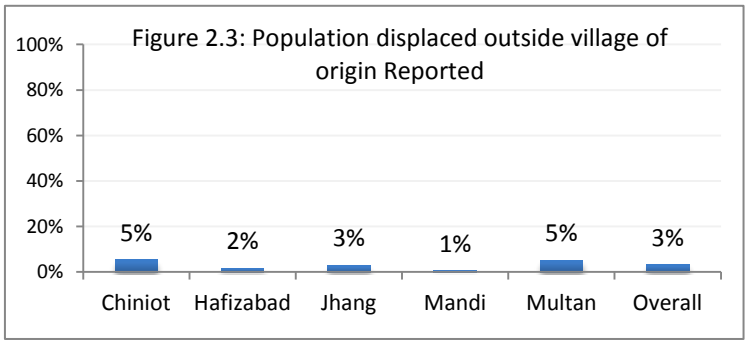


enumerators' direct observations, which reported that the majority of flood affected families continued to live in their own homes, despite standing water, as they were reluctant to leave their homes and belongings.

Based on these findings, the most shelter support is needed in districts Multan, Chiniot and Jhang. In affected areas of Chiniot, 22% of the population has no shelter, while 9% live in makeshift shelters. In affected areas of Jhang, 20% of the population has no shelter and 6% are living in makeshift shelters.

2.3. Population Displacement in the Affected Areas

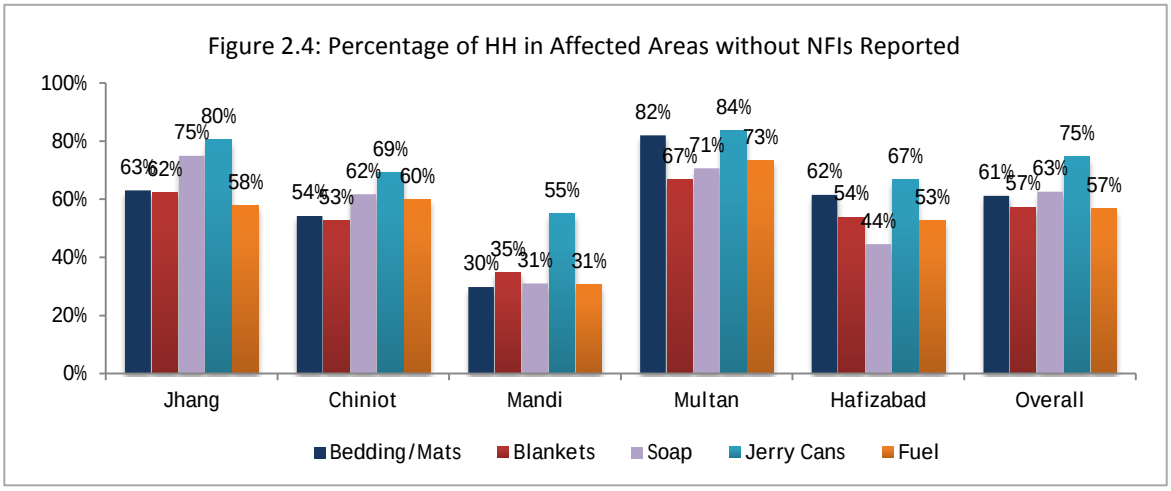
A direct estimate of displacement from the assessment shows that overall only 3% of affected households were displaced outside their village of origin. This figure does not account for populations displaced from their homes and residing without shelter or temporary shelter arrangements within the same village. *Detail of responses on percentage of displacement is given in figure 2.3.* As noted in the above observation, the majority of affected families remained close by their houses, regardless of damages, due to a reluctance to leave homes and belongings.



Additionally, standing water limited access of enumerators to many damaged and affected areas, and enumerators reported many temporary settlements that were not included in the random selection of villages for the MIRA assessment. For these reasons, it appears that the assessment may underestimate displacement in affected areas.

2.4. Households without Basic Non-Food Items (NFIs) in the Affected Areas

The findings reflect jerry cans as a priority item amongst households in the affected villages surveyed as part of the assessment. Bedding and mats also emerged as priority items in Multan, Jhang and Hafizabad. Similarly, a total of 57% of households were reported as lacking blankets in affected areas of the districts surveyed, with lowest percentages reported in Mandi Bahauddin.



For planning purposes, NFIs should be prioritized for vulnerable affected households with partially or fully damaged houses. Careful beneficiary selection is required prior to distributions.

2.5. Recommendations

1. Emergency shelter support is a priority in the most affected districts - Multan, Chiniot and Jhang. This could include roofing kits for households with partially damaged houses and emergency shelter kits (plastic sheeting poles and ropes) for households with fully damaged houses. Shelter toolkits could also be required for repairing damages.
2. With the onset of winter, winterization of relief items is essential, and items must be procured and distributed as soon as possible. Recommended items include personal insulation items such as winterized blankets/quilts, shawls, clothes, fabric and bedding, or winterized shelter kits.
3. Following the emergency phase, early recovery activities will be required for households with partially and fully damaged houses.

3. HEALTH

The health sector of Punjab has an extensive network of public and privately managed health infrastructure throughout the province. The Government is by far the major provider of health services in rural areas, and it is also the main provider of preventive care throughout the province. Before flood the disease situation was normal although cases of Malaria, Acute Respiratory Tract Infections and acute diarrhea cases were reported from different districts of Punjab.

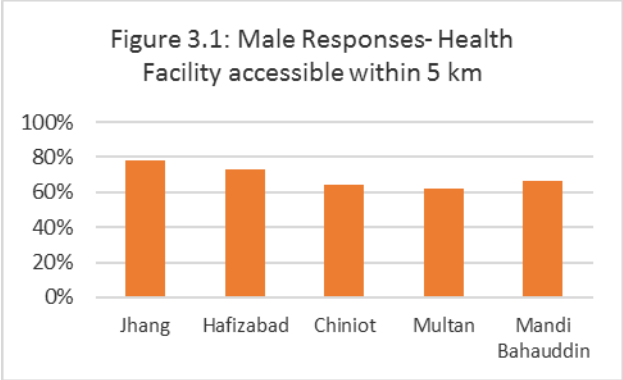
Due to extreme hot temperatures in all over Punjab diarrhea cases were on rise before flood which is now quickly increasing as water sources are contaminated with flood water. The non-availability of health staff and absenteeism is an issue in remote rural areas; while there are reports of shortage of medicines and vaccines for some illnesses such as hepatitis, diphtheria, pertussis, malaria, etc. Southern Punjab is high malaria endemic and malaria cases were reported and support was provided through the Roll back-Malaria Program in all high risk districts. There were only 22 confirmed dengue cases reported before September; however, following the floods there is sudden rise in dengue cases. Since 5 September, 72 more cases have been confirmed post flood in Lahore, Sheikhupura and Rawalpindi - all districts with high number of cases. The total confirmed case has reached to 94 cases in Punjab. The health indicators regarding maternal, newborn and children (MNC) like other parts of the country are also not impressive which also need immense effort to improve the health status of mothers and children. The Expanded Programme on Immunization (EPI) is operational throughout the province focusing on polio, measles, Hepatitis B etc. to reduce and control disability and mortality from childhood diseases preventable by immunization.

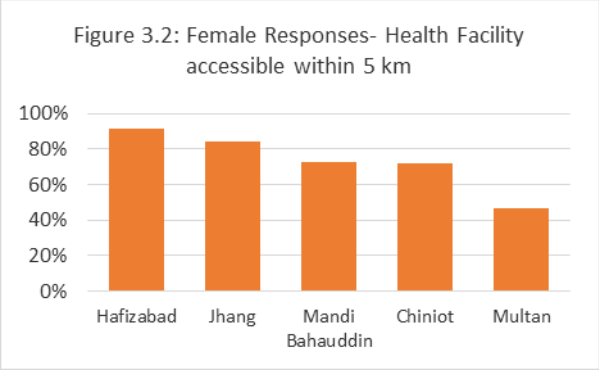
3.1. Key Findings

- Stagnant water in the affected areas poses a significant risk to public health issues for both affected and non-affected communities, in particular to dengue, malaria, and other water borne diseases or vector borne illnesses.
- Water sources need to be treated or chlorinated to avoid risk of water born diseases.
- Effective disease surveillance is required for timely detection of alerts and response to mitigate risk of communicable diseases outbreaks. WHO-DEWS's teams reported high risk of malaria, dengue, ARI, diarrhea, measles and skin infection among the affected population
- Health facilities restoration /rehabilitation are required to continue health service delivery to the affected population in terms of medicines, medical supplies, LLINs for malaria control, Anti Snake Venoms, aqua tabs, equipment and skilled human resources.
- Strengthening of referral services and ad hoc treatment arrangements through ambulances and mobile Medical Units in communities where health facility is damaged/non-functional and patients can be referred to the tertiary and secondary health care facilities in other localities.
- Vaccination/immunization campaigns especially for measles along with vitamin A supplementation and nutritional supplements for mitigation risk of malnutrition among children in the affected areas.
- Females reported private clinics to be the nearest facility available in the area.

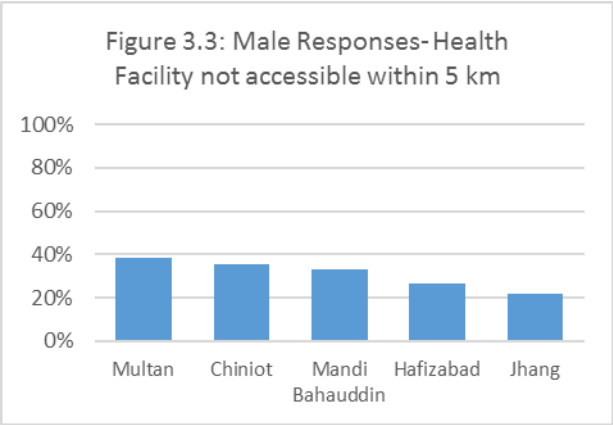
3.2. Findings

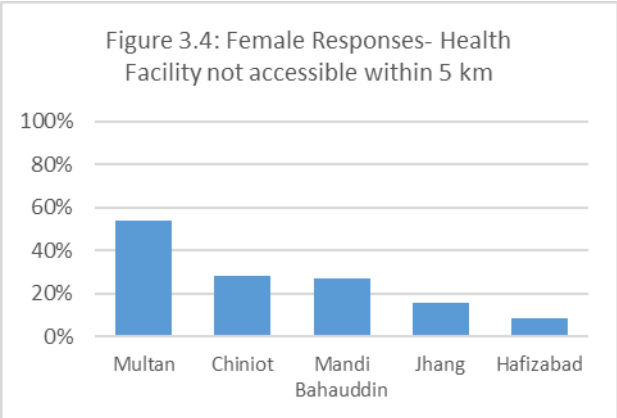
According to Sphere Minimum Standards, accessibility of health services is considered appropriate when the health facility is within a 5km radius or one hour walking distance by the population. 60% of the male key informants reported that in the flood affected areas in Jhang and Chiniot assessed the health facility in their vicinity were accessible, whereas 49% in affected areas of Hafizabad and Mandi Bahauddin found the facility to be accessible. 50% of female key informants in Hafizabad and Mandi Bahauddin assessed there was accessible health vicinity in their areas, while reports from women in Chiniot, Jhang and Multan were lower. *Details are given in figure 3.1 and 3.2 below.*





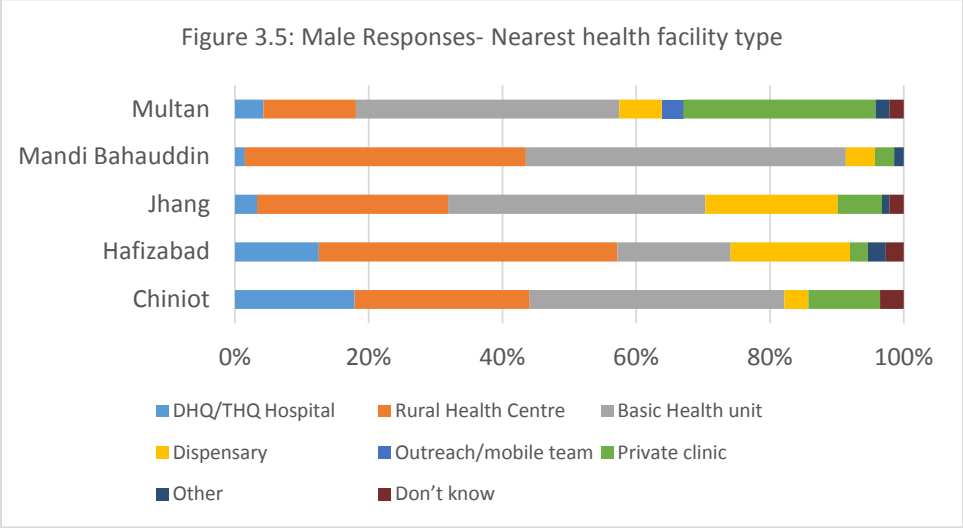
The figures 3.3 and 3.4 below represent the non-accessibility of the population to the health facility in the flood affected areas, as such; the facilities more than 5km or over an hour's walk away. The highest numbers of males respondents who believe that the health facilities are not accessible are from the affected areas in Hafizabad at 80%, while in Chiniot and Jhang, 70% of the male respondents reported the health facilities are not accessible. The highest number of females that believe that the health facilities are not within reach comes from the affected areas in Multan 60%, whereas in the impacted areas in Jhang, Chiniot and Hafizabad represents that approx. 40% of the females respondents recorded that the health facilities are not within reach.

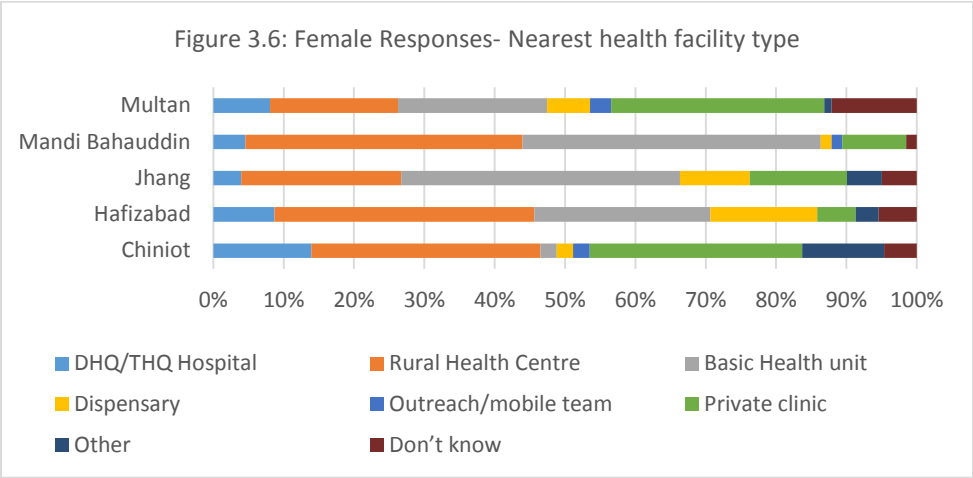




Basic Health care Units (BHUs) were the most proximate health facility in four of the assessed areas, except in Hafizabad where a rural health centers (RHUs) was termed to be the nearest health facility. Private clinics were the farthest in all the areas except in Multan where it was termed as to be the

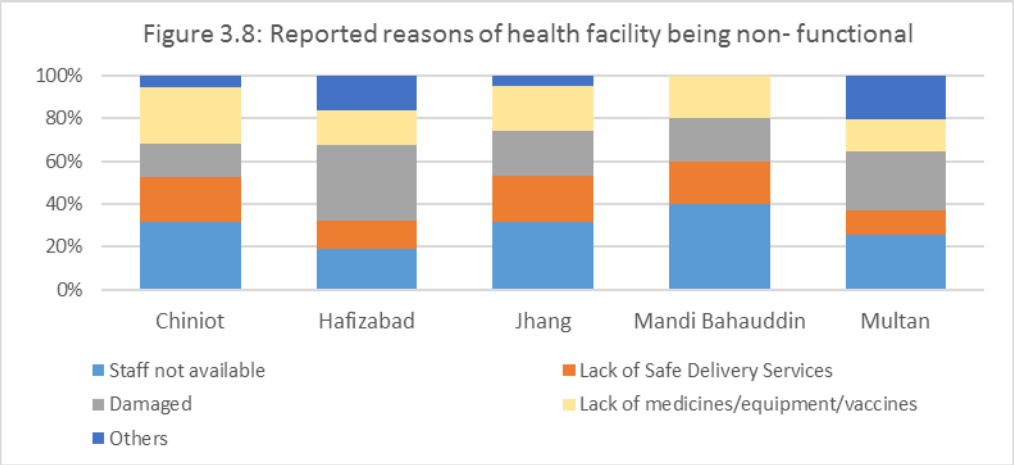
second most nearest health facility type. Whereas in all the other areas the second most nearest facility was rural health centers apart from Hafizabad, where it was the nearest and Multan, where it was superseded by private clinics. Dispensaries were in third position in Jhang, Mandi Bahauddin and Hafizabad, while in Chiniot the third nearest facility type was the District HQ/Tehsil HQ hospitals. *Male and female responses are given in the figures 3.5 and 3.6 below.*



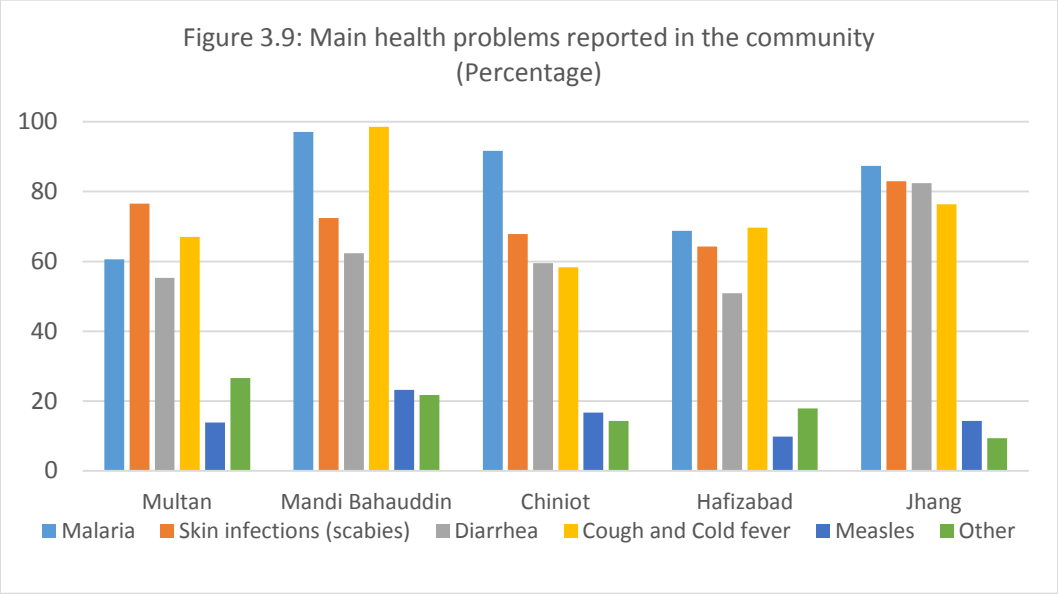


The information reflected the contrast between the females and males respondents on accessible healthcare units. The females termed Basic Healthcare Units as the nearest health facility type only in two areas Jhang and Mandi Bahauddin, whereas according to males it was by far termed as the nearest type of health facility except only one area of Hafizabad. Similarly, rural health centers were the nearest in the affected areas of Chiniot and Hafizabad; in Multan females respondents noted private clinics to be the nearest facility available in the area. Multan hosts a number of private clinics.

Most key informants reported the health care facilities in their areas impacted by the floods were functioning to some degree, although there was impact. Multan and Jhang needs to be further evaluated since the respondents number in reference to non-functionality was high, as there were lower levels of function reported there. *Details in figure 3.8 below:*



The most common reason given for the non-functioning of health facilities in the flood affected areas were the non-availability of staff, reported predominantly in Jhang, Chiniot and Mandi Bahauddin. The next most common observation was that health facilities were damaged, notably in Hafizabad and Multan, with Jhang reporting it was the second highest reason. However, pre-existing access to health care facilities reported by women in affected areas of Hafizabad was very high. The non-availability of medicine was the third.



The above graph (figure 3.9) represents the information relating to the main health issues in the community. Malaria was the most common health issue reported in the flood affected areas of Jhang, Hafizabad, Chiniot and Mandi Bahauddin. Measles was reported as the lowest health problem. Cough, colds, and fever are the second most common health problems reported. Of note, coughs and cold were

equally high with malaria in Mandi Bahauddin and Hafizabad, and second highest in Multan. Skin infections were highest in Multan and second highest in Jhang. Diarrhea is the most common health issue.

3.3. Recommendations:

1. **Disease prevalence:** *Disease surveillance and outbreak control mechanism* need to be strengthened for timely detection of outbreak of communicable diseases like diarrhea to control morbidity and mortality among the affected communities living under unfavorable living conditions. *Essential lifesaving medicines and supplies* for the high reported diseases are required to fill gaps and maintain supply chain of medicines. *Diarrheal Treatment Centers (DTCs)* need to be established in DHQ/THQs and RHCs with provision of Diarrheal Disease Kits (DTKs), supplies and human resources to mitigate and *control outbreaks of diarrhea and other water borne diseases*. Hygiene promotion and awareness campaigns relating to hygiene promotions and safe drinking water to the community needs to be initiated in the targeted areas to mitigate risk of water born diseases. Emphasis on malaria and dengue prevention campaigns, early diagnosis and treatment is critical.
2. **Restoration and functionality of health facilities:** Critical support is required in terms of provision of *medicines, medical equipment and basic repair* to make the affected health facilities fully functional. Filling human resources gaps to support large numbers of consultations in the health facilities and temporary health facilities is needed. Immediate attention to address *Maternal, Neonatal, and Child Health/Reproductive Health needs of women and children and support* is necessary through additional human resources (female health care providers), supplies equipment and kits (newborn kits/RH kits etc.) in the five worse affected areas on priority basis. The restoration of delivery rooms, laboratories, wards, waste management as well as drainage system at the health facilities level must be prioritized.
3. **Water purification/chlorination, health and hygiene awareness education:** Supplies for water purification and chlorination are needed given the water sources contamination, which poses serious public health threat and spreading of water/vector born diseases such as diarrhea, malaria, and dengue. Availability of, and access to, clean water for children, pregnant women and lactating mothers, disabled and the elderly is crucial during all response phases. Water sources should be assessed for damages, seepage, or other faults to ensure the integrity of the water is protected.
4. **Strengthen Reproductive Health, Mother, Neonatal and Child Health and Nutritional Services:** There are weak RH/MNCH services in the health facilities serving the flood affected communities *in-terms of lack of female medical staff, equipment, RH related medicine/kits, and antenatal and postnatal care.* A*ntenatal, post natal care services* along with health promotion programs for pregnant and lactating women, *nutritional supplies and Vitamin A supplementation* for children to reduce the risk of malnutrition issues are required.
5. **Strengthen the referral services and ad hoc treatment arrangements:** through provision of ambulance and Mobile Medical Units which can be utilized where health facilities are damaged/nonfunctional and they are at a distance from the local community and also for specialized cases and in case of emergency the patients can be referred to the tertiary and secondary health care facilities in other localities.

4. WASH (Water, Sanitation and Hygiene)

4.1. Key Findings

Additional information is found in the health section, as impact on the water, sanitation, and hygiene elements are relevant to both sectors.

The majority (88% reported) of the affected people have access to drinking water; however, a considerable number (22% KIs reported) are using unprotected or surface water for drinking purposes. Only slightly less, 62% reported that their drinking water did not appear clean. Overall 83% of the respondents indicated they practiced no form of household water treatment.

Key informants reported over 46% of the population in their areas practice open defecation, implying lack of access to safe latrines. Among female key informants the reports were higher (54%).

Hand washing with soap was reported by 46% of the key informants. Ten percent of the key informants cited that separate bathing/defecation facilities for men and women would reduce the risk of harassment among women and children.

4.2. Analysis/ Interpretation

Flooding over large parts of the country, most significantly Punjab resulted in population movement, damage to drinking water sources, water supply schemes, and sanitation systems. Affected population potential lack of access to safe drinking water, basic sanitation and often poor hygiene practices render them highly vulnerable to water, sanitation and hygiene related disease.

The water and sanitation development indicators in the affected districts surveyed prior to floods are summarized in table below.

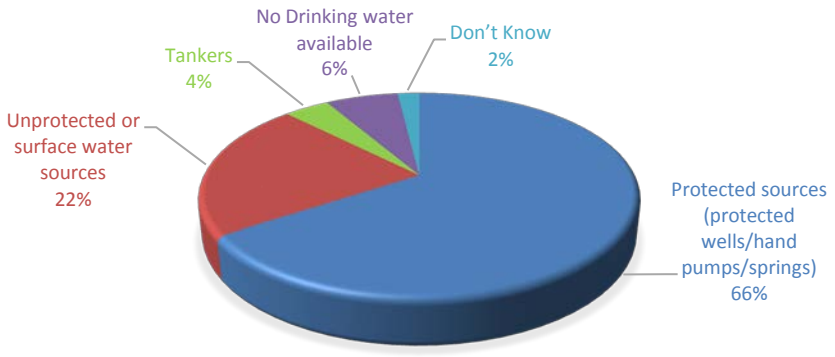
Table 4.1: water and sanitation development indicators

Districts	Access to drinking water	Access to sanitation	Presence of soap anywhere in dwelling
Chiniot	98%	47%	98%
Hafizabad	96%	73%	98%
Jhang	99%	48%	95%
Mandi Bahauddin	95%	74%	98%
Multan	95%	45%	96%
Source: Punjab Multiple Indicator Cluster Survey, 2011			

4.3. Access to Drinking Water

Key informants reported that 66% of the water sources are protected, in the flood affected areas. The maintenance of these protected sources needs to be initiated. However, 22% of the water sources are unprotected potentially explaining high levels of the water borne diseases reported. *Details in figure 4.1 below:*

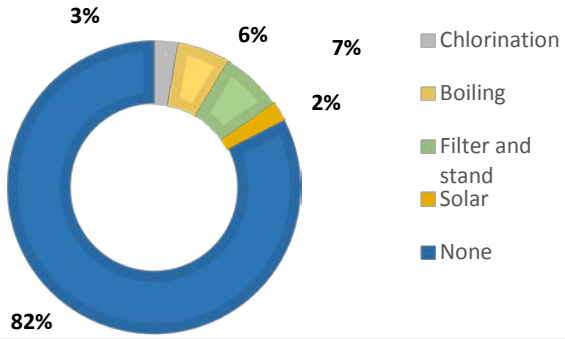
Figure 4.1: Sources of Water for affected population reported by KI



4.4. Type of water purification method used

When asked about type of water purification method, 82 % of the key informants responded that their community do not use any purification method at all, only 17% responded that the community is treating their water through various methods (6% reported boil water for purification, 7% use filtration method, only 3% use chlorination method while one percent use solar disinfection) as highlighted in Figure 4.2.

Figure 4.2: Household level Water Treatment practices reported by KI



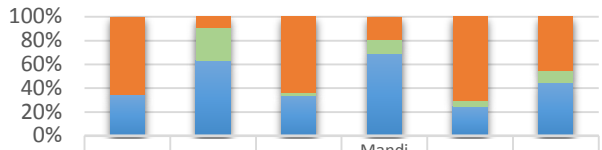
5.5. Distance from water source and time taken to collect water

Drinking water is available inside the house or within a five minute walk for the majority of the population (63% reported); 37% people leave their homes to fetch water from different sources. 21% of people reportedly travel less than 1 kilometre, while 13% travel 2 to 5 kilometres, and 3% travel more than 5 kilometres to fetch water as reported by KIs. The average time to fetch water is 11 minutes, with people in Mandi Bahauddin taking an average of more than 18 minutes; in Jhang people spend an average of 13 minutes on water collection.

5.6. Access to Sanitation and Hygiene Practices

Access to sanitation in the affected districts surveyed prior to the floods varied, with over 50% of the populations in Chiniot (53%), Jhang (52%) and Multan (54%) having no access to any sanitation facility. The floods further compounded an already critical sanitation situation, in particular in these three districts, where now, 66%, 64% and 71% key informants have reported relying on open defecation as highlighted in *Figure 4.3.* Overall, 46% of the population reportedly practicing open defecation, of which 54% of women reportedly practice open defecation. Half of the enumerators (49%) reported visible human excreta in the surrounding area. In Hafizabad and Mandi Bahauddin, 10% and 19% of men respectively reported defecating in the open, however, when this question was asked of women, 61% and 52% respectively reporting a reliance on open defecation *(highlighted in Figure 4.4).* 10% of the surveyed population cite that separate bathing/defecation facilities for men and women would reduce the risk of harassment among women and children.

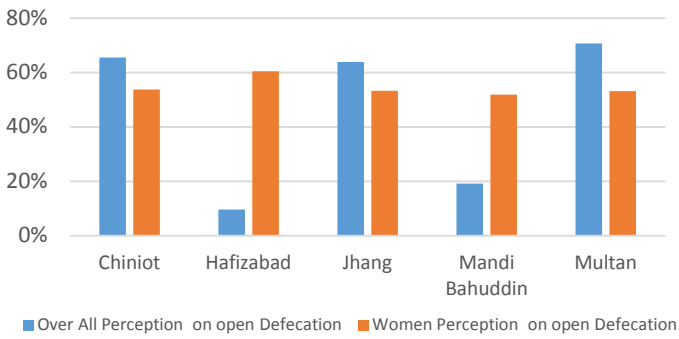
Figure 4.3: Locations of Defecation reported



	Chiniot	Hafizabad	Jhang	Mandi Bahuddin	Multan	Overall
Open Field	66%	10%	64%	19%	71%	46%
Shared	0%	27%	2%	12%	5%	9%
Household	34%	63%	34%	69%	25%	45%

Household Shared Open Field

Figure 4. Perception of Open Defecation reported



Further, only 46% of key informants reported hand washing with soap. This combination of poor hygiene practice with lack of access to safe and appropriate sanitation facilities may result in increased diarrheal disease among the affected population.

5.7. Recommendations

- Interventions needed to increase access to safe drinking water. This includes cleaning, disinfecting and chlorination of the existing water supply schemes, rehabilitation of existing water supply schemes and hand pumps and installation of disaster risk reduction compliant new hand pumps.
- Capacity building of community on household water treatment and safe storage.
- Awareness and Hygiene promotion campaigns through Inter-Personal Communication (IPC) and Information Education Communication (IEC) material, for adoption of safe and healthy hygiene practices.
- As highlighted by the MIRA results and also supported by the development indicators regarding sanitation there is a need to invest in community-based approaches to increase sanitation coverage in the affected areas.
- Strengthen the mechanism for solid waste management (collection and safe disposal)

5. EDUCATION

5.1. Summary

As per the Education Department's data, there are 5,341 schools in the five assessed districts of Chiniot, Hafizabad, Jhang, Mandi Bahauddin and Multan, with 1,142,972 children enrolled. These floods came at the outset of the new school year, posing risk to the regular classes of children. The MIRA findings indicate that approximately 24 % of schools are partially or fully damaged of the total 1,354 schools present in the communities visited by surveyors. Total enrolment in these 1,354 schools was 251,884 children, of which 44% were girls, prior to the floods. Presently, in the flood affected areas 53% of children are not going to schools with highest number of children reported in the affected areas of Multan (79 %) followed by Jhang (72 %) and Chiniot (30%).

Recent rains and floods badly affected education infrastructure and services in five districts of Punjab. This situation has further impacted on the education in these districts already having poor indicators such as low enrolment, poor girls' participation and high dropout rates. In the recent flooding approximately 756 schools were either partially or fully damaged in the flood-affected areas of the districts assessed (Multan, Mandi Bahauddin, Jhang, Hafizabad and Chiniot) as per data collected from Education Department. Whereas 30 schools are occupied by the flood affected population or converted into shelters in impacted areas. The Government reported 286 schools temporarily closed due to the floods.

The rapid assessment findings within the flood affected areas found 327 schools were fully or partially affected by floods in these five districts, and 35 schools occupied by flood affected people. Some districts have been most severely hit and reported huge damages to school infrastructure. Percentages of damaged schools against total number of schools in flood affected areas within the districts were Jhang 38%, Multan 19%, Chiniot 18%, Hafizabad 16% and Mandi Bahauddin 9%.

In Multan and Jhang most of the boys and girls do not attend school, according to the key informants, in the flood affected areas. There are several reasons reported for out-of-school children; female informants pointed out damages to schools being key reason for children being out of school, while male informants mentioned damages to roads and bridges as the key factor. Loss of school material was also reported. In Hafizabad, a number of women reported water in the school, and how the community had begun efforts to clean the schools to enable children recommence their education.

5.2. Status of Education Facilities in Affected Communities:

In the affected areas of each district, the recent floods impacted on the physical infrastructure of educational facilities and hampered children's access to schools. In these areas, damaged roads and infrastructure jeopardized schooling for both boys and girls.

The secondary data collected from the district education offices revealed that 756 schools are damaged due to floods, including 471 in Jhang; 116 in Multan; 65 in Hafizabad; 62 in Chiniot and 42 in Mandi Bahauddin districts. Secondary data also indicated 15 schools in Jhang's affected area are currently hosting people; with 13 in Multan and 2 in Mandi Bahauddin were being used as temporary dwellings for people impacted by the flood.

As per the key informants reporting, most of the schools are damaged in the flood impacted areas of Jhang district (38%) followed by Multan (19%) and Chiniot (18%). Overall damages reported in flood affected areas of the five flood affected districts are 24%. In addition, there are 35 schools used as shelter in total including 16 schools in Jhang, 7 in Multan, 6 in Mandi Bahauddin, 5 Hafizabad and 1 in Chiniot. *More details are given in table 5.1 below.*

Table 5.1: Status of Education facilities in affected communities

Districts	Total # of Schools in affected areas	# of Schools available for schooling	# of Schools used as temporary settlement	# of Schools Fully/partially damaged	% of Schools Damaged in affected area
Chiniot	179	146	1	32	18%
Hafizabad	242	198	5	39	16%
Jhang	513	304	16	193	38%
Mandi	161	140	6	15	9%
Multan	259	204	7	48	19%
Total	1354	992	35	327	24%

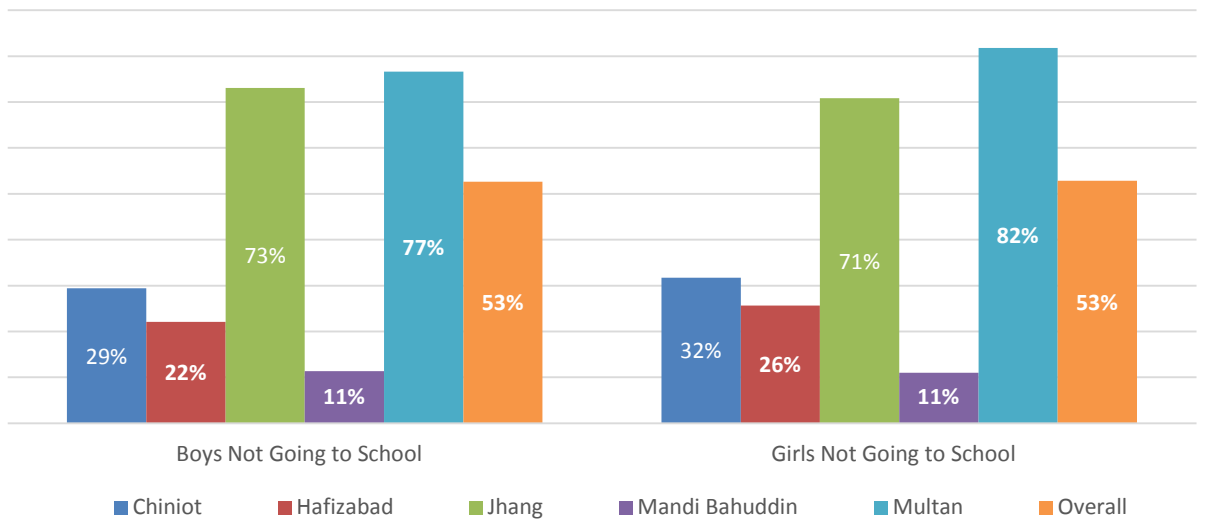
5.3. Number of Children (3-18 years) not Going to School after Floods in Punjab:

Key informants reported in the flood affected areas that 77% boys and 82% girls in Multan; 73% boys and 71% girls in Jhang; 29% boys and 32% girls in Chiniot; 22% boys and 26% girls in Hafizabad; and 11% boys and 11% girls in Mandi Bahauddin do not attend schools following the floods. *Details are given in table 5.2 below and percentage of children out of school as reported is in figure 5.1.* There is need to provide access to education in these districts

Table 5.2: Number of children not going to school after floods

Districts	Boys Going to School Before	Girls Going to School Before	**Boys and Girls Going to School Before**	Boys Going to School After	Girls Going to School After	**Boys and Girls Going to School after**	Boys Not Going to School After	Girls Not Going to School After	**Boys and Girls Not Going to School After**
Chiniot	15,848	12,640	**28,488**	11,190	8,628	**19,818**	4,658	4,012	**8,670**
Hafizabad	24,973	18,368	**43,341**	19,458	13,657	**33,115**	5,515	4,711	**10,226**
Jhang	63,841	49,910	**113,751**	17,203	14,548	**31,751**	46,638	35,362	**82,000**
Mandi Bahuddin	16,347	13,726	**30,073**	14,489	12,213	**26,702**	1,858	1,513	**3,371**
Multan	20,898	15,333	**36,231**	4,886	2,793	**7,679**	16,012	12,540	**28,552**
Total	**141,907**	**109,977**	**251,884**	**67,226**	**51,839**	**119,065**	**74,681**	**58,138**	**132,819**

Figure 5.1: % age of Children not going to School after Floods reported by KIs



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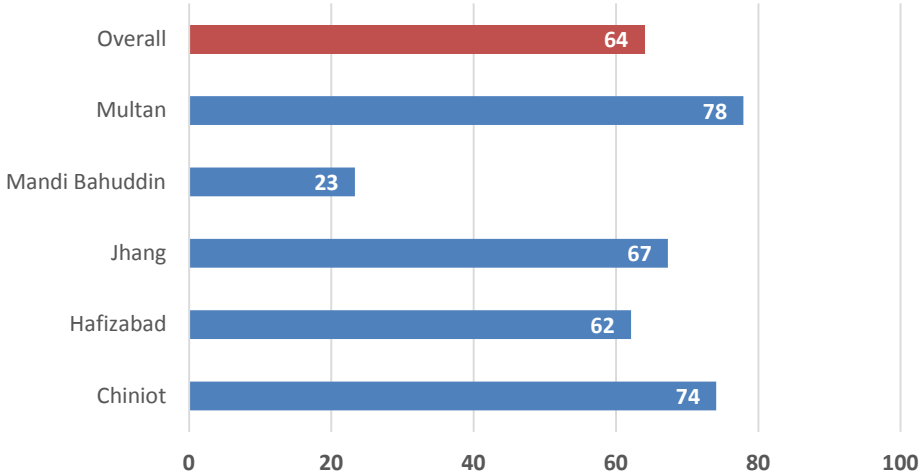
Children not in school were observed in the districts assessed. The MIRA enumerators noted 78% children are out of school in the flood affected areas of Multan, followed by Chiniot 74.1%, and 23.3% children in Mandi Bahauddin. In Hafizabad, 28% of the female key informants noted damages to school as the key, followed by 24 % in Multan and 23% in Jhang. *Details are in figure 5.2.*

Figure 5.2: % of children observed out of school

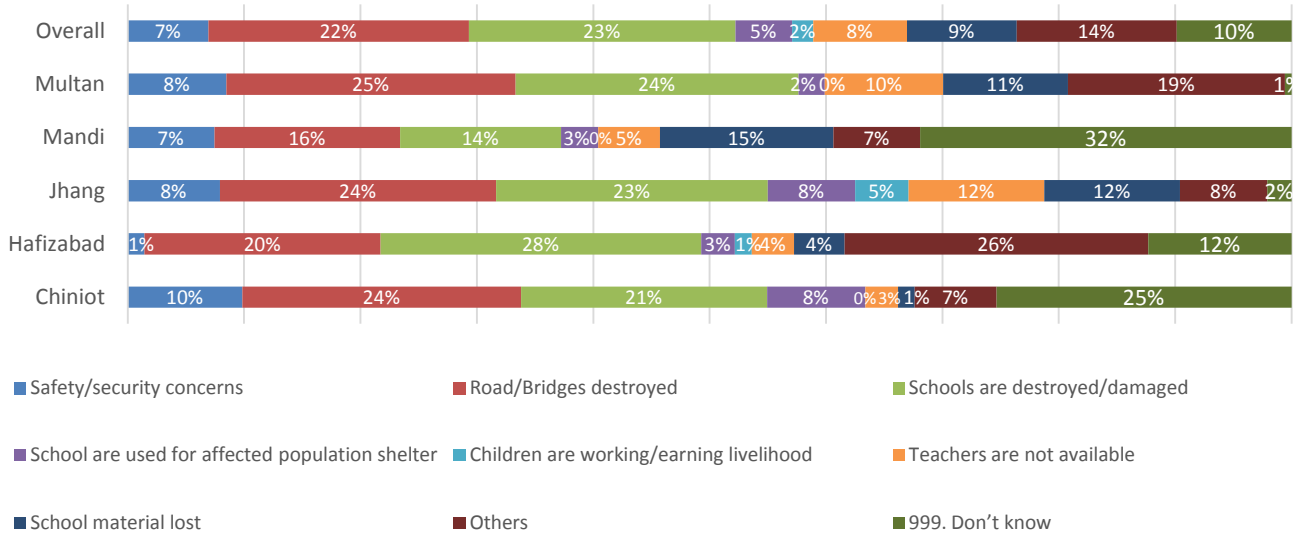


5.4. Reasons of Children Being out of School:

In Multan, 25% of female key informants reported inundated roads being the major cause for out-of-school children followed by Jhang and Chiniot where 24% KIs reported children to be out of school. Male key informants reported the major factors keeping children out of school included impact to roads damages 24%, followed by schools being damaged 22% and loss of school material 12%. In Multan 32% of the male key informants ruled out impact to roads in the flood affected areas being the key reason for out-of-school children followed by 25 % responded in Jhang and 23% in Chiniot. In addition, school damages was pointed as a factor for out-of-school children including Hafizabad and Jhang 23% followed

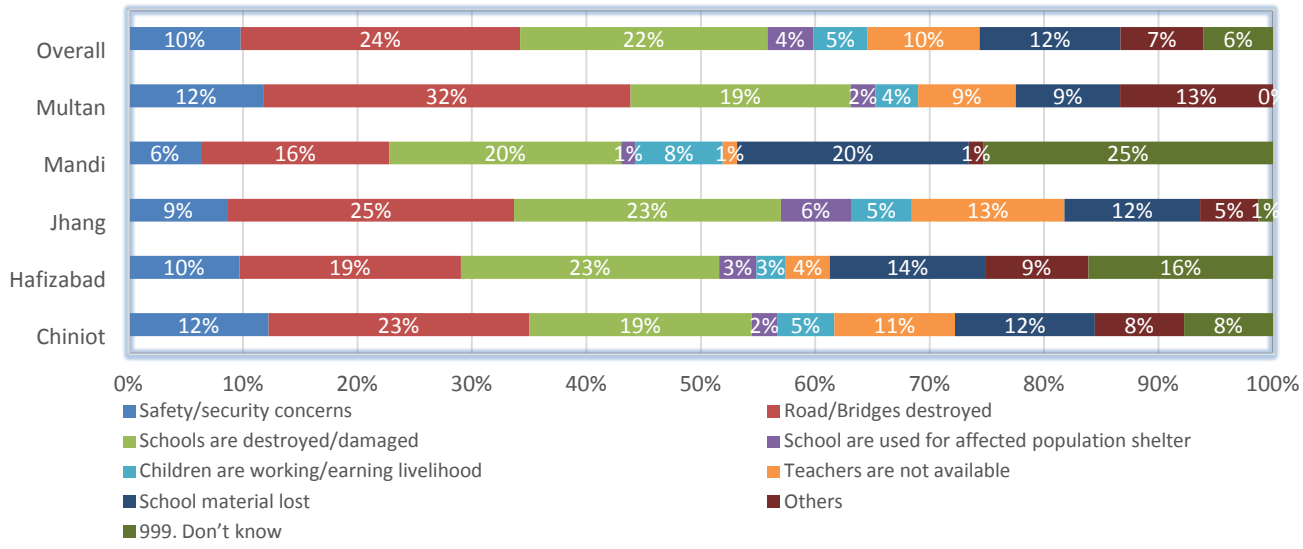
by Mandi Bahauddin 20% and Chiniot and Multan 19%. *Female and male percentage of responses on the reasons are given in figure 5.3 and 5.4 below:*

Figure 5.3: Main reasons of children being out of school after the event- Identified by female key informant



The need for school materials was highlighted in the flood affected areas, 15% in Mandi Bahauddin; 12% Jhang and 11% Multan. School material is critically important for children and teacher to continue education and retention of children in schools.

Figure 5.4: Main Reasons of children being out of school after the event Identified by male Key Informant



5.5. Recommendations:

- Alternate arrangement for resumption of children's education should be made through establishment of Temporary Learning Centres (TLCs), rented building, and 2nd shift schooling.
- Urgent actions is required to enrol children back into schools through extensive back to school campaigns, cleaning and fumigation of schools where water has receded, and alternate arrangement for continued schooling.
- Necessary educational material must be provided to children and teachers - schools in a box, schools tents, school bags, stationery, text books, other teaching and learning material.
- Effective mass communication and social mobilization campaign should be started through a back-to-school-campaign to enrol the children out of schools, in particular, the girls.
- Capacity building of teachers, Parent-Teachers Committees (PTC) and School Management Committees (SMS) on various topics including teaching in emergency, psychosocial support and life-skills based education and other related topics.
- Refurbishment of schools damaged used as temporary shelter to support continuation of education.

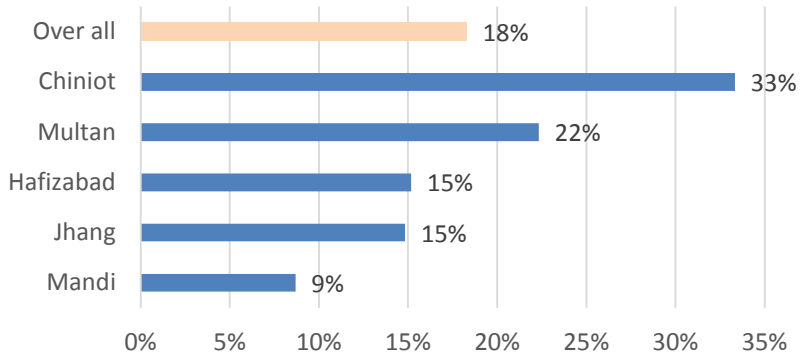
6. NUTRITION

The nutritional vulnerability among families affected by the flood will potentially be exacerbated by the following immediate and underlying factors.

6.1. Reduction in Breastfeeding:

Some 18% of key informants reported reduction in breastfeeding among women in the flood affected areas, while 60% reported no change in breastfeeding patterns. The highest reduction in breastfeeding patterns was reported in the impacted areas of Chiniot (33%) followed by Multan (22%), Hafizabad (15%), Jhang (15%) and Mandi Bahauddin (9%). *Details in figure 6.1 below*. This indicates the likelihood of increase in malnutrition among children less than 2 years of age and subsequent increased risk of diarrhea.

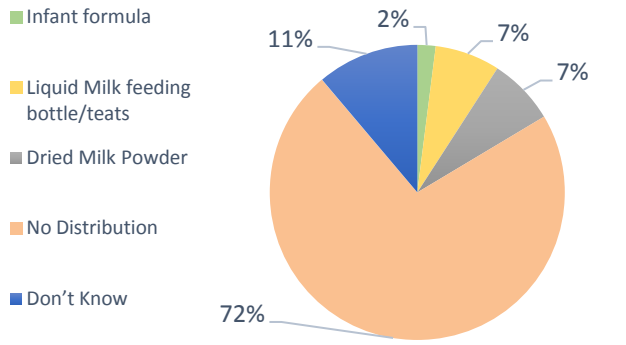
Figure 6.1: Reduction in Breast Feeding Reported by KIs



6.2. Uncontrolled Distribution of Milk Powder:

Distribution of milk powder, which risks being used as a breast milk substitute, during emergencies disrupts the normal infant and young child feeding practices and is not recommended. The majority (as reported by 72% KIs) of the communities did not receive milk powder as assistance for the children aged 6-24 months as given in figure 6.2. However, some key informants reported the provision of infant formula, liquid milk and powder milk, in particular in Hafizabad.

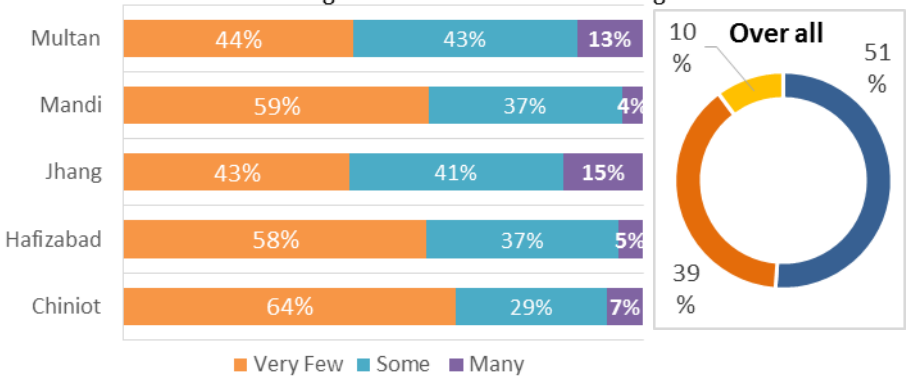
Figure 6.2: Distribution of Infant Milk Products



6.3. Nutrition Situation:

The presence of thin children in a community is taken as a proxy indicator for malnutrition, as the communities tend to notice this condition. Some 10% of key informants reported the presence of many thin children in the affected areas, 39% KIs reported some thin children and 51% very few thin children in their community as given in figure 6.3. The findings may indicate a deteriorating situation of the flood affected families.

Figure 6.3: Children Under five age - Thin



6.4. Recommendations:

- Establishment of breastfeeding corners at health facility/community to protect and promote breastfeeding.
- Monitor distribution of breast milk substitute and strengthen coordination network for immediate reporting in case of an incident.
- Establish nutrition program in the affected districts with service provision for community based management of acute malnutrition (CMAM) and to promote Infant young child feeding practices through health education.
- Health education for communities to promote breastfeeding, hygiene practices, immunization and health seeking practices.

7. PROTECTION

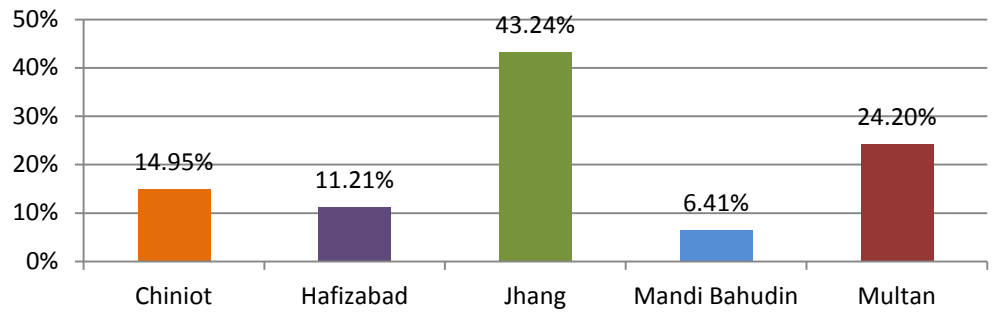
7.1. Findings

The protection component focused on identifying disaggregated information on specific needs of women, men, girls and boys, persons with disabilities, older persons, and other vulnerable groups, with specific protection risks. The MIRA approach supports a gender perspective by asking questions to both male and female key informants, in order to better detect the different perceptions/ opinion and information provided by each. Key informant interviews were conducted with a total of 942 informants, including 401 females and 541 males.

7.2. Problems faced by the community in obtaining assistance

Overall, 59.6% of the 942 key informants reported the existence of problems faced by their communities in accessing assistance due to various reasons in the flood affected areas. There was no substantial difference in the percentage of female or male key informants reporting issues. Responses ranged from 6.41% of key informants reporting problems in the affected areas of Mandi Bahauddin to 43.24% reporting problems in receiving assistance in Jhang's affected area. *District wise analysis given in figure 7.1 below:*

Figure 7.1: District Wise Analysis of problems in obtaining assistance as reported by KIs



More male key informants (58.72%) reported the existence of hindrances for their community in obtaining assistance than females (41.28%). Despite the problems, it was also observed that community was taking action to respond to the emergency on self-help basis. Men and women were witnessed washing and reusing the bricks of fallen houses to rebuild their homes while also extending reconstruction help to other members of the community.

Table 7.1: Female and Male analysis of responses on problems faced in obtaining assistance

District	Female	Male	total
Chiniot	33	51	84
Hafizabad	30	33	63
Jhang	84	159	243
Mandi Bahudin	17	19	36
Multan	68	68	136
Total KI responses	**232**	**330**	**562**
Total % responses	41.28%	58.72%	

The direct observations recorded also demonstrate that almost 60% of the affected communities are rebuilding on a self-help basis.

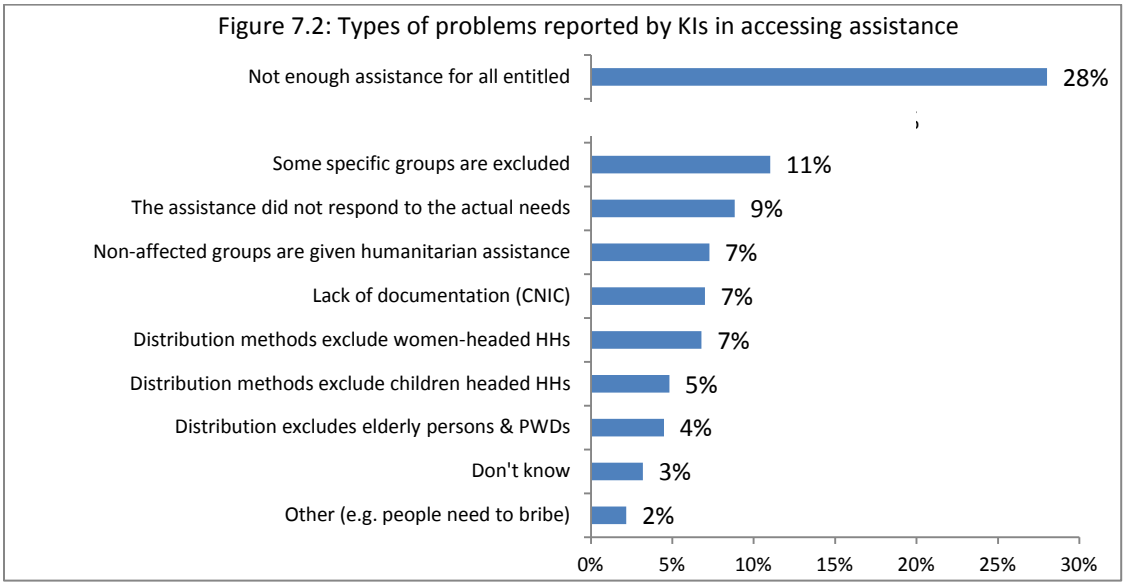
Table 7.2: Direct Observations on community taking actions to respond to the emergency

District	Yes	No
Chiniot	80%	20%
Hafizabad	71%	28%
Jhang	55%	45%
Mandibhudin	40%	59%
Multan	60%	40%
Total	60%	40%

7.3. Type of problems reported by key informants in accessing assistance

Only those key informants who responded 'yes' to the existence of problems (330 males and 232 females), were asked this question. According to key informant's responses, the most frequently cited reasons by order of severity of the problem were: Not enough assistance for all entitled (reported by 28%); some specific groups are excluded (reported by 11%) and the assistance did not respond to the actual needs (reported by 9%). These problems were followed by 7% of responses each, stating lack of documentation CNICs, humanitarian assistance being given to non-affected groups and women headed households excluded due to distribution methods/layout. Exclusion of children headed households (5%) and elderly persons and people with disabilities (4%) are also reported as hindrance to access assistance. *(Types of problems reported by KIs in accessing assistance is given in figure 7.2)*

Figure 7.2: Types of problems reported by KIs in accessing assistance



Overall, male key informant responses were higher than the female responses. For example, *not enough assistance for all* was reported more frequently by male key informants (48% / 29% females). Interference in distribution of aid was reported higher by males (30% / 14% females) in comparison to women.

As per the direct observation by the enumerators, 55% observed that humanitarian assistance was witnessed being distributed amongst the affected communities. The enumerators observed the delivery of aid from civil authorities comprised 35%, military 17%, international NGOS 13% and from local NGOs and charities 28% while other non-specified sources comprised 7% of total assistance seen to be distributed among affected communities.

Table 7.3: District wise male and female analysis

Responses	Chiniot		Hafizabad		Jhang		Mandi Bahauddin		Multan	
	F	M	F	M	F	M	F	M	F	M
1. Not enough assistance for all entitled	76%	76%	63%	55%	67%	81%	35%	79%	74%	82%
2. Some specific groups are excluded	30%	16%	30%	18%	21%	37%	18%	16%	38%	29%
3. Lack of documentation (CNIC)	21%	43%	7%	6%	24%	18%	6%	26%	10%	13%
4. Interference in the distribution of aid	24%	45%	40%	48%	31%	60%	18%	26%	43%	34%
5. Non-affected groups are given humanitarian assistance	12%	22%	17%	15%	18%	22%	6%	0%	21%	25%
6. The assistance did not respond to the actual needs	12%	12%	20%	12%	42%	23%	0%	21%	26%	25%
7. Distribution methods/lay-out excludes women-headed household	9%	4%	17%	15%	20%	17%	12%	16%	25%	28%
8. Distribution methods/lay-out excludes children-headed households	12%	2%	0%	15%	5%	9%	12%	26%	25%	26%
9. Distribution excludes elderly persons and people with disabilities	9%	2%	20%	9%	14%	7%	12%	11%	21%	18%
10. Other (e.g. people need to bribe)	3%	10%	3%	3%	5%	3%	0%	0%	12%	10%
11. Don't know	9%	2%	17%	12%	7%	4%	53%	42%	6%	1%

7.4. Percentage of people without CNICs in the community

All 942 key informants consulted in the impacted areas reported the lack of CNICs in their community. 41% of the respondents reported that betwee10% to 25% of the households in the affected areas do not have CNICs, followed by 32% of respondents reported CNICs lacking in less than 10% of households. 5% of the total respondents have reported that 51% to 75% households in the affected areas do not have CNICs, while only 5% reported their perception that 76% to 100% households in the affected communities do not have CNICs at all.

7.5. Security concerns and type of concerns affecting the community

Overall, 34.82% of all 942 key informants reported that security concerns exist in their community, while 63.5% responded negatively. Key informants reported security concerns varied across the affected areas from 7.32% in Hafizabad to 46.65% in Jhang. In most cases, the number of male and female key informants reported security concerns consistently; however, more male key informants reported existence of security concerns.

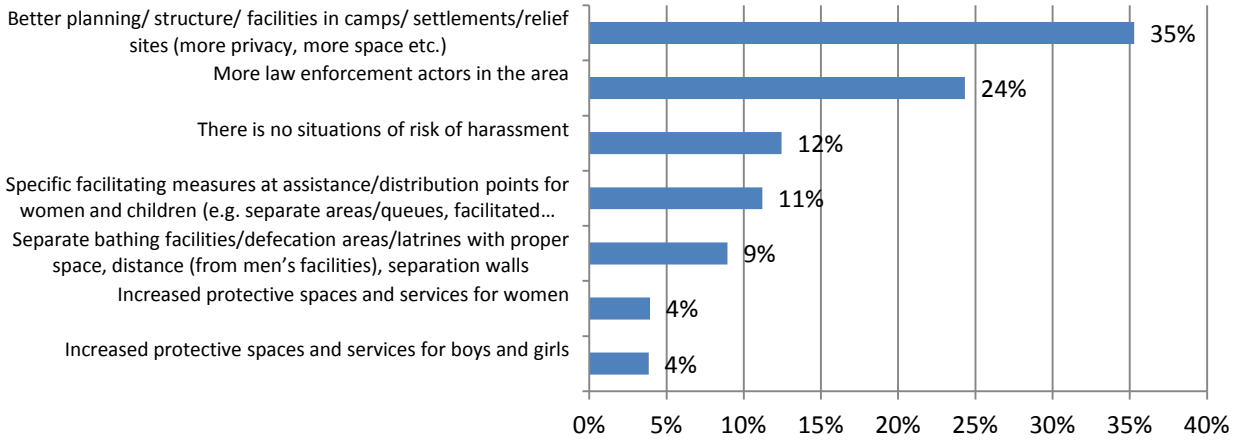
59% of KIs raised concerns on likelihood of theft/ robbery, injury/physical assault, 11% reported on threat/extortion/harassment by authorities followed by inter communal disputes (10%) at third. These findings and concerns indicate that theft is a pre-existing problem in communities and generally tends to

increase at the onset of a disaster. The frequency of inter communal disputes as a concern is probably to be linked to the hindrances in obtaining assistance due to insufficient assistance to all entitled.

7.6. Possible measures that can help reduce risk of harassment against women and children

Overall, the response from both male and female key informants was consistent as to their suggestions on possible helpful measures to reduce the associated risks of harassment against women and children. 35% of key informants reported that better planning/structure/facilities in camps/settlements/relief sites (more privacy, more space, etc.) and 24% of key informant suggested increasing the number of law enforcement actors in the area. *Possible measures to reduce risk of harassment against women and children as reported by KIs, are given in figure 7.4 below and male/ female analysis of risks is given in figure 7.5.*

Figure 7.4: Possible measures to reduce risk of harassment against women and children as reported by KIs



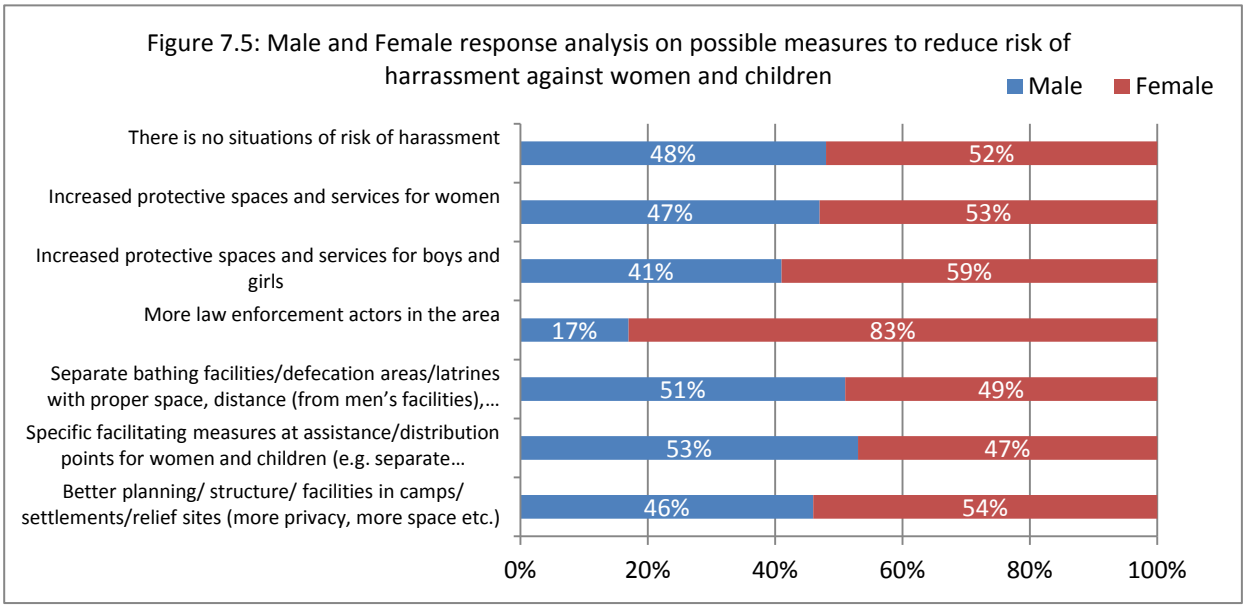


Figure 7.5: Male and Female response analysis on possible measures to reduce risk of harrassment against women and children

7.7. Existence of children missing and separated due to the emergency as reported by key informants

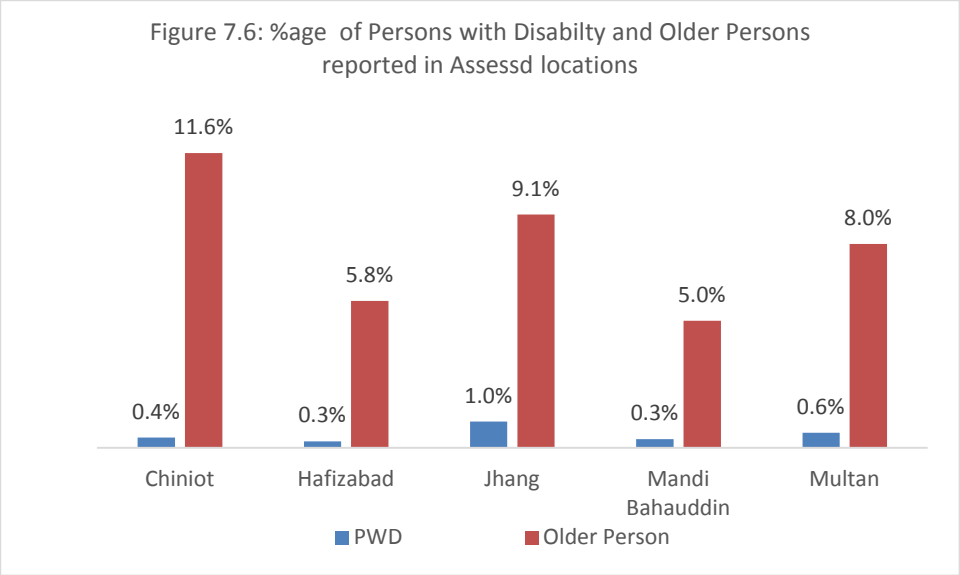
Some of the of KI were aware of children separation in their communities since the emergency; however it could not be confirmed through Direct Observations.

7.8. Age and Disability

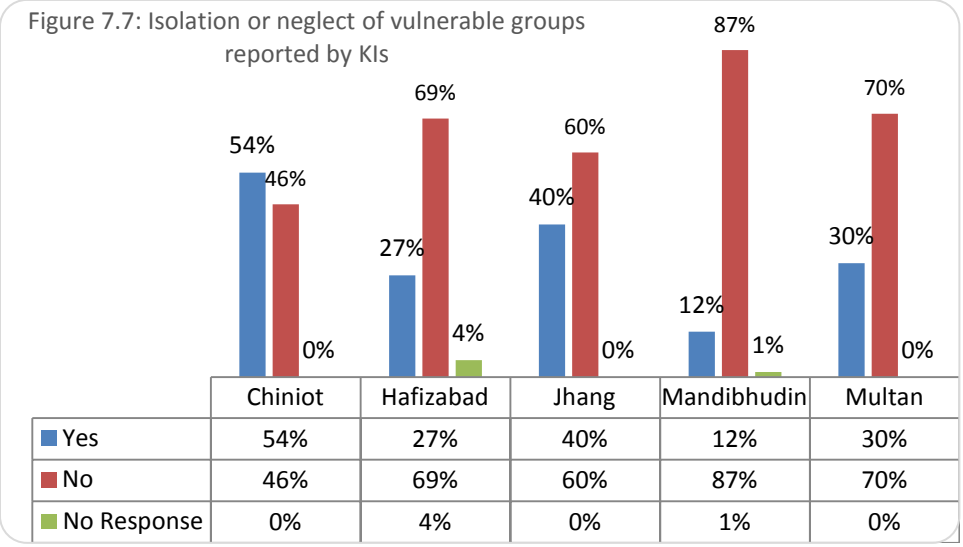
Older people and persons with disabilities face additional and particular challenges during the current flood situation in Punjab. The key concern from the assessment findings is the potential lack of recognition of people with disabilities within the affected communities, which was reported at 0.61%. According to WHO, some 13.4% of people in Pakistani communities are expected to suffer from some type of physical or mental impairment, for example, an elderly person who requires a walking stick to mobilize, or impaired vision. A significantly lower statistic raised concerns as to the plight of people during a crisis of this nature, who require additional support to reach safety, risking abandonment, marginalization and neglect of their individual needs.

Results & Findings

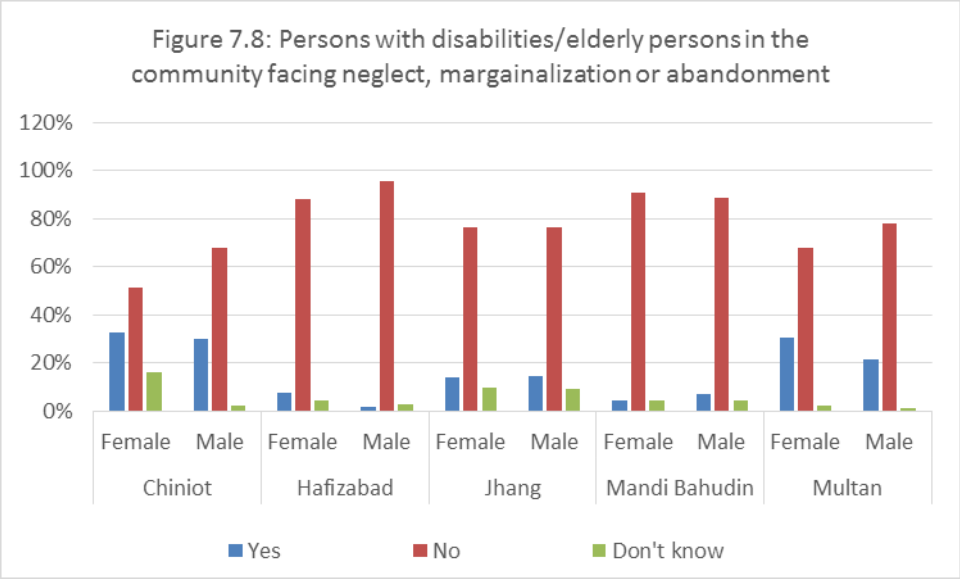
Out of the total households in the affected areas of the districts surveyed, reported ratio of older people and persons with disabilities in Chiniot is 12%, while in Jhang there are 10.1%, 8.6% in Multan, 6.1% in Hafizabad, and 5.3% in Mandi Bahauddin. *Details in figure 7.6 below:*



Of the key informants interviewed, 87% in the flood affected areas in Mandi Bahauddin reported their perceptions that people with disabilities and older persons did not face neglect and isolation; 70% in Multan, 69% in Hafizabad, 60% in Jhang, and 46% in Chiniot. *District wise details of isolation or neglect of vulnerable groups as reported by KIs is given in figure 7.7 below:*



	Chiniot	Hafizabad	Jhang	Mandibhudin	Multan
Yes	54%	27%	40%	12%	30%
No	46%	69%	60%	87%	70%
No Response	0%	4%	0%	1%	0%



When asked if persons with disabilities or older persons in the affected community faced neglect, marginalization or abandonment, 92.18% of key informants in Hafizabad reported none, 89.82% in Mandi Bahauddin, 76.32% in Jhang, followed by Multan (72.54%), and Chiniot (58.58%). An aggregated 15.50% of overall responses reported that both vulnerable groups face neglect, marginalization or abandonment in the communities. In terms of gender specific responses, women reported perceived lower rates (39.6%), than their male counterparts (60.4%). *Male/ female responses on neglect/ marginalization are given in figure 7.8.*

53% of the key informants agreed there was the presence of objects or locations in the affected areas of their communities, which were hazardous to the wellbeing of people, for example, the presence of dead animals, open drains, etc, following the flood.

7.9. Recommendations:

- Undertake protection interventions that help in development of broad based support networks for persons with disabilities and older persons within the communities.
- Ensure that specific needs of persons with disabilities and older persons are addressed and included in all humanitarian interventions and families are sensitized about it.
- Ensure access to livelihoods, education and health services for both vulnerable groups.
- Ensure that all protection services for women with disabilities and older women are culturally appropriate and gender sensitive.
- Awareness raising activities regarding services available for persons with disabilities and older persons.

8. COMMUNITY RESTORATION

8.1. Key findings

The key findings are based on the feedback from key informant interviews and direct observations of the enumerators who documented the impact of the flood on critical infrastructure and environment in the affected areas of each district. These include roads, bridges, river banks, government buildings, and environmental issues such as debris/rubble, stagnant water, and animal carcasses. The assessment findings indicate that access to and from the communities have badly affected, via smaller access routes. Key informants reported that impact to the roads varied, with 27% of road access in the affected part of the districts being impacted in some manner, while some 39% of roads were more significantly affected. Multan district appeared to suffer the greater impact, where key informants reported 48% of the roads had some degree of damage, with Jhang district the second most affected with the 48% reported that roads are submerged and damaged.

Overall, the Key informants reported no or limited measures previously taken to protect their infrastructure during floods or other such impact, except in Chiniot and Hafizabad, where 42% reported that some measures were previously undertaken to protect their infrastructure*, as per below table 8.1:*

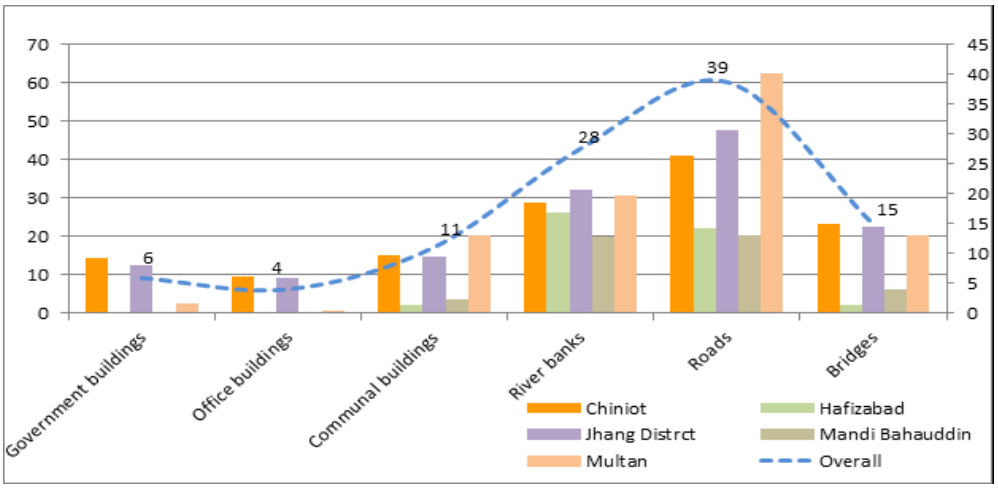
Table 8.1: Preventive measures to infrastructures previously taken reported by Key Informants

Districts	Yes	No
Chiniot	42%	58%
Hafizabad	43%	54%
Jhang	20%	80%
Mandi Bahauddin	9%	90%
Multan	27%	72%

Damages to government buildings were comparatively low, in contrast to other infrastructure, such as private housing. 5% of respondent reported full damage to some government buildings and 9% informed damage to communal locations in the flood affected areas, such as madrassas.

77% of the respondents reported the presence of stagnant water or submergence of land or structures in the affected areas. The flood has caused large scale damage to private houses due to the inundations in areas, which generated large quantities of debris and rubble. 62% of the key informant identified debris as an important issue in the affected area. 30% reported that the area is littered with carcasses of animals, posing threat of disease outbreak if not disposed off. 5% of the respondents have also reported the existence of industrial waste in their area. *Figure 8.1 below shows infrastructure with significant impact.*

Figure 8.1: Infrastructure with significant impact



8.2. Humanitarian needs

- Support is required to restore physical access of affected households to their homes, villages and market place for normal resumption of their lives;
- Restoration of access to inundated villages through repair of link roads, small bridges, removal of debris/rubles and pumping out of stagnant water;
- Income generation support to the affected communities through cash for work to meet their urgent needs.

Recommendations

1. Communication links through provision of boats or the areas where water has receded or start receding the affected communities can be engaged in restoration of link roads, repair of embankments and debris removal through cash for work support.
2. Support to local authorities and communities for pumping out stagnant water from the affected areas and public services;
3. Support to the district authorities in assessment coordination, and monitoring of relief activities.

ANNEX

Multi-sector Initial Rapid Assessment (MIRA) - Process

The Multi-sector Initial Rapid Assessment (MIRA) was developed by the Assessment Working Group (AWG), co-chaired by NDMA and UNOCHA. The initiation of a MIRA depends on the context. The process can be done by a small group of cluster members, unilateral local authority roll out, or joint roll out are possible. Use of the commonly agreed process helps to develop information which can be compared across time and space. The aim of MIRA is to identify humanitarian priorities, including

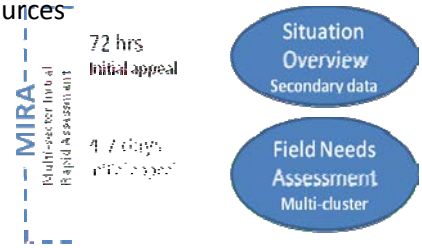
- Identify the scale, extent and nature of the disaster;
- Determination of priority areas and assistance in the planning and deployment of resources;
- Identify gaps in response.

The MIRA provides a limited picture of the situation at that time in inform immediate decisions regarding response. The MIRA does not aim to gather in-depth information, nor specific details on absolute numbers.

The MIRA process has two stages (timings depend on the nature of the crisis)

A situation overview based on primarily secondary data and other sources (Ideally within 72 hours);

- Community level field assessment to identify needs and priorities of the affected and vulnerable populations (within a week).
- Key findings shared within 1 week.
- Final report published within 2 weeks.



Based on the findings of the *Situation Overview,* and primary data, the humanitarian community, decide on their strategic approach for response, in collaboration and coordination with the Government.

MIRA has a multi-sector approach and relies on different sources of information for the analysis:

- Secondary data and validated baseline data;
- To identify the scale and extent of the disaster following analysis will use;
- Remote sensing, e.g. analysis of satellite imageries;
- Pre-defined population data set down to Tehsil level;
- Land scan 2010 for population density and distribution;
- Verification against government data and local authorities;
- Primary data collection (community level assessment) will be undertaken on a sample basis.

The field data collection on community level is based on

- key informant interviews utilizing a pre-developed multi-sectorial questionnaire;
- Structured direct observation based on a checklist.

The sample is drawn from all the affected communities and aims to be statistically representative to district level (admin 2) using random sampling distributed *proportional to size* (i. e number of

affected population in Tehsil/Taluka – admin). Appropriate sample size will be drawn to give results within certain reliability limits (5-10% margin of error and 95% confidence interval).

The data collection is done with PDAs/smart phones in parallel with paper questionnaires for primary data collection enhancing quality and efficiency. The ideal composition of enumerator teams is three individual, and in principle, is composed of males and females (at least one female on each team), and one government representative in each team. Area coordinators will be assigned to lead the teams and oversee the exercise. The established *Joint Assessment Roster* (JAR) provides a pool of trained enumerators from INGOs, NGOs, CBOs and Government-trained staff on MIRA tools.

The *Assessment Technical Team* at the federal level provide the technical support for requested joint assessments, and comprises assessments specialists from respective clusters who will provide support to the field teams and provide analysis of the data, including preparation of MIRA analysis template and overall output framework, under the guidance of UNOCHA.