2. Water and Sanitation

2.1 Improved Sources of drinking water

Safe drinking water is a basic necessity for good health. Unsafe drinking water can be a significant carrier of enteric diseases (including typhoid) and parasites, such as roundworm. Drinking water can also be tainted with other bacteriological, chemical, physical and radiological contaminants with harmful effects on human health. Access to drinking water is also of prime consideration for women and children, particularly in rural areas, because they are also bear the responsibility for fetching water, often for long distances.

Goal 7 of the MDG (Ensure environmental sustainability) includes “to halve, by 2015 the proportion of people without sustainable access to safe (i.e. improved source of) drinking water”. The MICS uses this as two major indicators: “improved source” and access.

The “improved source” does not necessarily imply safety. There is potential contamination from pumps and wells, especially outside the household. Even piped water quality can be compromised by leakages and in certain situations, come from suspect sources such as stagnant water. Further, the amount of water was not addressed in this survey, as responses could not be reliably standardized.

Adequate access implies availability either in the household or within 2 km and/or less than ½ hour away. Again, this does not necessarily imply sufficient amounts of water.

Drinking water source is inferred from both the water delivery system and source. “Improved sources” include piped water, public standpipe or tap, hand pump, donkey pump/turbine or protected dug well. “Unimproved sources” include unprotected dug well, pond, river, canal or stream, as well as other less common sources such as vendor provided, tanker truck or bottled/canned water.

Balochistan relies primarily on piped water in the household (25%) and protected well, pond or tank (13%). Unimproved sources (48%) include unprotected well or pond (24%) and river, canal or stream (17%) - Figure 12.

Figure 12: Drinking Water Supply - Balochistan MICS
There are major differences for sources in urban and rural areas. In urban areas, piped water in the household (74%) is the most common of the improved sources. Rural areas rely mainly on piped water (15%), hand/donkey pump (11%) and protected well, pond or tank (15%) for the improved sources (Figure 13).

**Figure 13: Drinking Water Supply by Area**

Only Quetta-Zarghoon Town (98%) has access to an improved source greater than 80%. About half of the districts have more than 50% availability; with the lowest for districts in the north-west part of the province, especially Barkhan, Kohlu and Musa Khel (less than 15%) – Map 4. The result for Chaghai (75%) is difficult to explain, although most households rely on piped water (mainly urban) or protected dug wells and only few (5%) on hand pumps.

Note that the prolonged drought in Balochistan caused water sources (e.g. from local pumps) to be greatly reduced in some districts. This will affect the results for quantity and probably source of drinking water.

### 2.2 Access to improved source of drinking water

Adequate access to improved source of drinking water is within 2 Km or ½ hour away. Results are slightly less than for all improved sources (48% vs. 51%) but follow a similar pattern by area (urban 90% vs. rural 39%) and for districts (Table 16).

Only 10 districts of the province have more than 50% households with adequate access to improved drinking water, the highest being Quetta Zarghoon (97%) and the lowest at 20% or less being Dera Bugti (16%), Barkhan (12%), Kohlu (10%) and Musa Khel (6%).

Access to any source of drinking water over 2Km was 10% for Balochistan (rural 13%, urban 0.5%). Districts with this limited access in over 25% of households included Dera Bugti (34%), Barkhan (54%) and Kohlu (66%)21.

### Table 16: Access to Improved Drinking Water

<table>
<thead>
<tr>
<th>Improved Source</th>
<th>Balochistan</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 2Km or ½ hr</td>
<td>51</td>
<td>91</td>
<td>43</td>
</tr>
</tbody>
</table>

21Analysis for time taken to fetch water is not presented due to a high number of missing cases from 4 districts.
Map 4: Percent of Households with an Improved Source of Drinking Water
Balochistan MICS 2004

Percent of households who use the following types of water supply for drinking: 1. Piped water 2. Public standpipe or tap 3. Borehole/hand pump 4. Protected dug well 5. Tube-well 6. Protected spring

Note that “more favourable” is based on comparison with other districts. It does not necessarily mean an acceptable result such as in terms of targets for MDG’s or PRSP.
Map 5: Percent of Households with Adequate Sanitary Facilities
Balochistan MICS 2004

Percent of households who have, within their dwelling or compound: 1. Connected to a public sewer 2. Connected to a septic system 3. Pour flush toilet (private or public) 4. Ventilated improved pit 5. Traditional pit latrine (closed) 6. Service/bucket latrine.

% Adequate Sanitation

<table>
<thead>
<tr>
<th></th>
<th>Over 80%</th>
<th>40% - 60%</th>
<th>20% - 40%</th>
<th>Under 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quetta Zarghoon</td>
<td>97</td>
<td>59</td>
<td>37</td>
<td>20</td>
</tr>
<tr>
<td>Kech</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panjgur</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jafarabad</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quetta Chilton</td>
<td>70</td>
<td>49</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td>Sibi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gwadar</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kalat</td>
<td>65</td>
<td></td>
<td></td>
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<tr>
<td>Jhal Magsi</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Kharan</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mastung</td>
<td>63</td>
<td>43</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>Lasbela</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolan</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BALOCHISTAN</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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</tbody>
</table>
| Note that “more favourable” is based on comparison with other districts. It does not necessarily mean an acceptable result such as in terms of targets for MDG’s or PRSP.
Sanitation

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrheal diseases and polio.

2.3. Sanitary means of excreta disposal

Less than half of the households in Balochistan (40%) have adequate sanitary toilet facilities. Results from the PIHS 2001-2 were a slightly after (48%) although the codes in the PIHS are not identical. Sanitary facilities were higher in urban (91%), as compared with rural areas (29%) - Table 17.

These facilities include being connected to a septic system (3%), to a public sewer (7%), pour flush toilet (7%), traditional closed pit latrine, ventilated improved pit latrine (2%) or service/ bucket latrine (1%); while open places or no latrine occurs in 60%. - Figure 14 (results do not include 3% of missing values).

The two towns of Quetta have relatively high levels (Zarghoon 97% and Chiltan 70%), whereas Barkhan, Dera Bugti, Killa Saifullah, Ziarat and Musa Khel have the lowest levels with less than 10%. The map (opposite page) suggests that those districts to the middle and south-west of Balochistan appear to have the lowest prevalence of households with adequate sanitary facilities.

The pattern of sanitation facilities varies greatly between urban and rural areas in Balochistan (Figure 15). In urban areas, mostly reliance is on public sewerage, septic system or pour flush latrines, making a total of 69% of households. In rural areas, the major recourse is for open places (72%).

Figure 14: Type of Toilet - Balochistan MICS 2004

Figure 15: Type of Toilet by Area
Map 6: Percent of Households with Proper Disposal of Waste Water
Balochistan MICS 2004

Percent of households who have, within their dwelling or compound:
1. Sewerage connected with main line or open drain 2. Septic Tank
3. Pit in or outside house

Over 70%
- Quetta Chilton 33.7
- Gwadar 21.4
- Quetta Zarghoon 77.7
- BALOCHISTAN 10.4
- Lasbela 17.0
- Mastung 10.4
- Loralai 10.3
- Killa Abdullah 9.7
- Zhob 9.5
- Kalat 8.2
- Jafarabad 6.2
- Sibi 6.1
- Chaghai 5.8

5 to 20%
- Killa Saifullah 1.4
- Kehl 1.2
- Panjgur 0.4
- Naseerabad 3.0
- Bolan 3.4
- Chaghai 5.8
- Quetta Zarghoon 77.7
- BALOCHISTAN 10.4
- Lasbela 17.0
- Mastung 10.4
- Loralai 10.3
- Killa Abdullah 9.7
- Zhob 9.5
- Kalat 8.2
- Jafarabad 6.2
- Sibi 6.1

Under 5%
- Khuzdar 5.0
- Naseerabad 3.0
- Bolan 3.4
- Kehl 3.3
- Pishin 2.0
- Ziarat 2.0
- Jhal Magsi 2.0
- Barkhan 1.4
- Killa Saifullah 1.4
- Kohlu 1.2
- Awaran 1.0
- Dera Bugti 1.0
- Kehl 1.2
- Panjgur 0.4
- Musa Khel 0.0

Note that “more favourable” is based on comparison with other districts. It does not necessarily mean an acceptable result such as in terms of targets for MDG’s or PRSP.
2.4 Disposal of waste water/solids

Disposal of waste water is a guide to potential water contamination. Only 10% of Balochistan’s households have proper disposal of waste water (sewerage connected with main line, sewerage connected with open drain or septic tank)\(^\text{22}\), ranging from 52% in urban and 1% in rural areas (Table 18). More than half of the Balochistan districts have less than 5% waste water management facilities. Quetta Zarghoon town has the highest percentage (78%) while Panjgur and Musa Khel districts have no such facilities at all (0%).

Only 5% of Balochistan has proper disposal of waste solids (collected by any municipal institution, disposed of by solid waste management department or a private company vehicle collected from home). This ranges from 26% in urban to and 0% in rural areas. Only Quetta-Zarghoon Town (55%), Quetta-Chiltan Town (34%), Gwadar (13%) and Killa Abdullah (10%) have some facilities, while all the other districts of the province show less than 3% and nine districts have no such facilities.

2.5 Washing hands adequately

The survey asked about the practice of washing hands adequately (all members using soap) in households. Of the total, 72% of the households reported that they use soap before eating food and 20% indicated that they wash their hands adequately after going to latrine (Table 19). There was much variation between major cities, other urban and rural. The major difference for this between urban (49%) and rural areas (14%) may be related to soap availability as well as personal hygiene habits.

<table>
<thead>
<tr>
<th>Table 18: Households with adequate disposal of Waste Water/Solids</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Water</td>
</tr>
<tr>
<td>Solids</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 19: Households with all members washing hands adequately</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Before eating</td>
</tr>
<tr>
<td>After Latrine</td>
</tr>
</tbody>
</table>

\(^\text{22}\)Technical note: One response was pit latrine or open spaces. This is not included as proper disposal, but in future these should be separated.