WASH in health care facilities Post-Earthquake and Longer-term Sustainability

Nepal
WASH Overview and Issues in Nepal

- 92% population has access of basic water supply
- 64% basic sanitation coverage.
- National target to have 100% coverage with basic level water supply and sanitation by 2017
- Only 16% people use treated water, but the performance is unknown.
- 82.2% of E.coli risk level in household water (MICS 2014)
- More than 41000 water supply schemes; functionality of water supply schemes is big issue
- 2000 schemes have bee WSP practicing
- ODF focused sanitation movement, sustainability and total-ness is still issue of advancement.
Nepal has reduced open defecation rate by 56% since 1990.

Source: JMP Report 2015
Mortality rate under five in 1000 new births

[Graph showing mortality rate trends in Nepal, SEAR, and Global from 1990 to 2013.]
Causes (diarrheal death) among children (age <5)

% of Diarrheal Diseases

Year

2000: 20.5
2008: 17
2010: 6
2012: 6
2013: 7
WASH condition in HCFs in Nepal
# WASH condition in HCFs in Nepal

<table>
<thead>
<tr>
<th>Study by</th>
<th>Study Year</th>
<th>Where</th>
<th>Water</th>
<th>Sanitation</th>
<th>Hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO/CEPHED</td>
<td>2011</td>
<td>31 selected hospitals from all 5 regions</td>
<td>Water Supply = 84 %</td>
<td>Functional Toilet = 45 %</td>
<td>Hand washing facilities = 58%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WQ monitoring/treated = 9.7 %</td>
<td>Waste water management = 3.2 %,</td>
<td>Knowledge on Hand washing = 58.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HCWM = 35.5 % (3.23 % well managed)</td>
<td></td>
</tr>
<tr>
<td>Water Aid/NFCC</td>
<td>2016</td>
<td>20 from Sindhuli, Siraha and Makwanpur districts</td>
<td>Water Supply = 90 %</td>
<td>Availability of toilet = 98 %</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Treated water = 55 %</td>
<td>Functional toilet 75 %</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WQ monitoring = 0 %</td>
<td>HCWM = 0 %</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** HCWM = Hospital Community Wide Management
Nepal Earthquake 2015

25 April, Saturday
7.8 Magnitude
# Earthquake loss

<table>
<thead>
<tr>
<th>People affected</th>
<th>No.</th>
<th>Infrastructure Damaged</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>8891</td>
<td>Fully damaged private houses</td>
<td>602257</td>
</tr>
<tr>
<td>Injured</td>
<td>22309</td>
<td>Partially damaged private houses</td>
<td>285099</td>
</tr>
<tr>
<td>Livestock Loss</td>
<td></td>
<td>Fully damaged health facility</td>
<td>462</td>
</tr>
<tr>
<td>Big</td>
<td>16458</td>
<td>Partially damaged health facility</td>
<td>765</td>
</tr>
<tr>
<td>Small</td>
<td>36884</td>
<td>Affected schools</td>
<td>8308</td>
</tr>
<tr>
<td>Birds</td>
<td>460805</td>
<td>Fully damaged classrooms</td>
<td>19708</td>
</tr>
<tr>
<td>Fully Damaged Govt. buildings</td>
<td>2673</td>
<td>Major damaged classrooms</td>
<td>11046</td>
</tr>
<tr>
<td>Partially damaged Govt. Buildings</td>
<td>3757</td>
<td>Damaged toilet at school</td>
<td>1500</td>
</tr>
<tr>
<td><strong>Total affected water supply Schemes</strong></td>
<td></td>
<td></td>
<td>5207</td>
</tr>
<tr>
<td><strong>Total damaged toilets</strong></td>
<td></td>
<td></td>
<td>3,500,000</td>
</tr>
</tbody>
</table>
# Epidemic after Earthquake
*(lesson learnt from Haiti)*

<table>
<thead>
<tr>
<th></th>
<th>Haiti</th>
<th>Nepal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
<td>Jan 12, 2010</td>
<td>25 April, 2015 12 May, 2015</td>
</tr>
<tr>
<td><strong>Magnitude</strong></td>
<td>7.0</td>
<td>7.8 &amp; 7.3</td>
</tr>
<tr>
<td><strong>Affected Population</strong></td>
<td>3.5 M</td>
<td>7.0 M</td>
</tr>
<tr>
<td><strong>Death</strong></td>
<td>3,16,000</td>
<td>8,891</td>
</tr>
<tr>
<td><strong>Cholera Outbreak</strong></td>
<td><strong>Cases</strong> 697,256</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td><strong>Death</strong> 8534</td>
<td>0</td>
</tr>
</tbody>
</table>
## Water Quality Assessment

**Total Sample Tested** | **E-Coli seen in** | **% of contaminated sample** | **Remarks**
--- | --- | --- | ---
IDPs at Kathmandu valley | 98 | 25 | 25.5%
Health facilities (Kathmandu) | 75 | 24 | 32%
Others districts | 565 | 176 | 31.1%
University Students (21) mobilized in 3 districts | 190 | 106 | 55.8%
EDCD, Water Quality Surveillance team | 20 | 15 | 75.0%

**In Total:**

\[
\frac{346}{948} = 36.5\%
\]
Monitoring of local water sources
Poor sanitation (toilet and waste management) examples
Contd..
HCWM in Foreign Medical Camps
( segregation to disposal ?)
EQ Emergency response in 15 Community HCFs in Kathmandu as pilot interventions

- Alapot Health Post
- Sankhu Health Post
- Bishnudevi Primary Health Centre
- Chalnakhel Primary Health Centre
- Gokarna Primary Health Centre
- Mulpani Primary Health Centre
- Ramkot Primary Health Centre
- Sangla Primary Health Centre
- Satungal Health Post
- Thankot Health Post
- Seuchatar Health Post
- Budhanilkantha Health Post
- Bhadrabas Health Post
- Gothatar Health Post
- Khadga Bhadrakali Health Post
Interventions done

• Detail Assessment
• Training
• Material support
  – Water tanks
  – Water filters
  – Niddle cutters
  – Auto clave and other HCWM items
  – Maintenance/ construction of toilets and hand washing stations
  – Maintenance of sewerage connections / septic tanks
  – Hygiene kits
Before the intervention
Segregation of HCW
Auto clave and Hand washing facility
Handover of hygiene items and water filter to Health Post
Dhading (one of 14 most effected districts)
Dhading (one of 14 most effected districts)

- Death 715, Injured 4288,
- Health workers, Death - 1, injured - 3
- District Hospital -1, Primary Health Center - 2, HP - 50
- Fully Damaged - 29, Partially damaged - 18
- Overall management of WASH in district hospital
  - Temporary toilets
  - Bottled water supply / water purifier
  - Handwashing with soap
  - Patient were triaged to prevent contamination
  - Supports from many NGO/INGOs/Center

- Main problem
  - Space and manpower
  - Hospital waste management (open burning)
Some Selected WASH items are under process of distribution by WHO

<table>
<thead>
<tr>
<th>SN.</th>
<th>Districts</th>
<th>Water Tank (1000 Ltrs)</th>
<th>Water Tank (500 Ltrs)</th>
<th>Commu Water Filter (Straw)</th>
<th>Niddle Cutter</th>
<th>Auto Clave (40 Ltr)</th>
<th>Auto Clave (20 Ltr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bhaktapur</td>
<td>10</td>
<td>10</td>
<td>15</td>
<td>10</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Dhading</td>
<td>30</td>
<td>30</td>
<td>45</td>
<td>40</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>Dolakha</td>
<td>30</td>
<td>30</td>
<td>45</td>
<td>30</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>Gorkha</td>
<td>35</td>
<td>30</td>
<td>65</td>
<td>40</td>
<td>3</td>
<td>35</td>
</tr>
<tr>
<td>5</td>
<td>Kathmandu</td>
<td>25</td>
<td>25</td>
<td>65</td>
<td>40</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>6</td>
<td>Kavre</td>
<td>50</td>
<td>50</td>
<td>120</td>
<td>75</td>
<td>5</td>
<td>65</td>
</tr>
<tr>
<td>7</td>
<td>Lalitpur</td>
<td>15</td>
<td>15</td>
<td>40</td>
<td>30</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>8</td>
<td>Makwanpur</td>
<td>15</td>
<td>15</td>
<td>40</td>
<td>30</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>Nuwakot</td>
<td>50</td>
<td>50</td>
<td>80</td>
<td>50</td>
<td>3</td>
<td>50</td>
</tr>
<tr>
<td>10</td>
<td>Okhaldhunga</td>
<td>25</td>
<td>25</td>
<td>50</td>
<td>40</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>11</td>
<td>Ramechhap</td>
<td>30</td>
<td>30</td>
<td>45</td>
<td>30</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>12</td>
<td>Rasuwa</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>13</td>
<td>Sindhuli</td>
<td>20</td>
<td>20</td>
<td>45</td>
<td>30</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>14</td>
<td>Sindhupalchok</td>
<td>50</td>
<td>55</td>
<td>80</td>
<td>40</td>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>450</strong></td>
</tr>
</tbody>
</table>
WASH in HCFs (Key finding)

- Water supply system is mostly connected with community supply
- MoH is not giving adequate attention to WASH in HCFs
- WASH facilities damaged with building of HCFs.
- Foreign Medical camps found help less to access WASH services unless local support
Lesson Learnt

• Complete WASH package timely included in all MCKs taken as wise decision.
• WASH/HCWM can be improved if and only if health workers /staffs are motivated
• Nominal WASH item for a HCF are
  – Water Tanks
  – Water purifiers
  – Needle cutters
  – HCWM items including auto claves
  – Hygiene kits
  – Maintenance of toilets and Hand washing stations
Recommendation

- Advocacy at higher level
- Clear role and responsibility of the partners
- Policy and protocol
- Institutional arrangement and coordination mechanism in MoH leadership
- Capacity Building / awareness campaign
- Resources
- Stock piles and vendors roster (WASH items)
- Water safety plans (WSP) and total sanitation approaches in HCFs
- HCWM with sustainable/ non-burning technology
Thank You