Access to Water in Refugee Situations
Survival, Health and Dignity for Refugees

A Girl in Dzaleka, Malawi
A Refugee Child in Kyangwali, Uganda
A Refugee Woman Filling a Water Storage Tank, Uganda

Technical Support Section
Division of Operational Support

UNHCR
The UN Refugee Agency
**Water cross-cuts so many vital sectors!**

**Food & Nutrition**
- Water is a food in its own right!
- Cooking
- Kitchen gardening
- Loss of calories during water collection
- Diarrhoea compounds malnutrition

**Sanitation**
- Adequate excreta disposal and control is essential to break disease transmission cycle
- Drainage & vector control to combat malaria
- Hand washing & other hygiene activities
- Environment: Groundwater pollution and land degradation if poor sanitation system in place

**Health**
- Quantity is the most important aspect for hygiene at personal, domestic, community levels
- Quality is very important, especially for infants
- Environmental degradation and hence health impact from pollution if water is mismanaged
- Refugees living with HIV/AIDS require adequate quality water with improved access

**Education**
- Children fetching water impacts on schooling
- Water-borne disease = time off school
- Proper water & sanitation facilities must be provided in schools (separate for girls/boys)
- Curriculum can include hygiene promotion and environment issues
- Education is an empowering tool to maintain water and hygiene awareness for returnees

**Camp Planning & Shelter**
- Water is a governing factor for site selection
- Water points promote community ownership
- Make special provisions for groups with special needs
- Appropriate design to prevent Gender Based Violence (provide facilities in safe areas near dwellings)
- Proper use of local water resource to prevent conflict with the host community
- Camp design with proper drainage to mitigate flood risk

**Technical Support Section - DOS**
The Search for Water in Chad

Land Sat optical imagery shows no traces of water

Radar Satellite Image shows traces of moisture (red)

Yellow area has medium radar signal: 71.5% of wells are positive.

Red area has a strong signal: 89% of wells are positive

*Water is extremely scarce, therefore advanced technology is needed to yield rapid results*
## Access to Clean Water

In a refugee camp, **Access to Clean Water** is not just "what" but also "how" we provide this life sustaining resource. This is as important as the availability of water itself.

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. <strong>Adequacy and equity of water distributed</strong>: Sufficient supply for basic needs for each and every person throughout the camp, including in school and health units.</td>
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<tr>
<td>2. <strong>Acceptability and safety of water supplied</strong>: Potable and palatable in terms of appearance, taste and odour. Water quality is monitored regularly for faecal contamination and water safety plans are in place</td>
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<td>3. <strong>Social costs (burden) on the users</strong>: Facilities located centrally and not too far from the dwellings, with minimum waiting time, and safe and user-friendly designs.</td>
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<td>4. <strong>Physical safety of the users</strong>: Facilities located in a secure physical environment; water distribution time and duration planned according to users convenience and cultural habits, and limited to day-light hours.</td>
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<td>5. <strong>Reliability of supply</strong>: There needs to be continuous maintenance of the water supply system as well as adequate water storage at the family and community level in case of interruptions.</td>
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<td>6. <strong>Environmental concerns/hazards</strong>: Sustainable exploitation of water sources, waste water management, improved drainage for storm water to avoid water-induced hazards etc.</td>
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<td>7. <strong>Efficiency of supply</strong>: Avoiding water wastage during fetching from tapstands and other system losses.</td>
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<td>8. <strong>Participation of stakeholders</strong>: Refugees and other sectors (health, physical planner, sanitation) involved in water system development and operation as well as maintaining a good rapport with the host community</td>
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Food, Nutrition & Water

Water is one of the main nutrients, along with fat, protein, carbohydrates and micronutrients, that the human body needs on a daily basis.

Diarrhea, often the product of the consumption of poor quality water, is one of the main causes of morbidity that results in malnutrition. Malnutrition contributes to almost 60% of deaths of under five year olds in developing countries and has been a major concern in refugee situations.
Guidelines Relating to Water in a Refugee Camp

- Residual Chlorine in Disinfected Water = 0.2 to 0.5 mg/litre
- Permissible Faecal Coliform Content: 0 / 100 ml Treated Water
- One Communal Well or Hand pump per 200 refugees
- Minimum of 1 water quality test per 5000 beneficiaries per month and sanitary survey indicates low risk
- Primary schools < 100 m from water sources
- Water Containers per Household of 5:
  - 1 X 20 litres
  - 2 X 10 litres
  - 2 X 5 litres
- Required Water at Feeding Centres:
  - 20 - 30 litres per person
- Required Water at Out-Patient Health Centres:
  - 5 litres per visitor
- Required Water at In-Patient Health Centres:
  - > 40 - 60 litres per patient
- Required Water at Schools:
  - = 3 litres per student
- Required Water at Camp Administration:
  - 5 litres per visitor
- Water Quantity Required for Domestic Use:
  - > 20 litres per person
- Water Points < 200 m walking distance from dwellings in a safe/secure location
- 1 hygiene facilitator per 500 refugees
- Ensure Gender Balance in Water Committees
- One Communal Well or Hand pump per 200 refugees
- 1 water tap per 80 to 100 refugees

Technical Support Section - DOS
Promoting community ownership via camp design

- No front door faces directly into neighbour
- Common area to cook, meet etc. & trees left to grow
- High visibility for families and aid workers
- Easy access of water points and latrines within community blocks
Carrying out a visual assessment of risk is an integral part of quality analysis. Such training is important also for refugees who will resettle. Regular visiting of all water sources (>1 sample/5000 beneficiaries/month) - Feedback mechanism in place so have an effective warning system.

*Water quality surveillance is central to adequate water provision*

= REGULAR TESTING + VISUAL RISK ASSESSMENT

- WHO illustration to show risks in the vicinity of the water point
Social Burden of water collection
42% of school-going children in one Ugandan refugee camp had their schooling interrupted by water collection. Women who spend their time collecting water could participate in more productive activities.

Environmental Burden of water collection
Long term pumping of high volumes of water in refugee camps can result in deterioration of water levels and quality and deprives downstream water needs.

Physical Burden of water collection
A person drawing 80L of water from a well back to their home 200m away (often uphill from well) for all the family needs may use up to one sixth of their standard ration of 2,100 Kcal/day only on this task!

Chemical loadings to the ground from pit latrines
10,000 refugees using pit latrines will deposit ~20 Metric Tons of Chloride and over 25 Metric Tons of Nitrogen to the ground per annum, which may cause long-term groundwater contamination.
Camp-wide indicators are used to assess the quality of service provision **BUT** hide inequalities in distribution

**Mean Household Use = 110L/household**  
No. of cholera victims May 05 = 11

**Mean Household Use = 44L/household**  
No. of cholera victims May 05 = 32  
Insufficient latrines available

**Mean Household Use = 37L/household**  
No. of cholera victims May 05 = 163  
**AND**...use of poorly protected river water and also problems with poor cultural acceptance of latrines

**Kakuma Camp, Kenya, 2005**
Let us look at the water guidelines!
Please bear in mind that UNHCR’s standards are adapted for refugee situations

Table Showing Some of the Water Supply Guidelines/Standards in Stable Situations – UNHCR vs. Sphere Project

<table>
<thead>
<tr>
<th>S. N</th>
<th>Parameters</th>
<th>Description of Standard</th>
<th>UNHCR</th>
<th>Sphere Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Basic needs for health and well-being</td>
<td>Average quantity of water available per person/day</td>
<td>&gt; 20 liters</td>
<td>&gt; 15 litres</td>
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<tr>
<td>2.</td>
<td></td>
<td>Water containers per household (average of five members)</td>
<td>1x20 litres, 2x10 litres, 2x5 litres</td>
<td>Two 10-20 litres, and enough storage container at household</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Distance from farthest dwelling to water point</td>
<td>&lt; 200 m</td>
<td>&lt; 500 m</td>
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<td>4.</td>
<td>Mitigate social burden; ensure equity, provide security of users; and avoid conflicts</td>
<td>Number of persons in each water point</td>
<td>80 to 100 per tap 200 to 300 per hand pump/well</td>
<td>250 per tap 500 per hand pump 400 per well</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>Required water distribution hours in a day to supply 15 litres/person/day (calculated based on related data)</td>
<td>3.75 hours</td>
<td>9.3 hours</td>
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<tr>
<td>6.</td>
<td></td>
<td>Queuing time at a water source</td>
<td>Not specific, as it is impractical to monitor. Other standards indirectly control it.</td>
<td>&lt; 15 minutes</td>
</tr>
<tr>
<td>7.</td>
<td>Prevention of health risk, reliable quality</td>
<td>Number of faecal coliform organisms at distribution point</td>
<td>0 per 100 ml treated water</td>
<td>0 per 100 ml treated water</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td>Free chlorine residual concentration in disinfected water</td>
<td>0.2 - 0.5 mg per litre</td>
<td>0.5 mg per litre</td>
</tr>
</tbody>
</table>
Social Costs - Shouldn’t the Children be Elsewhere?

Note: Comments on these posters are very welcome. Please send to Technical Support Section: HQTS01@UNHCR.CH