

WATER AND WASTEWATER OPERATIONS RELIEF ENGINEERING

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December 8th 2016
Holiday Inn Worthington

Needs Around the World

- ▣ Central America
- ▣ Middle East
- ▣ North Africa
- ▣ Asia

Water and Wastewater Needs in Nepal

- ▣ Earthquake in 2015 Devastated the Region
- ▣ Upper Himalayan Villages hardest hit
- ▣ Areas difficult to access
- ▣ Different culture prohibits typical solutions

Washing dishes in Nepal

- This is a n upscale washing facility for the vast amount of Nepal people
- The city have running water but the wastewater either runs directly outside or into overflowing seepage pits



This is typical in Nepal

- ▣ <iframe width="640" height="360"
src="https://www.youtube.com/embed/bYh
WxshJZkc" frameborder="0"
allowfullscreen></iframe>

Trashed Rivers



Trashed Rivers

- ▣ Direct sewage discharges
- ▣ Direct Industrial discharge
- ▣ Rivers are used as dumps for municipal solid waste
- ▣ The people seem to be OK with this



Typical Restroom

- This is an upscale facility in Nepal
- There is essentially no centralized wastewater treatment in Nepal
- Only 27% of people have seepage pits
- Most all sewage is directly discharged into streams and



We Got It Pretty Good

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