PROBABILITY OF DYING BEFORE AGE 5
Burden of disease

- Time fetching water – increased
- Care giver time
- Reduced family income
- Increased burden of schooling (days missed in school, school failure rate)
- Women are suffering in more than one way from water-related diseases
- Economic validation basis for empowerment
Piped water supply

Piped water supply in central Asia

KAZ

TUR

TAJ

KYR

UZB
Microbiological quality

Microbial quality of piped water

<table>
<thead>
<tr>
<th>Country</th>
<th>Fail</th>
<th>Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAZ</td>
<td>5.6</td>
<td>94.4</td>
</tr>
<tr>
<td>KYR</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td>UZB</td>
<td>66.1</td>
<td>33.9</td>
</tr>
<tr>
<td>TAJ</td>
<td>33.9</td>
<td>66.1</td>
</tr>
<tr>
<td>TUR</td>
<td>36.7</td>
<td>63.3</td>
</tr>
</tbody>
</table>
WSSS School sanitation

- 16% of schools lacks locking or separate toilets
- 21% has only intermittent water supply
- 38% can not afford soap
- 96% can not afford paper

» CLASSIC SANITATION MIRAGE

» AWARNESS AND EMPOWERMENT FOR APPROPRIATE SOLUTIONS
Right to water

Access to water is a fundamental human need, and, therefore, a basic human right. Contaminated water jeopardizes both the physical and social health of all people. It is therefore an affront to human dignity

K. Annan, United Nations Secretary General
## Improved … or Not?

<table>
<thead>
<tr>
<th>Improved water supply</th>
<th>Improved sanitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household connection</td>
<td>Connected public sewer</td>
</tr>
<tr>
<td>Public standpipe</td>
<td>Connected septic system</td>
</tr>
<tr>
<td>Borehole</td>
<td>Pour-flush latrine</td>
</tr>
<tr>
<td>Protected dug well/spring</td>
<td>Pit latrine</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Not-improved supply</th>
<th>Not-improved sanitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unprotected well</td>
<td>Service or bucket latrines</td>
</tr>
<tr>
<td>Unprotected spring</td>
<td>Public latrines</td>
</tr>
<tr>
<td>Vendor-provided water</td>
<td>Open latrines</td>
</tr>
<tr>
<td>Tanker truck</td>
<td></td>
</tr>
</tbody>
</table>
# Service Level and Quantity

<table>
<thead>
<tr>
<th>Service level</th>
<th>Distance/Time</th>
<th>Volume collected (l/c/d)</th>
<th>Needs met</th>
<th>Intervention priority and action</th>
</tr>
</thead>
<tbody>
<tr>
<td>No access</td>
<td>&gt;1 km &gt; 30 min</td>
<td>&gt;5</td>
<td>Basic consumption compromised Hygiene not met</td>
<td>Very high</td>
</tr>
<tr>
<td>Basic access</td>
<td>Within 1 km Within 30 m</td>
<td>Appr 20</td>
<td>Consumption Ok Hygiene ?.</td>
<td>High</td>
</tr>
<tr>
<td>Intermediate access</td>
<td>On plot Min 1 tap</td>
<td>Appr 50</td>
<td>Consumption OK Hygiene OK</td>
<td>Low</td>
</tr>
<tr>
<td>Optimal</td>
<td>Multiple tap</td>
<td>110 - 200</td>
<td>Consumption OK Hygiene OK</td>
<td>Very low</td>
</tr>
</tbody>
</table>
Definition small supplies

- **small supplies** - serving more than 50 but less than 5000 persons (more than 10 but less than 1000 m³/day of water)

Covered by the DWD, no reporting to EU

- **very small supplies** (including private wells) - serving less than 50 people or producing less than 10 m³/day, unless the water is supplied as part of a public or commercial activity

Can be exempted by MS from the DWD
Findings

➢ About 10% population in 21 EU countries
➢ Microbiologically unsafe.
➢ Chemical contamination
➢ Taste, colour, smell issues
➢ Little is known on location, management
➢ Need to introduce specific water safety management plans

➢ Safety plans needed specific for small supplies
# ATTRIBUTABLE DIARRHOEA

## 0 – 14 Years

Poor water, sanitation, and hygiene 2001

<table>
<thead>
<tr>
<th>Attributable fraction (%)</th>
<th>EUR A</th>
<th>EUR B</th>
<th>EUR C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>87</td>
<td>86</td>
</tr>
</tbody>
</table>
Gender issue

- Empowerment needed in water supply systems, especially when small or self-reliant (100,000p)
- Success stories when female in charge of monitoring O&M
- Idem financial management
- Increased status in the community
CEHAPE

- Ministerial Conference on Environment and Health Budapest 2004
- Children Environment and Health Action Plan Regional Priority Goal 1: Provision of safe water and adequate sanitation to all children of the European region
Status of ratification of the Protocol on Water and Health in August 2005

Status of ratification in August 2005

UNECE 2005

raphy: I. Stalleck & A. Wieland 2005
WHO CC, University of Bonn
THANK YOU
Chemical quality

Chemical quality of piped water

- KAZ: 10.1% Fail, 89.9% Pass
- KYR: 9.8% Fail, 96.2% Pass
- UZB: 41.7% Fail, 58.3% Pass
- TAJ: 0% Fail, 100% Pass
- TUR: 0% Fail, 100% Pass
Sanitation coverage in central Asia

KAZ

TUR

TAJ

UZB

KYR
Sanitation in UZB

**Urban area sanitation**
- No sanitation: 3%
- Latrine: 65%
- Other: 97%
- Flush or pour-flush: 32%

**Rural area sanitation**
- No sanitation: 5%
- Latrine: 85%
- Other: 95%
- No info: 9%
- Flush or poor flush: <1%
Water quality in UZB

**Urban area water quality UZB**

- Microbio: 93.5%
- Chemical: 30%

**Rural area water quality UZB**

- Microbio: 91.7%
- Chemical: 81.1%
Water supply TJK (57%)

Percent of population using improved drinking water sources TJK

- Other
- Tanker truck
- Pond, river stream
- Protected spring
- Protected dug well
- Tubewell/borehole
- Public tap
- Piped into yard
- Piped into dwelling
- Other
MDG Monitoring

Percentage of the population served with improved drinking water supply

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>97</td>
<td>86</td>
</tr>
<tr>
<td>Rural</td>
<td>83</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>71</td>
</tr>
</tbody>
</table>
Rural water supply and sanitation

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