WASHCost

# Water Service Ladders for Domestic Water Supply

MUS Expert Day

Leiden, 22 February 2010

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# WASHCost (and MUS)

- A five year action research programme
- Working in Burkina Faso, Ghana, Mozambique and India (Andhra Pradesh)
- Researching the FULL Life-Cycle Costs (LCC) of providing Rural and Peri-Urban (Domestic) Water and Sanitation Services, and ….
- Identifying ways in which this information can be used to improve service delivery

- WASHCost is NOT specifically about MUS – but MUS (domestic +) keeps popping up!

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# Life Cycle Costs?

| Life Cycle Cost Components: *Water Services* | **Resources** *Costs involved in sustainable provision of water resources of required quantity and quality* | **Infrastructure** *Costs incurred by service providers when constructing, operating and maintaining water supply infrastructure* | **Demand/Access** *Costs incurred by users who routinely access formal, informal and private water supply systems to meet normal demands. Also costs incurred when accessing alternative sources during system failures* |
|---|---|---|---|
| ***Capital Expenditure – hardware (CapEx)*** | *Capital investment in fixed assets* | | |
| ***Capital Expenditure –software (CapEx)*** | *One-off work with stakeholders prior/during to construction or implementation* | | |
| ***Cost of Capital (CoC)*** | *Costs of raising capital for investment* | | |
| ***Operating and minor maintenance Expenditure (OpEx)*** | *Expenditure on labour, fuel, chemicals, materials, regular purchases of any bulk water.* | | |
| ***Capital maintenance expenditure (CapManEx)*** | *Expenditure on asset renewal, replacement and rehabilitation costs* | | |
| ***Expenditure on Direct Support (ExpDS)*** | *Post-construction support activities for local-level stakeholders, users or user groups* | | |
| ***Expenditure on Indirect Support (ExpIDS)*** | *Macro-level support, planning and policy making* | | |

# Background

- **Since WASHCost started (2008), two main areas of research/advocacy have emerged:**
  - Costs related to sustainability (i.e. everything except CapEx)
  - Costs related to service provision and different service levels - **i.e. what does it cost to provide a sustainable service?**
    - But what is the service?

# What is a domestic water service?

- A water service is the water provided to people
- …. typically defined in terms of: quantity and quality of water provided to users, taking into account accessibility and reliability

- Service ≠ Technology
  - though there are strong links between the two:
    - Hand-pumps normally represent one level of service
    - Taps in houses another

- A service level is a group of indicators that together establish a normative benchmark for service delivery
  - (e.g. 20l/p/d of WHO standard quality water within 500m of the dwelling and shared by no more than 300 people)
- A service ladder is a series of service levels grouped to convey the impression (or intention) of progression from one level to the next
- Establishing service levels is a political (and engineering) process

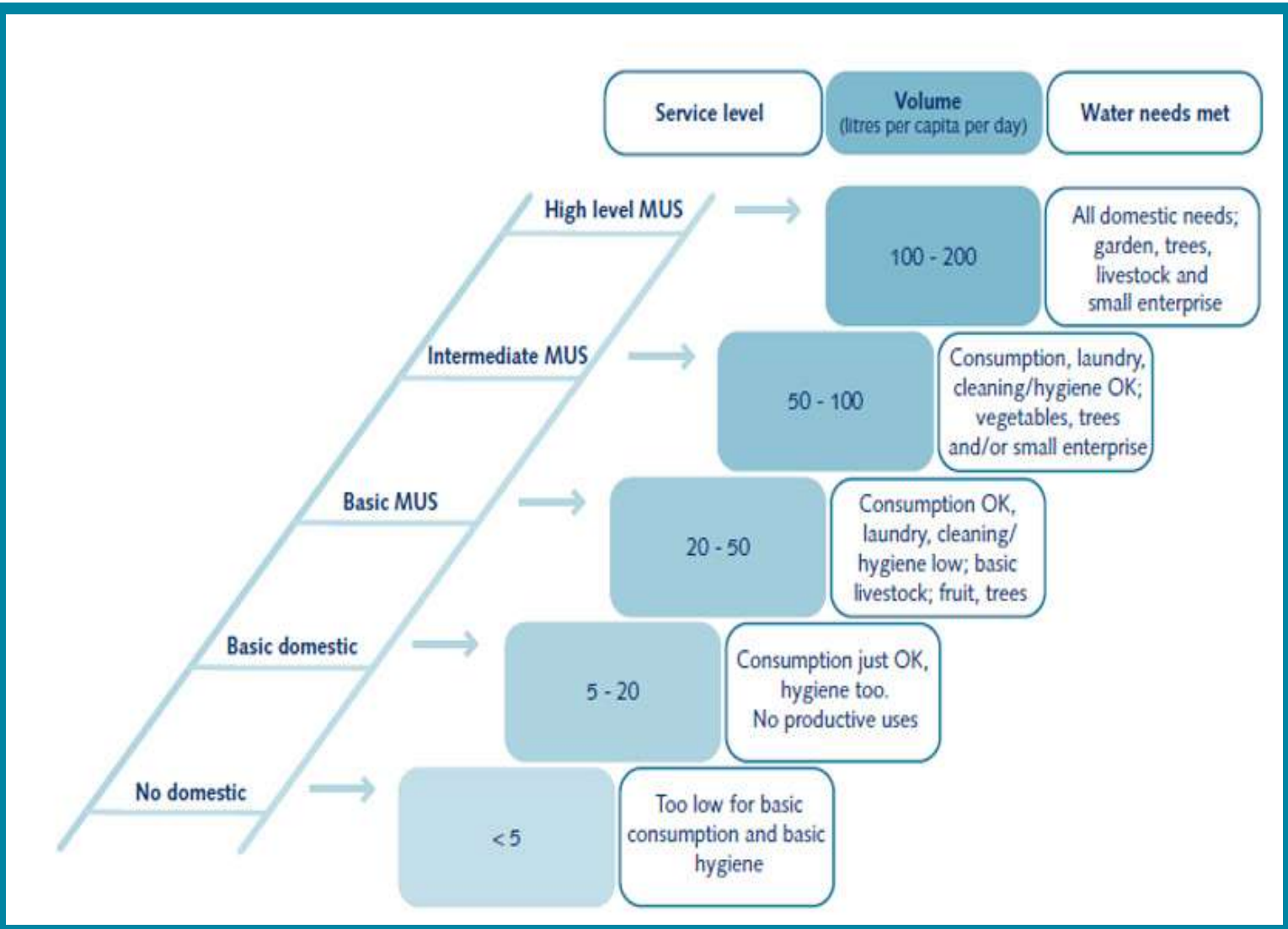
* Why use service levels/ladders?
  * If you can't describe it you can't measure it (or cost it)
  * If you can't measure it you can't monitor it
  * If you can't monitor it you can't improve it

* Water supply infrastructure is built for a purpose: to provide a service. Counting hand-pumps (or taps) built DOES NOT provide an indication of service received

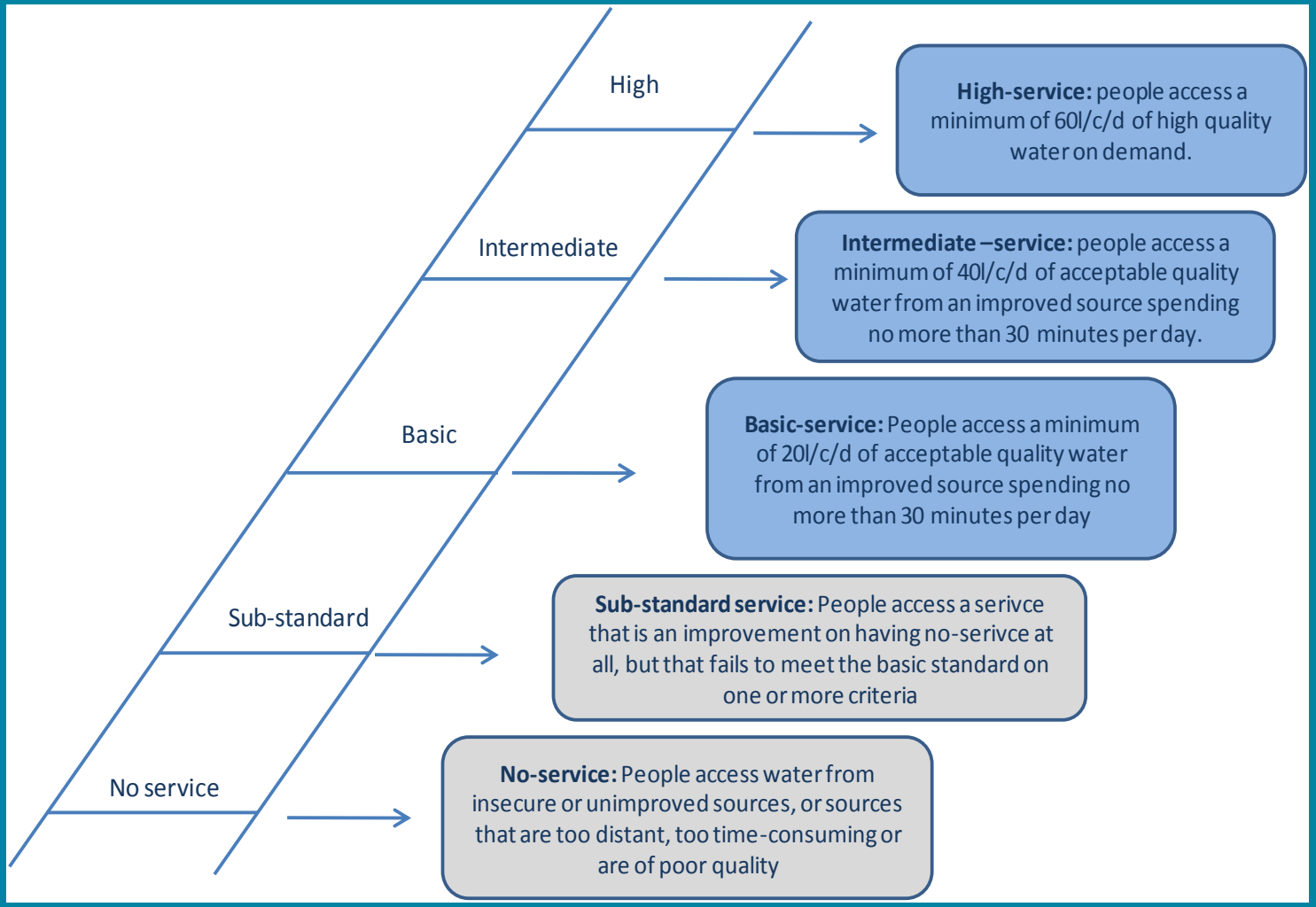
* Without agreement on the level of service being targeted, we cannot make meaningful statements about what it costs to provide (or if we are succeeding)

# The Ladders!

# The Original! (well – Sanitation came first …)



# And now the WASHcost version .....



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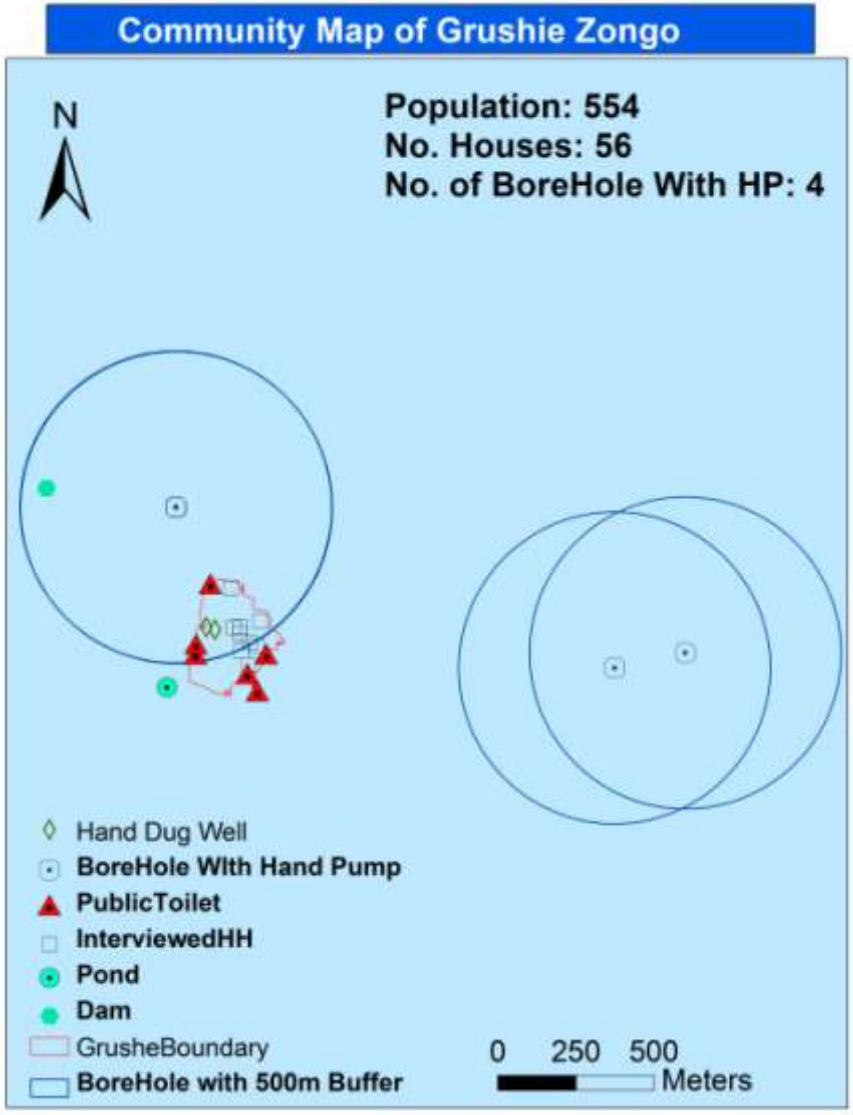
| | Quantity (l/c/d) | Quality | Accessibility (min/c/d) | Reliability | Status |
|---|---|---|---|---|---|
| **High** | >60 | Good | <10 | Reliable/ unreliable | Improved |
| **Intermediate** | >40 | Acceptable | 30 | | |
| **Basic (normative)** | >20 | Acceptable | 30 | | |
| **Sub-standard** | >5 | Acceptable | 60 | | |
| **No service** | <5 | Unacceptable | >60 | Unreliable/ unsecure | Unimproved |

| Composite indicator | Mozambique | Ghana | Burkina | Andhra Pradesh |
|---|---|---|---|---|
| *Access* | **Crowding**<br>500 people | **Distance**<br>< 500 m<br>**Crowding**<br>BH <300 people<br>W < 150 people<br>SP < 300 people | **Distance**<br><1000 m point source<br><500 m mini system<br>**Crowding**<br>SP < 300 people<br>BP < 10 people<br>PDC < 100 people<br>BF < 1000 people | **Distance**<br>**Crowding**<br>**Social exclusion** |
| *Quantity* | **Norm**: 20 l/c/d<br>Sub-standard:<br>10-20 l/c/d | PS - 20 l/p/d<br>HC - 60 l/p/d | PS - 20 l/c/d<br>HC - 40-60 l/c/d | 40l/c/d |
| *Quality* | **WHO** | **GS standards** | **WHO guidelines** | **Fluoride** |
| *Reliability* | **% time available**<br>>11 months | **% time available**<br>>95% | ??? | Households have access to at lest two separate systems |



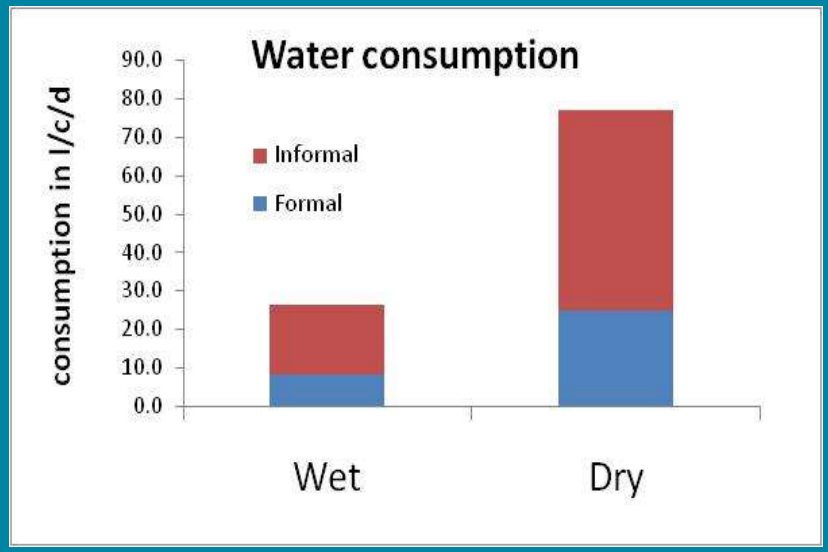

Coverage:

Access (population): Yes

Access (distance): No

Reliability: No??? (none working when visited)

Quantity: No/Yes?? (average wet/dry – domestic/non-domestic)



# Evidence of the superiority of MUS?

- We find 'non-domestic' (domestic+!) happening everywhere: *MUS as a paradigm*
  - We find 'traditional/non-domestic sources' being used for domestic; domestic sources for 'non-domestic'
  - **Costs of what?**
  - **Benefits of what?!**
- **Tentative approach: Costs of achieving a given level of service**
- **Benefits? Catalyze discussion and thinking around what services are to be delivered**

- Conceptualization of Multiple-Use water Services (MUS), from your own perspective and experiences
- Operationalization or specification of that conceptualization in terms of Cost-Benefit Analysis and performance, and related scientific methodologies
- Evidence and/or hypotheses of the superior performance of MUS compared to single-use approaches with related performance indicators (or be the devil's advocate on any lack of proof and hypothesized disadvantages)