Rural Water Supply Construction

Inter Aide Standards and Innovations
1) Springs -

Frequently observed Weaknesses

- **No Upstream Protection**
- **No Easy Access**
- **No Washout**
- **Surface capping: light excavation:**
  Water quality not guaranteed

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Spring catchment – Example of Inter Aide Standards

- **Spring Outside View:**
  Close protection and catchment perimeter fenced (against animals)

- **Spring Catchment Box Inside View**
Springs – Inter Aide Standards

Deep Excavation to insure:
- Water preferential path is toward spring Box
- Good spring water quality

Vegetative or Constructed upstream protection (Fence not visible on this photo)

Removable overflow pipe serve as simple and robust washout for easy cleaning operations

Strong Metallic door with padlock allows easy access for regular cleaning the of spring catchment box.
2) Network – classical design in rural areas

If pipe to Water Point (WP) 5 is broken → The entire system fails

Large pipeline are needed → Expensive investment & Difficult to maintain

Storage is shared between far away communities → No ownership towards water savings (faucets remains open)

Very difficult to have water in WP → when the other WP faucets are open, all water goes downstream

Pressure on the WP5 is huge → Risk of faucets and pipes burst

Spring Box
Head Tank
WP 1
WP 2
WP 3
WP 4
WP 5
Network – Inter Aide Design

- **Spring Box**
- **Distribution Box**
- **Reservoir WP 1**
- **Reservoir WP 2**
- **Distribution Box**
- **Reservoir WP 3**
- **Reservoir WP 4**
- **Reservoir WP 5**

**Distribution Box:**
Perfect repartition of Water adjusted to each WP population need → Limit conflict between communities

- Small diameter pipe in parallels → Easy to Maintain
- If one pipe brake → Only this WP is non functional

- No pipe are under high pressure
- Each community manage its storage → Real interest to maintain properly and close the faucets (water saving)

- Easy to Maintain
3) WP – Classical Design Weaknesses

Masonry construction → Low resistance to water erosion → Not durable

No cattle trough → Permanence of cattle water borne diseases

No Reception for Water → Unclean & Rapid WP deterioration
WP – Inter Aide Design

Wash Table for laundry

Evacuation funnel to cattle trough →
Clean & efficient reuse of water

Strong casted concrete construction →
Resistant & durable

Access to clean water in cattle trough →
Improved breeding performances