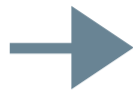


GUARDIANS OF WATER

/Transforming water carriers into water experts!

Previous experience with development projects

- Development of social innovation toolkit for UNICEF Uganda, Innovation Center, Kampala
- Waste management project: Kumasi, Ghana
- Talkoot Taxi: Workshops and toolkit development to inspire bottom up developments, Cape Town



OUR APPROACH TO DEVELOPMENT DESIGN:



Providing tools



Bottom up development



Empowerment and ownership

RESEARCH AND INSIGHTS

/mapping out the issue and finding possibilities

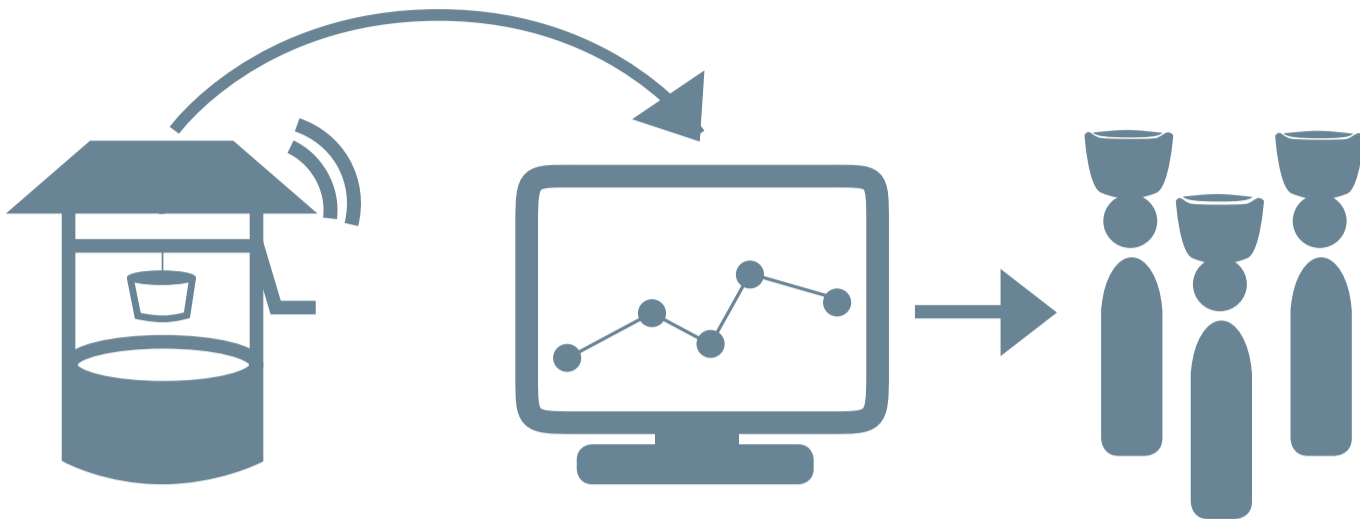
Typical water supplies (with larger walking distance):

- Watersource** (General category)
- Improved watersource** (Green bar): public tap, tubewell, protected dug well
- Unimproved watersources** (Red bar): unprotected dug well, surface water

A few waterfacts and other development projects:

- Cheap water purification systems** has been developed (ex by activated carbon), but **not distributed, no data**
- Insufficient data** for developing infrastructure. No tools for managing or monitoring water supplies
- Top-down developments** improves water status, but it does **not empower** the water carriers! → **No social change!**
- Product developments**, ex hipporoller. Does not inspire **social change**. We need more than a product!
- Drought and water scarcity** makes **distance longer**
- 25 percent** of all **deaths** in children under the age of five are attributed to diarrhea caused of **polluted water**
- Sub-Saharan Africa alone spends **40 billion hours** a year collecting water. In most societies, **women** are responsible of water collection
- Effect on school attendance: **Low literacy** for water-carriers, mainly women. **No school = no job. Low social mobility for women**
- Stress** from taking water from possibly polluted source and from not knowing when and where they should find the next water source. **Mental fatigue** and **Physical fatigue** from walking

PROVIDING DATA AS A TOOL FOR LOCAL DEVELOPMENT AND WATER MANAGEMENT!



Bottom up developments




Empowering and Creating social change



Tool for development and water management

BENEFITS FOR WATER EXPERTS AND VILLAGES



- Avoid unnecessary trips** to a dried out source
- Reduce uncertainty** and worries about water supply status and pollution
- Women becomes the **water experts!** Due to future water scarcity, their knowledge become a **valuable resource!**
- Free access to the data, in exchange for helping the Guardians of water distribute water sensors.



- Better water security
- Enabling local development and startups



WATER CARRIERS BECOME WATER EXPERTS!

GUARDIANS OF WATER

selling data to NGO's and Government funds more sensors to expand the network

BENEFITS FOR NGOS AND GOVERNMENT

NGO

As this project will increase **awareness** in the local communities, NGO's can leverage these communities as strong **partners** in water development projects



Data on who has worst access can help government make decisions on new infrastructure, aiding those in need first

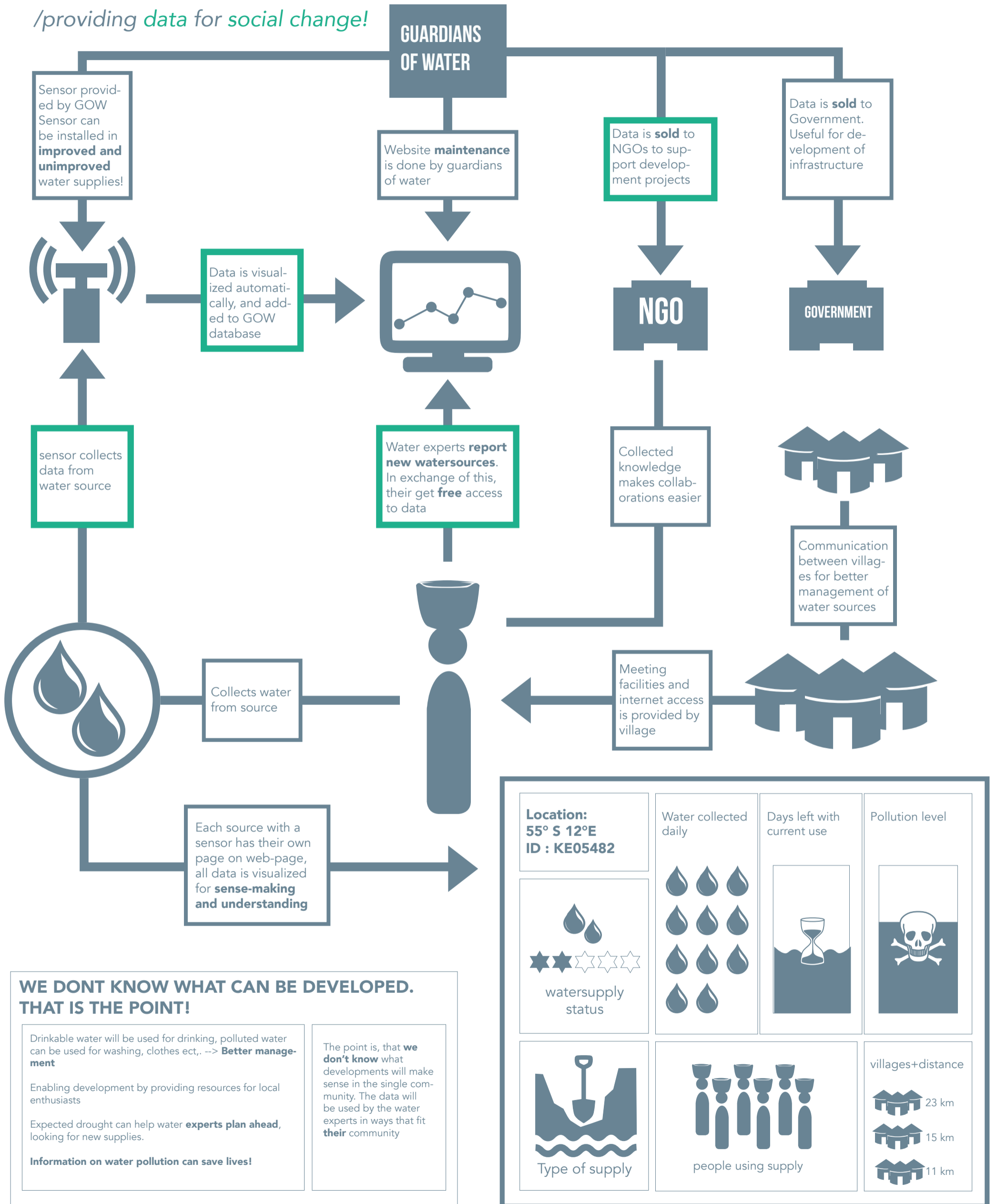
GOVERNMENT

Stable polluted source would be a good place to provide purification systems.

Data on who does **not** has access to clean water **or a purification system**, for distribution of purification systems with highest impact

SERVICE MAP

/providing data for social change!



WE DONT KNOW WHAT CAN BE DEVELOPED. THAT IS THE POINT!

Drinkable water will be used for drinking, polluted water can be used for washing, clothes ect., -> **Better management**

Enabling development by providing resources for local enthusiasts

Expected drought can help water **experts plan ahead**, looking for new supplies.

Information on water pollution can save lives!

The point is, that **we don't know** what developments will make sense in the single community. The data will be used by the water experts in ways that fit **their** community

ACCESS and WATER DATA

/Transforming *water carriers* into *water experts*!



ACCESS

Access to the "Guardians of Water"-webpage is provided by **local helper** in village!

Water experts have **meetings** to discuss water situation and management



WATER SUPPLY DATA

<p>Water collected daily</p>	<p>Days left with current use</p>	<p>Pollution level</p>	<p>★ ★ ☆ ☆ ☆</p> <p>watersupply status</p>	<p>Type of supply</p>
<p>people using supply</p>	<p>villages+distance</p> 23 km 15 km 11 km	<div style="border: 2px solid black; padding: 10px;"> <h3>MAP</h3> <p style="text-align: right;">55° S 12°E</p> </div>		

MAP LEGEND

Water supplies:

- Clean and stable
- Clean and unstable, Drinkable
- Polluted, stable, undrinkable
- Highly polluted, unstable, undrinkable
- Unknown, newly reported

Villages:

- Water purification system **available** in village
- Water purification system **not available** in village
- Water purification **unknown**

ADDING NEW WATER SUPPLIES

Water expert reports new water supply

GOW provides sensor for water supply