

The Zimbabwe Bush Pump

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Interaction Design

2.2 VIAD: Design Methodologie

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Abbildung 1: The Zimbabwe Bush Pump in use (Aquamor.info)

Why do products travel several times around the world before we use them?
How is it possible to make a good designed product which is local produced and brings the local community together?

Here is an answer. The Zimbabwe Bush Pump solved both. This water pump device with the name “the Zimbabwe Bush Pump ‘B’ type” is designed, produced and also built with material that originates from Zimbabwe. A huge advantage is that all the spare parts will always be at hand. So it guarantees a flawless operation.

Description of the pump

“The Bush Pump operates on a lift pump principle, the reciprocating action being transferred from the pump head to the cylinder through a series of galvanised steel pump rods running inside a steel pipe (rising main). Most rising mains are made from 50 mm galvanised iron pipe, although 40 mm pipe is becoming more common. Most rods are made of 16 mm mild steel although 12 mm is also used. Pump cylinders are made of brass and are either 50 mm or 75 mm in diameter. The piston and footvalves are also made of brass. Most piston valves [as well as the seal] are made of leather, but neoprene is becoming more common. “ (Mol)

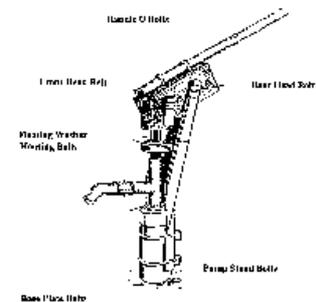


Abbildung 2: Description of the pump

The “Vonder Rig”

Before a Zimbabwe Bush Pump can be built a deep borehole has to be drilled into the ground, to get access to the groundwater. For that part Mr. Erwin Von Elling invented, patented and manufactured the so called “Vonder Rig”. It is a very simple system which can easily set up and operated by a few persons. One of the greatest advantages of this drilling rig is, that it is possible to drill this hole at a village level with the local people. In Zimbabwe the rig is fully operated under control of the villagers, which has an influence on the success of the final installation.



Abbildung 3: A sketch of the "Vonder Rig"

The social aspects

The great social aspects of this system is, that the community not only gets a pump, it also gets instructions for how to install and support the pump. Another reason why it is good for the villages is that with that water pump the water quality can be raised quite much. So the possibilities of a bacterial disease get reduced a lot.

The social different in Zimbabwe is huge between those who have plumbing in their houses, those who have water in their villages and those who have to walk several kilometres to get it. So this pump builds the nation. It makes the social connection stronger.

The national standard

This pump has become a national standard. Due its manufacturing in Zimbabwe it is easy to service, spare parts are easy to become and to operate. It not only works for getting fresh water for the people it also improves the national health, strengthens the community, the nation but there are also cases in which the project can fail.

While the ways in which the pump works are many – it makes water, health,

community, a nation – there are just as many ways in which it may fail. If the water pump fails in settling the communities needs, the people will not take care after the pump and will leave it or maybe destroy it.

Who is the owner?

The design and the experience are shared with other producers. That way it is possible to develop the product together. This sharing model brings the pump in the public domain. No company, no person has the command over it. It is a pump that is a device installed by the community, it improves the health and it builds the nation. The big success of the pump is that the owner is not a company, the owners are the people. Because of this, the people need to pay for the pump, but they only the pump, that means the materials and the production costs. All the costs for rights, name and fees fall away. So the price for the pump is its real price, that is how the people have access to an affordable technology.

Literaturverzeichnis

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