

Business innovations for scaling-up water and sanitation services in low-income countries

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What does the Business innovation group do at Eawag?

Sanitation projects

Re-inventing the toilet challenge

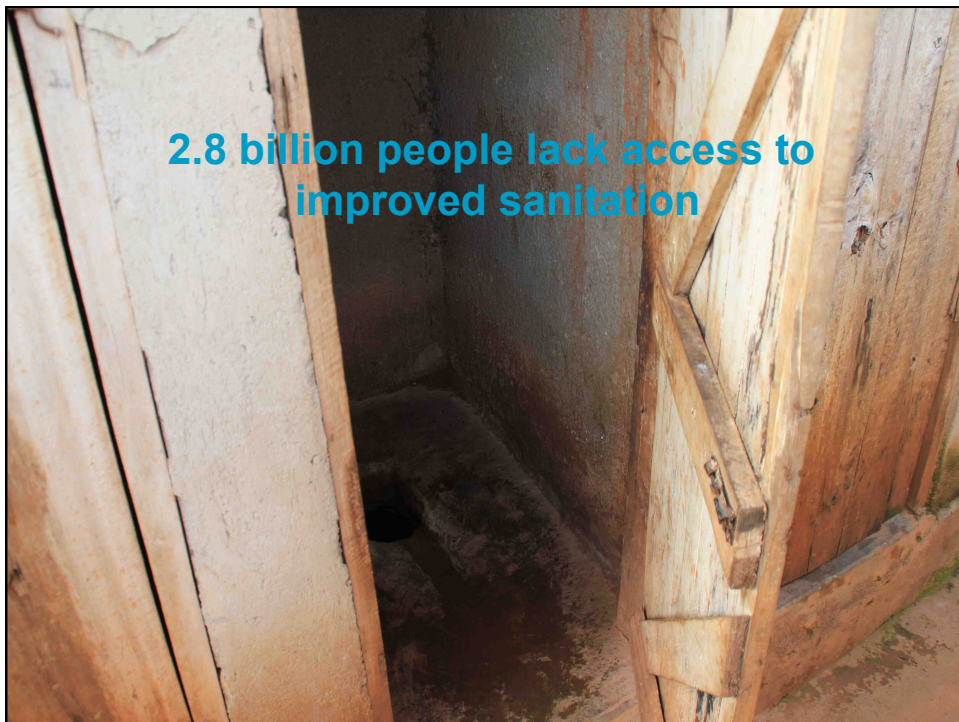


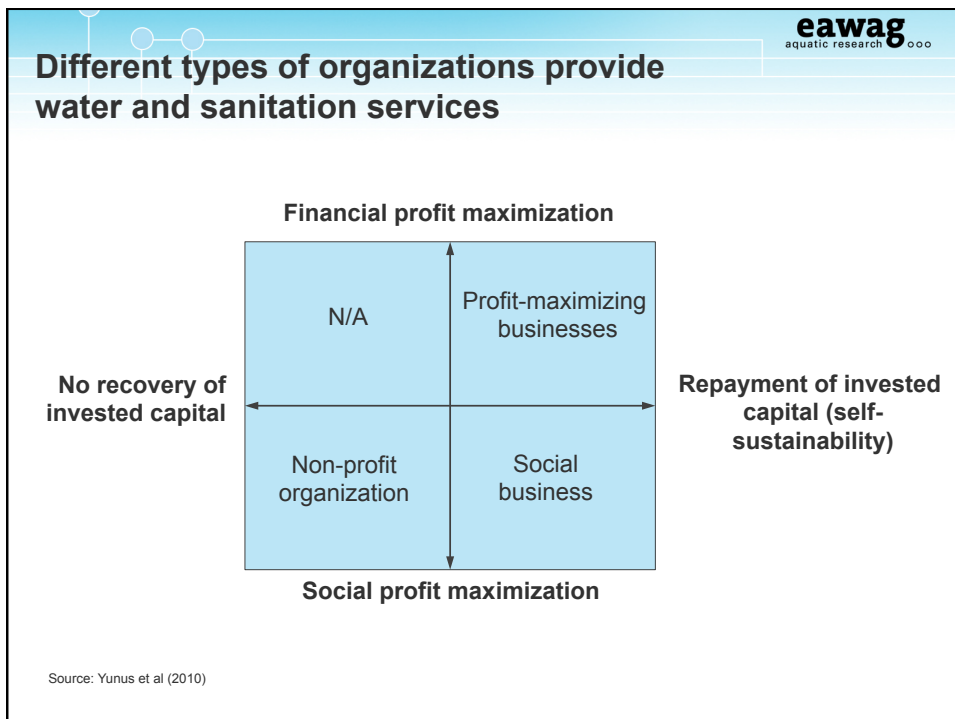
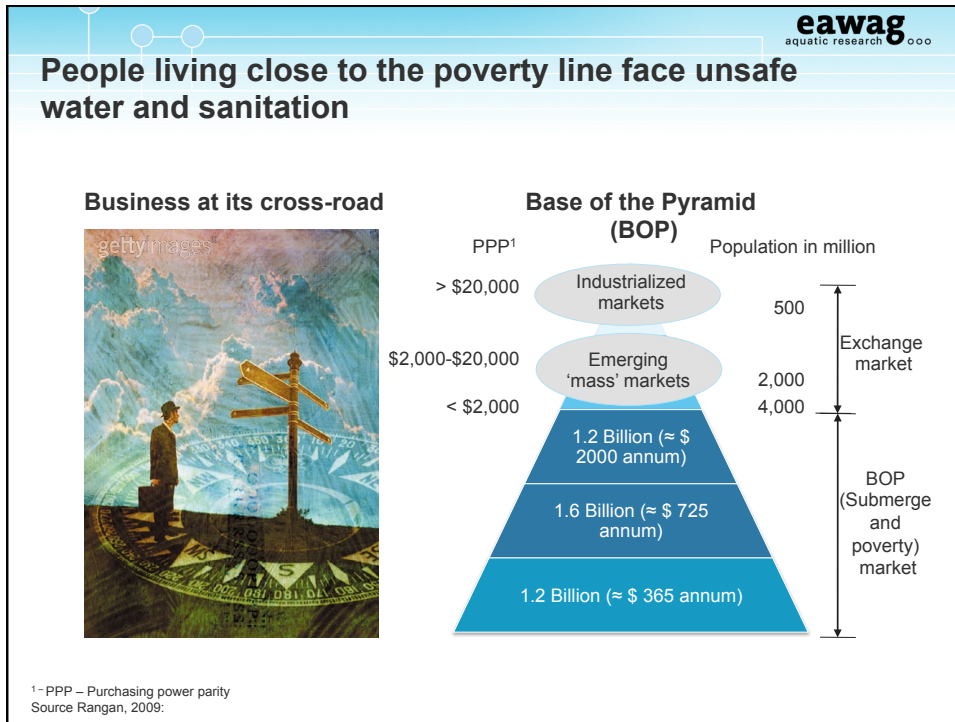
Resource Recovery & Reuse



Business models for urine, feces, and fecal sludge







Osho provides safe water in the Ethiopian rift valley as a non-profit organization



Sanergy provides a safe and affordable sanitation option in informal settlements in Nairobi



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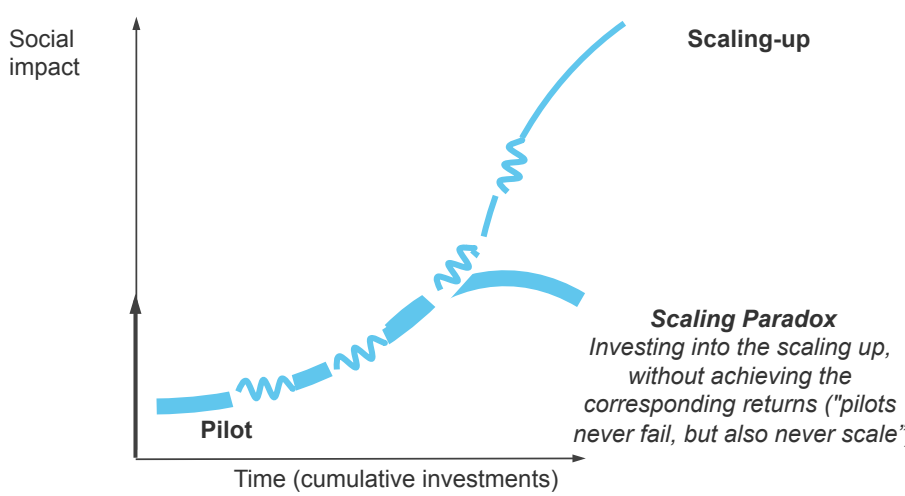
Unilever sells more than 4 million household filters per year



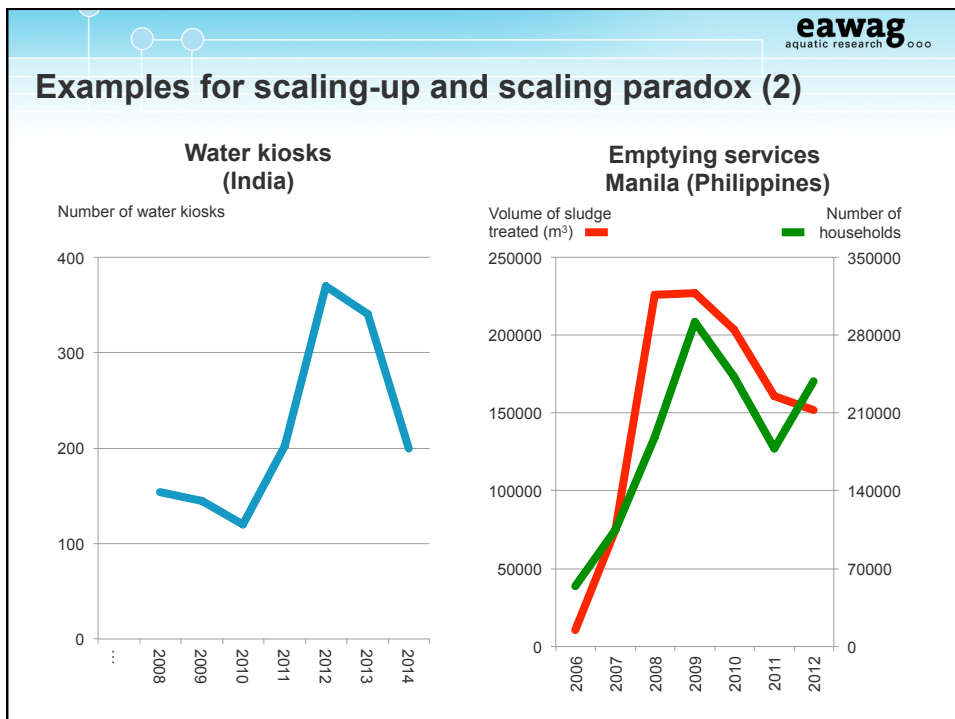
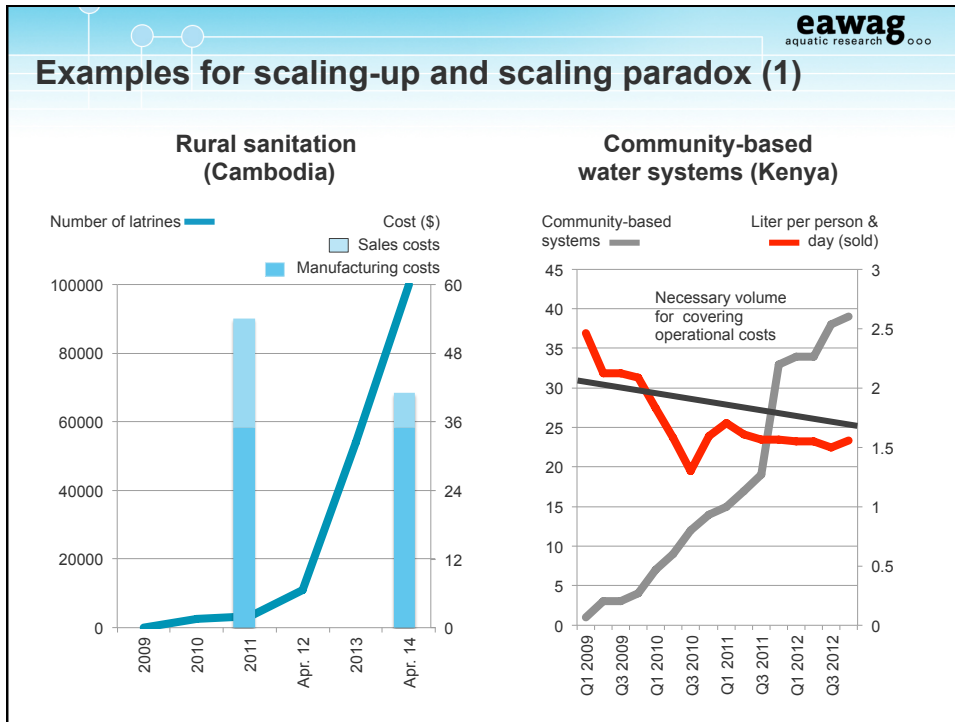
The image shows four different models of Pureit water purifiers. From left to right: a blue and white model, a red and white model, a white and blue model, and a red and white model. Each model has a water tap and a filter compartment. The Pureit logo is visible on each unit.

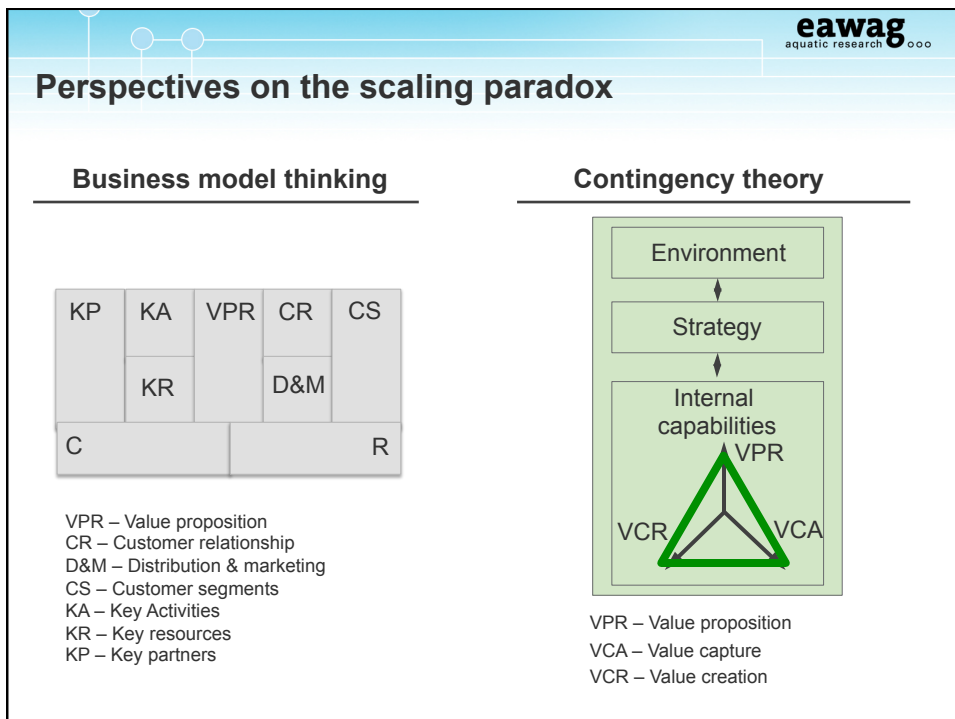
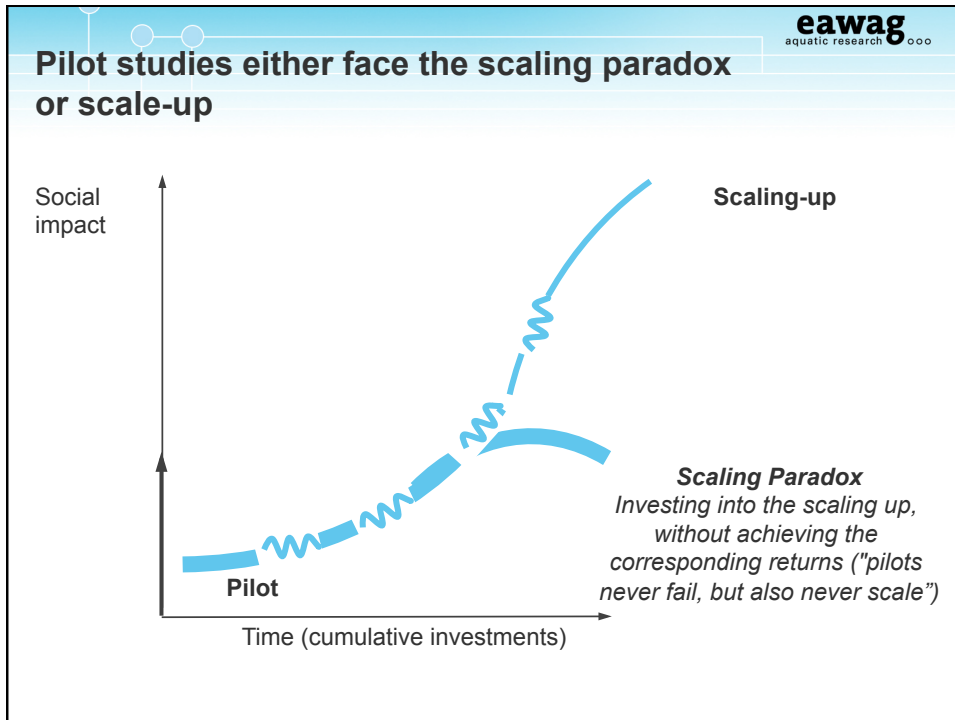
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Pilot studies either face the scaling paradox or scale-up



The graph plots Social impact on the vertical axis against Time (cumulative investments) on the horizontal axis. The curve starts at the origin, rises through a 'Pilot' phase, then levels off into a plateau. A bracket under this plateau is labeled 'Scaling Paradox' with the text: 'Investing into the scaling up, without achieving the corresponding returns ("pilots never fail, but also never scale")'. After the plateau, the curve rises again through a 'Scaling-up' phase.





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Expansion and growth explain the scaling process

| Expansion | Growth |
|---|---|
| <ul style="list-style-type: none"> - NPOs & social entrepreneurs increasing social impact - Transfer to other geographical areas - Replication: reproducing the service delivery model - Adaptation: adjusting the service model to new environment | <ul style="list-style-type: none"> - Classic Theory of the Growth of the Firm - Growth is a process of capability development - Early growth and later growth stages - Capabilities become rigidities and lead to inconsistent capability configuration |

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SOIL faces challenges in replicating and expanding the pilot phase

Pilot phase (Cap Haitian)

- + Strong demand (250 household toilets)
- + Bi-weekly poop collection
- + Service fee \$5¹
- + Compost sales \$2¹
- + Toilet product costs (\$200 to 35)

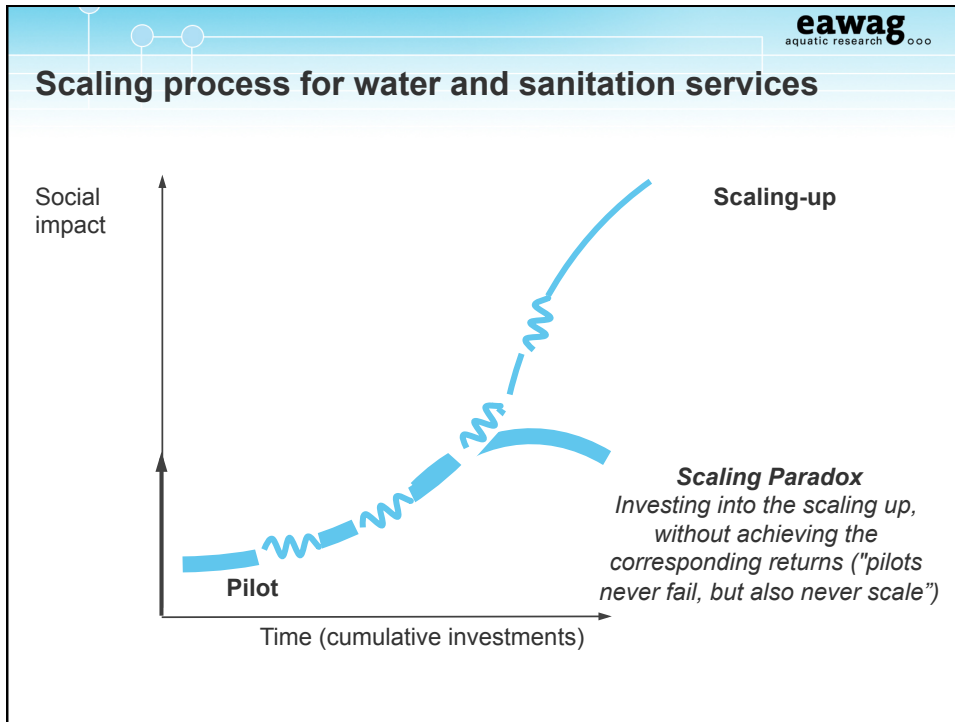
- Payment rate (87% to 35%¹)
- Compost price above market price
- Costs >> Revenues

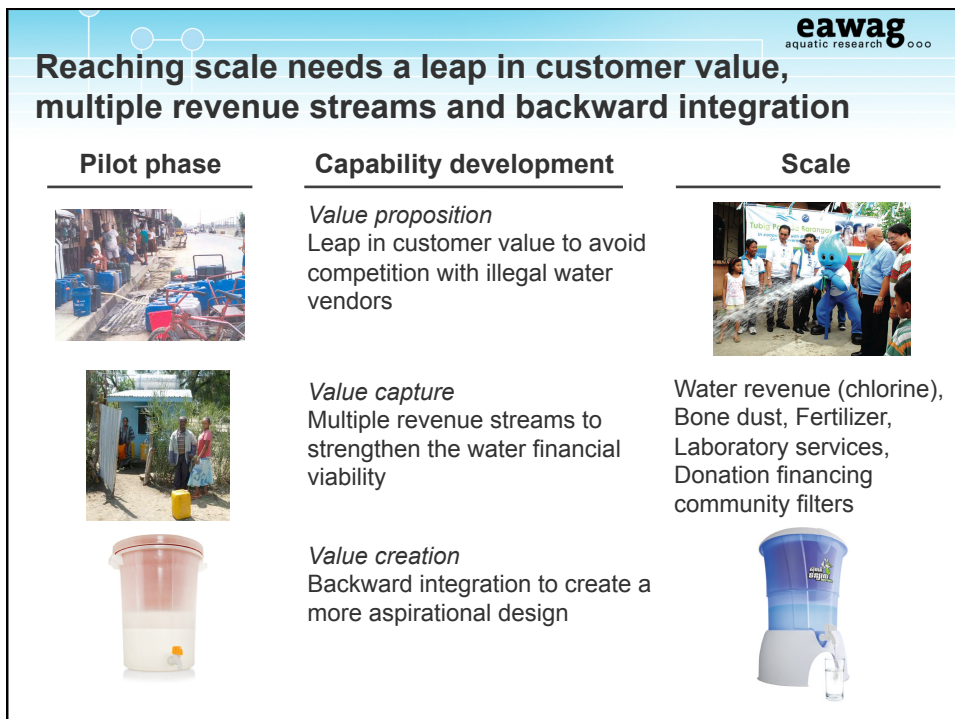
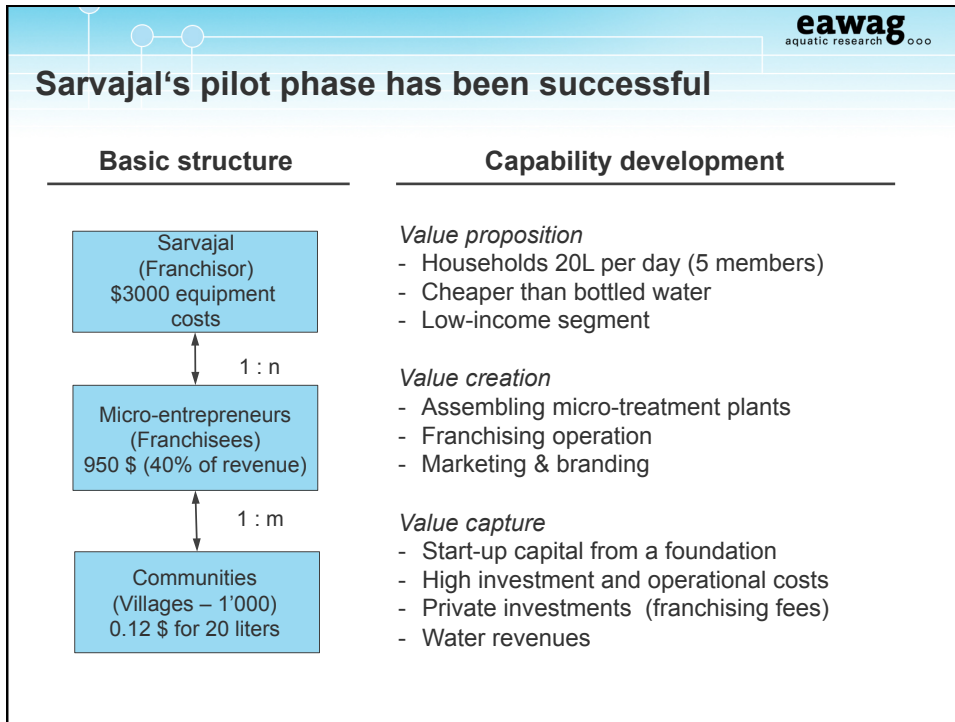
Replication (Port-Au-Prince)

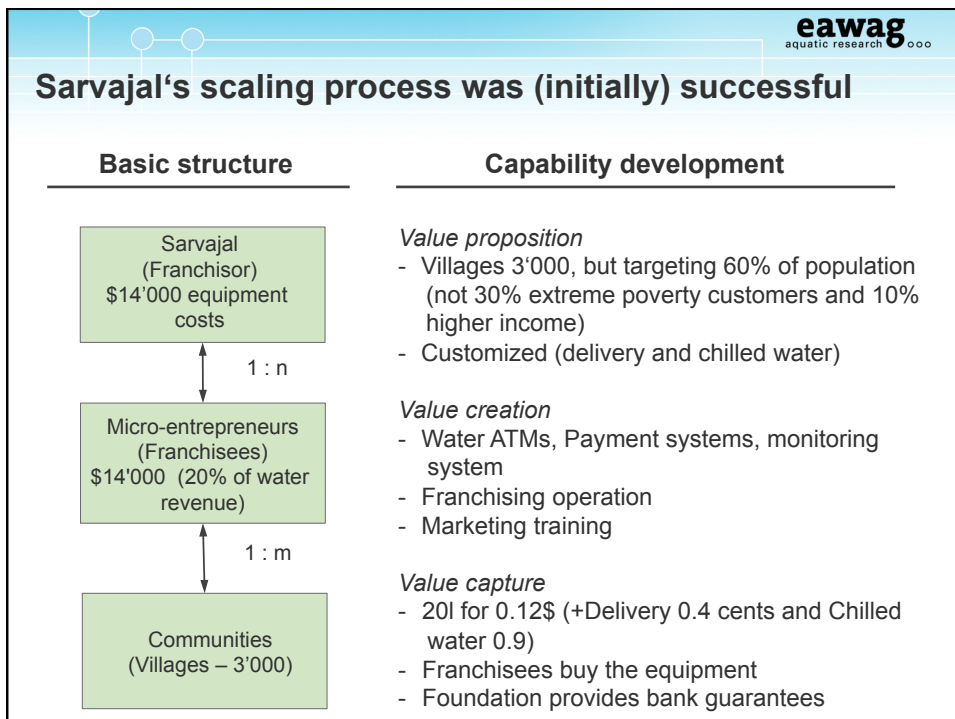
- Income levels?
- Shared versus household toilets?
- Collection frequency?
- Production costs?

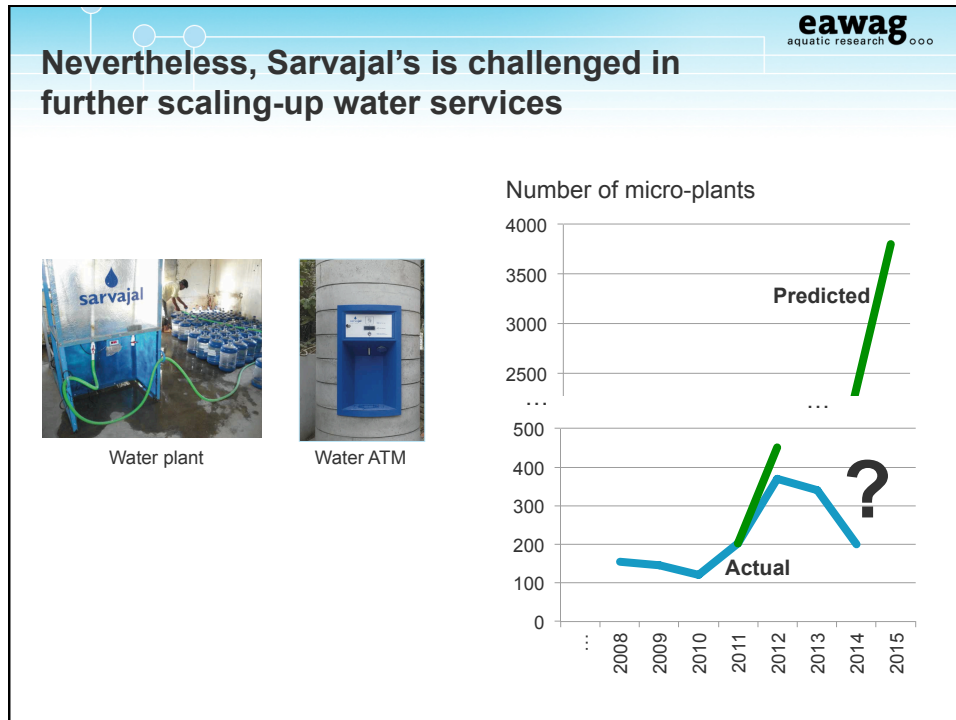
Expansion (Cap Haitian)

- Securing payments?
- Cost reduction by more household toilets?
- Externalizing collection?









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Lessons learned scaling water and sanitation services

- Successful pilot phase does not guarantee the success of the scaling process
- Capabilities in the pilot phase inhibit the formation of capabilities for the scaling process
- Capabilities for creating a leap in customer value, generation of multiple revenue streams, and backward integration (externalize downstream activities)
- Continuous success in scaling still has to be proven, and a better understanding of the necessary management decisions is necessary