

*Udine, 29 Aprile 2019*

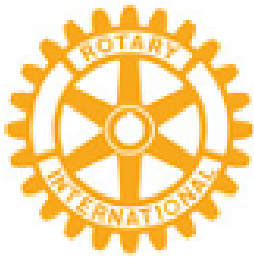
**Dai canali di Delft...  
...alle cisterne di Cochabamba...**





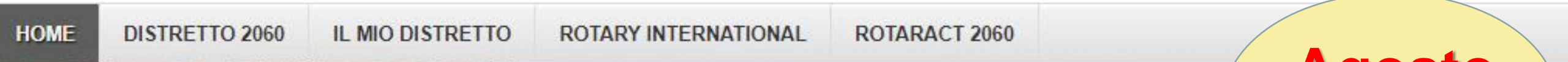
# Rotary

Distretto 2060



**Rotary Club «Udine Patriarcato»**

“The Rotary Scholarships for Water and Sanitation Professionals have been designed to promote long-term productive relationships between Rotarians and highly skilled water and sanitation professionals in their communities” (Rotary Foundation).



**Agosto  
2017**





# IHE Delft

## Institute for Water Education

- The largest international graduate water education facility in the world
- Since 1957 it has provided education to more than 15,000 water professionals from over 162 countries
- Education, training and scientific research
- Water sector capacity development
- Building partnership and networking
- Policy forum on water – for UNESCO member states and other stakeholders.





IHE  
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Institute for Water Education







Presentazione al  
Rotary Club  
“Den Haag –  
Voorhout”

L'Aia, Olanda

**Febbraio  
2018**





**Maggio  
2018**



>	9.0	1	Module: MSc research, thesis and defence M2927	Credits 36	Period 2017/2018 term 15
>	Pass	1	Module: Thesis Research Proposal Development for WMG M3236	Credits 9	Period 2017/2018 term 14
>	7.9	1	Module: Groupwork WMG M3331	Credits 5	Period 2017/2018 term 13
>	7.9	1	Module: Institutional Analysis M3234	Credits 5	Period 2017/2018 term 10
>	Pass	1	Module: Summer Course - Water Diplomacy M3323	Credits 1	Period 2017/2018 term 12
>	8.2	1	Module: Decentralised Water Supply and Sanitation M2810	Credits 5	Period 2017/2018 term 11
>	8.2	1	Module: International Fieldwork M3045	Credits 5	Period 2017/2018 term 9
>	7.3	1	Module: Management of Irrigation and Drainage Systems M3203	Credits 5	Period 2017/2018 term 8
>	8.9	1	Module: Water Conflict Management II M3070	Credits 5	Period 2017/2018 term 7
>	8.4	1	Module: Water and Environmental Law M1003	Credits 5	Period 2017/2018 term 5
>	8.3	1	Module: Managing Water Organisations M3170	Credits 5	Period 2017/2018 term 6
>	8.0	1	Module: Water Economics M3227	Credits 5	Period 2017/2018 term 4
>	7.4	1	Module: Water Governance M3228	Credits 5	Period 2017/2018 term 3
>	7.7	1	Module: The Water Resources System M3182	Credits 5	Period 2017/2018 term 2
>	8.4	1	Module: Principles of Integrated Water Resources Management M3181	Credits 5	Period 2017/2018 term 1



**Agosto  
2018**



# Socio-technical tinkering with rainwater harvesting infrastructure, the case of Cochabamba, Bolivia

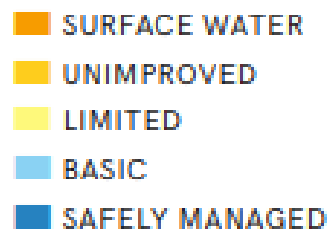
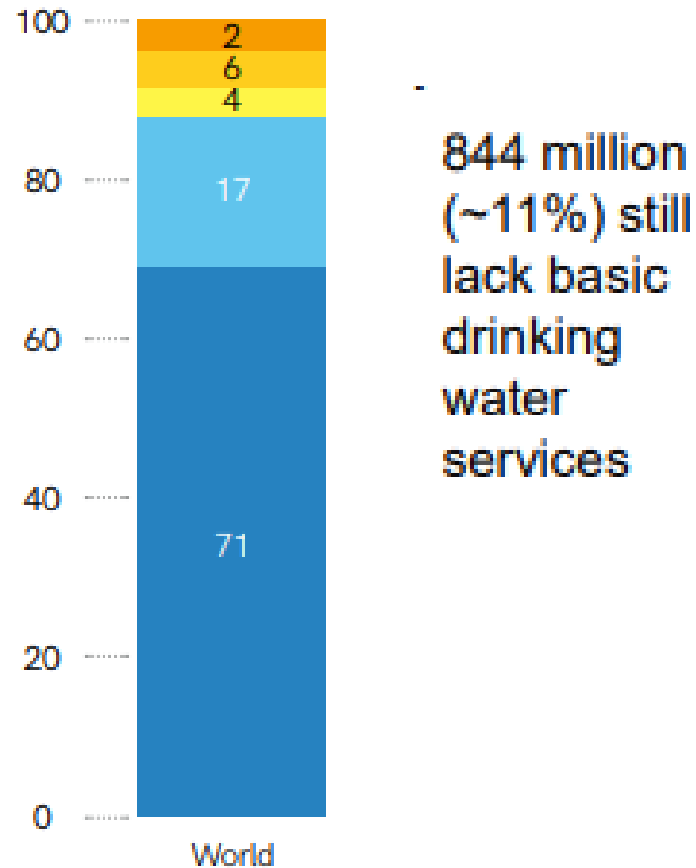
**Novembre  
2018**

**MSc Thesis**  
**Stefano Archidiacono**  
10<sup>th</sup> April 2019

**Examination Committee**  
Dr. Margreet Zwarteveen  
Dr. Jeltsje Kemerink-Seyoum  
Dr. Janwillem Liebrand



# Access to Drinking Water



WHO/Unicef, 2017

## Problem Statement

Access to water was historically viewed as an engineering challenge, appropriate designed and developed infrastructure would result in improved access (Batchelor et al., 2011).

Results of decentralized infrastructural interventions are in many cases disappointing in terms of sustainable and equitable access to water (Whittington, 2009; Yacoob, 1990).

Decentralized initiatives that fail to internalize the complexity of socio-technical interrelations tend to trigger poor outcomes (Mansuri and Vijayendra, 2013).

According to development orthodoxy, participation and sense of ownership grant sustainability of decentralized interventions (Whittington, 2009; Yacoob, 1990).

There is little empirical evidence on how sense of ownership emerges and whether it increases sustainability (Marks and Davis, 2012; Marks et al., 2013).



Water infrastructure conceptualized and analysed as part of complex socio-technical systems that consist of material artefacts as well as social and cultural norms, evolving knowledge and know-how and governance structures (Larkin, 2013; Obertreis et al., 2016)

“An articulation of materialities with institutional actors, legal regimes, policies, and knowledge practices that is constantly in formation across space and time” (Anand et al., 2018 p.12)

Contingent and experimental nature of water infrastructure (Jensen and Morita, 2016)



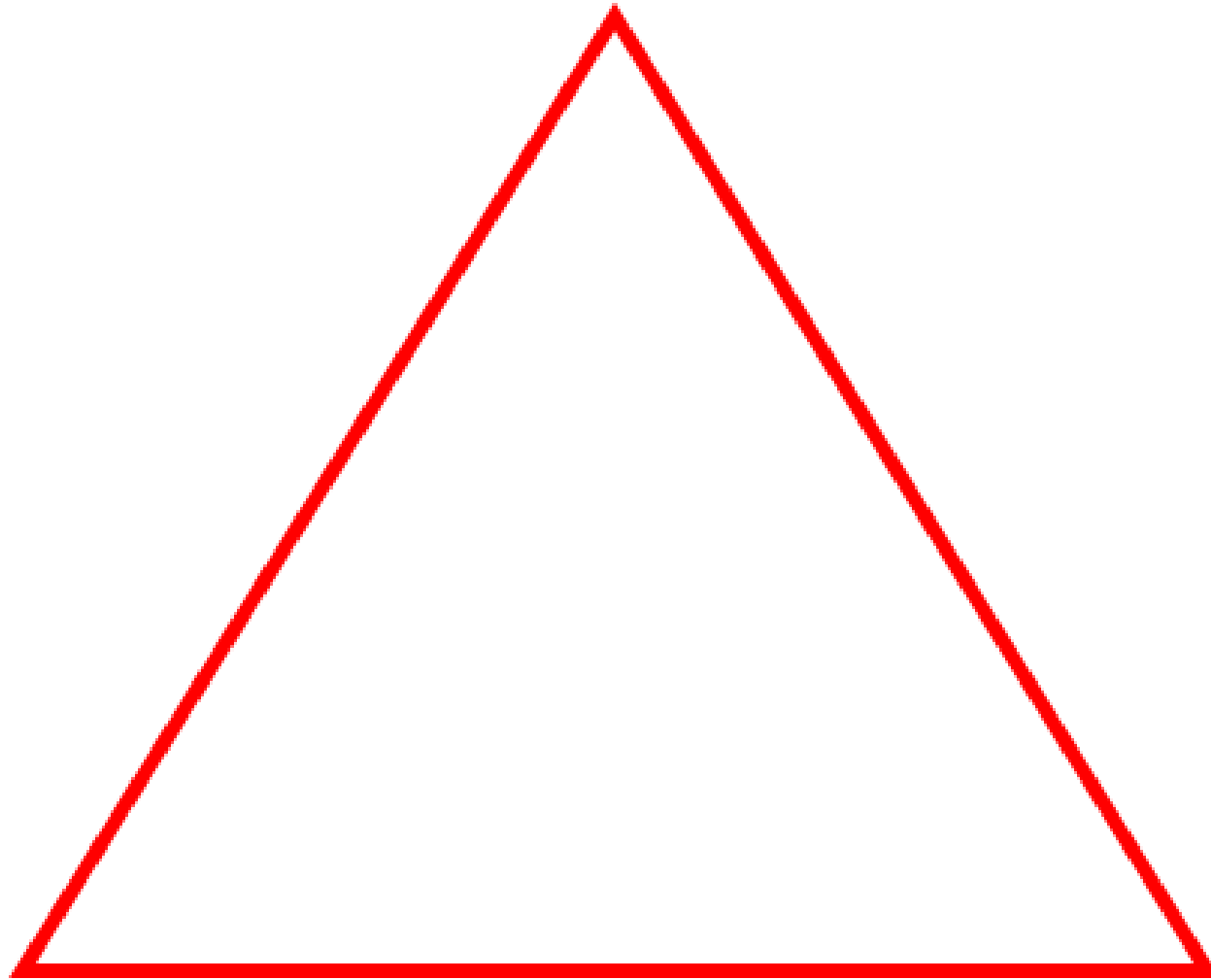
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**Infrastructure**



**Organization**

**Normative**







# Conclusions

- Questioning simple assumptions on participation in terms of cash and labour > hydraulic property relations and sustainability
- Ideas, emotions and expectations matter
- Engage with what participation entails and how unfold in different socio-cultural contexts
  - Disparate in authority
  - Social identities and (gendered) division of roles
  - Customary and routinized practices
  - Political expectations and meanings
- Understand which spaces exist for people to engage in:
  - Different approaches of infrastructural interventions
  - Different form and materiality of water infrastructure






# Recommendations

- Think about the relations between the infrastructural system, the normative structure and the organizational arrangements from the very beginning of an infrastructural intervention
- Do not black-box participation. Engage with the complexity of power dynamics, routinized and customary practices and social identities and division of roles
- Discourses and practices of external actors matter
- Relations of hydraulic property are dynamics. Think about the importance of follow-up of infrastructural interventions and longer term engagement







IHE Delft  Graduation Ceremony 2019

**Aprile  
2019**



# My commitments for the future...

- Go back to Cochabamba to work with marginalized community to improve access to water and sanitation
- Research and promote small scale decentralized solutions for water-related problems
- Research and promote rainwater harvesting and decentralized storage towards universal access to water
- Build partnerships and bridges of solidarity for global challenges on water and sanitation

