# The Future of Sanitation Education

Farewell symposium Håkan Jönsson
*The Future of Sanitation*
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# Teaching in sanitation so far

- When looking ahead, it is also good to look back
- Who works in sanitation?
  - Civil engineers (“Concrete!”), Sanitary Engineers
  - Environmental engineers
  - Agricultural engineers; agronomists
  - Public health experts
  - Medical doctors
  - Architects

➢ Still difficult to study “Sanitation”..!

# Teaching in sanitation so far

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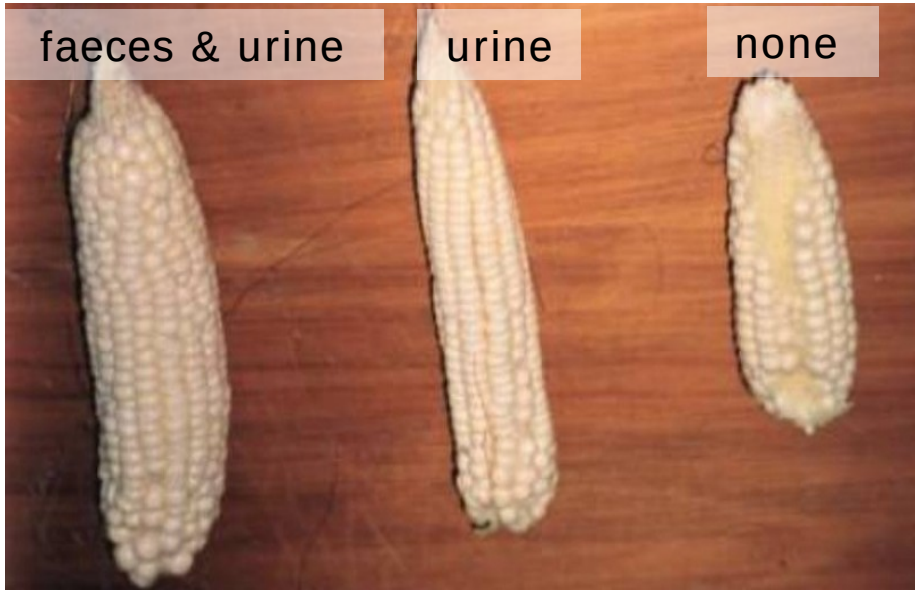
# Sources of inspiration for teaching in New Sanitation

- Ecosan online course – Elisabeth von Münch
- In NL: New Sanitation working group
- Real push forward: International Year of Sanitation 2008
- SuSanA network..!
- Famous ecosan pics:

# 1: Agricultural value

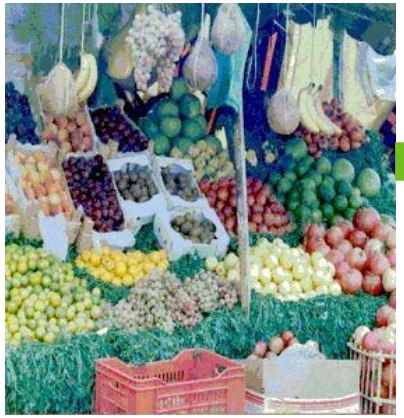



Maize (corn)


after one week without water


*Also seems to help as insecticide:*
*http://www.youtube.com/watch?v=5xo4hKEcFeM*

# 2: Exactly how valuable?



**N = 2,8 kg**
**P = 0,4 kg**
**K ~ 1,3 kg**
**Per person**
**per year**

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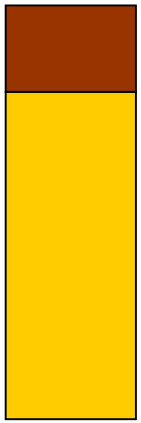

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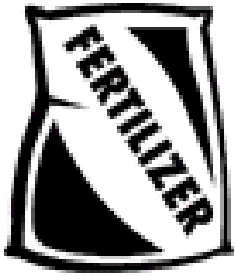
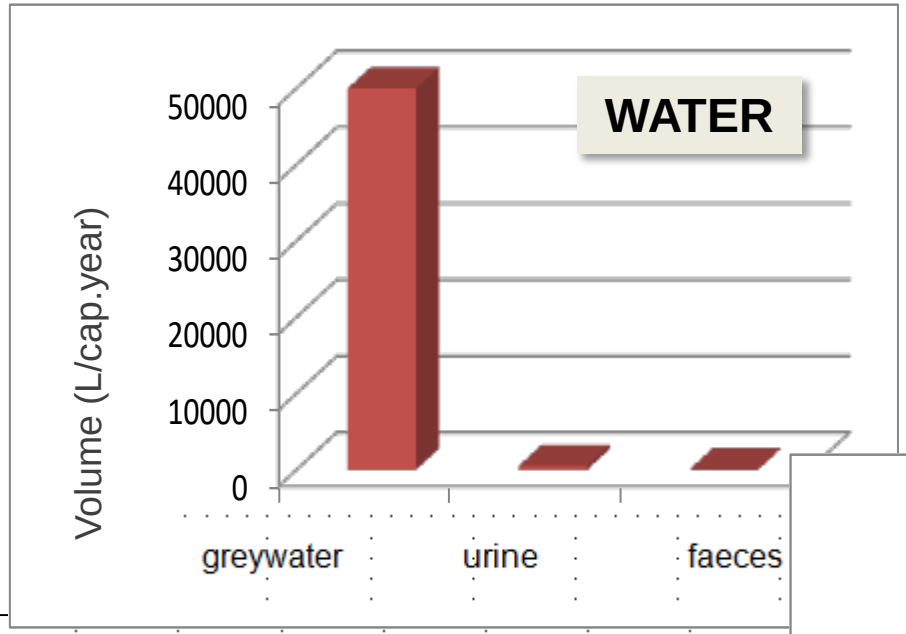
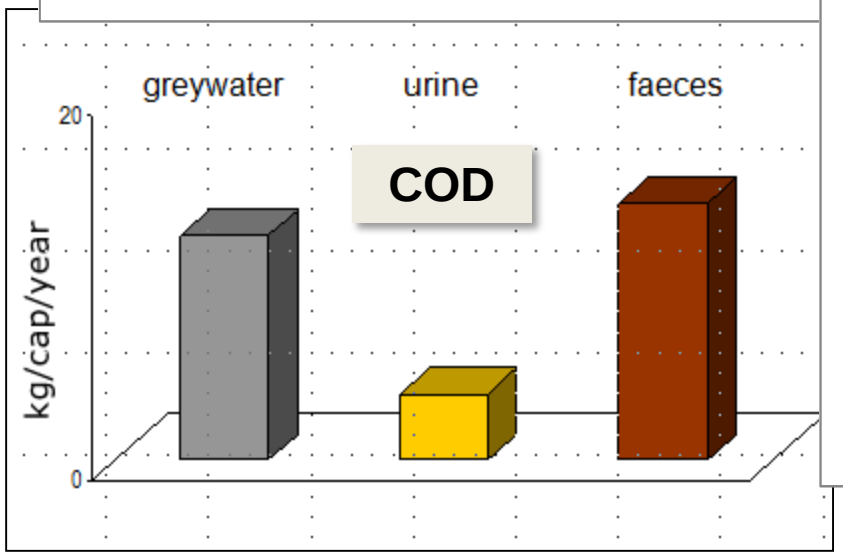


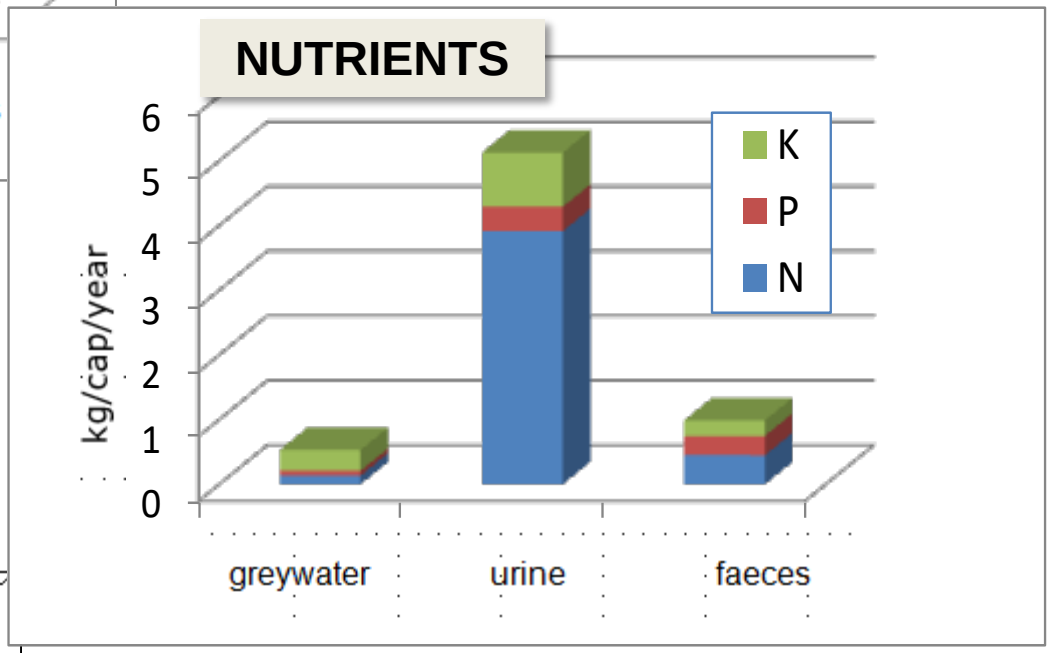

**Urea = 6 kg**
**TSP = 2 kg**
**KCl ~ 2,6 kg**

Birg Koom -> more in next class

# 3: Distribution volume and concentrations



# Sources of inspiration for teaching in New Sanitation

- We like to show examples, because they show the wide range of fields covered by sustainable sanitation

- One of my favourites – very much loved by the students as well – Human Excreta Index videos…

# How much is education needed in this field?

- Very, if we want to reach SDGs!
- IWA Report for series of countries to identify capacity gaps:

# Dire need for sanitation experts

IWA 2014

787,200

Shortage of trained water and sanitation professionals **in 10 countries reviewed**

2X – 9X

Growth in staff numbers required per country

Even if coverage is already high, need more staff to keep up with O&M

Women only make up 17% of the work force

Source: IWA 2014: *An Avoidable Crisis: WASH Human Resource capacity gaps in 15 developing economies*

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- IWA Report for series of countries to identify capacity gaps:

Impossible to reach with face to face teaching only!

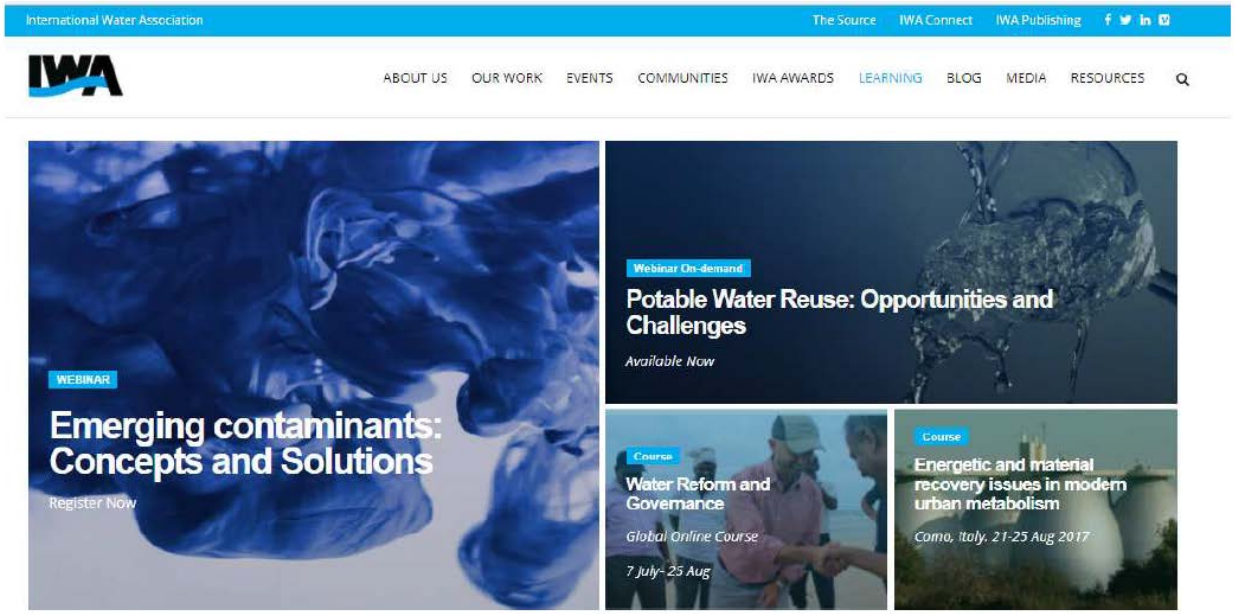
# New developments in [sanitation] teaching

- Massive Open Online Course ware – MOOCs
  - Initially used as advertisement
  - Now gaining more and more ground
  - Mainly introductory
- Online learning
- Blended courses / “flip the class room” / SPOC
- New products: smaller courses with a diploma (GPDP: graduate professional diploma programme) – ca. 20 ECTS
- Full online MSc

# New developments in [sanitation] teaching

- Current initiative: IWA global online learning hub

ONE-STEP LEARNING MARKETPLACE




www. iwa-network.org/iwa-learn

# Also in the class room: activate

- Of what we hear: on average only 10% sticks long term..

Reading

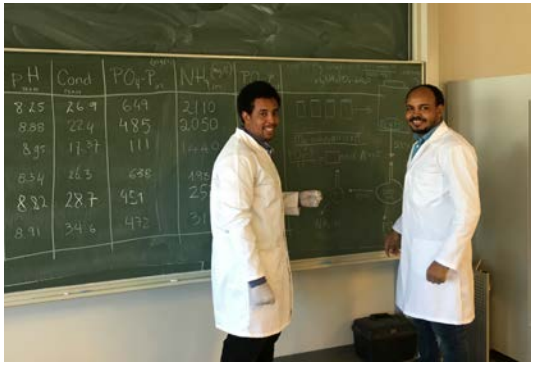
Writing

Doing

Teaching

Learning Pyramid

- Active learning: blend in activities in the class room / mix with more active elements



# Next to transferring knowledge: teach skills

1. Scientific ethics
2. Information literacy
3. Critical thinking
4. Scientific writing
5. Oral presenting, discussing and debating
6. Working in groups

# One-year Masters Programme in Sanitation

UNESCO | IHE DELFT

Masters of Science in Sanitation

# Course Content

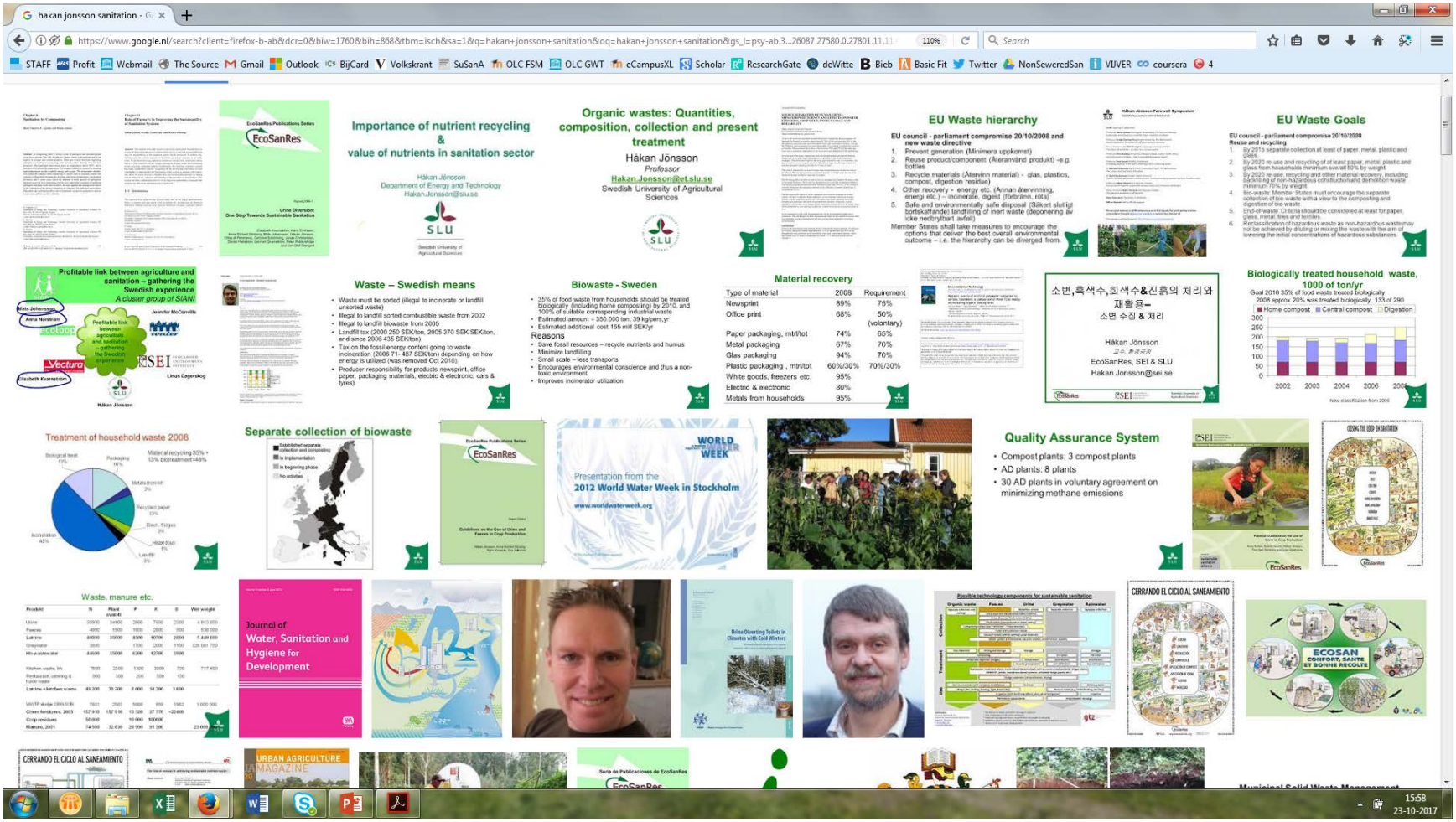
April 2018

| | | |
|---|---|---|
| 1 | Introduction week | 1 week |
| 2 | Sanitation Systems and Services | 2 |
| 3 | Sanitation and Public Health | 2 |
| 4 | Characterization and Analysis of Liquid Wastes | 1 |
| 5 | Treatment processes and technologies | 6 |
| 6 | Sanitation Governance | 3 |
| 7 | Financing and Business Models for Sanitation | 1 |
| 8 | Behaviour change | 2 |
| 9 | Leadership | 1 |
| 10 | Project management, OM&M | 2 |
| 11 | WASH in emergencies | 2 |
| 12 | Groupwork | 1 |
| 13 | Advanced Laboratory Training or Social Science Methods | 2 |

- MSc research phase: 3 months, abroad
- Defense and graduation

# A few words on Håkan

- When googling for Håkan Jönsson Sanitation:



# Thanks….

- Håkan, many thanks for years of inspiration & research output!

- Thank you for listening..