

# Ecological Sanitation A Global Perspective

Cecilia Ruben  
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## MDG 7 & Target 10

*Halve by the year 2015 the proportion  
of people lacking sanitation*

- App. 95,000 HHs need to be provided with sanitation every day – equal to 65 installations/minute
- US\$ 18B/y for new coverage & 54B for maintenance of existing systems 2008-15

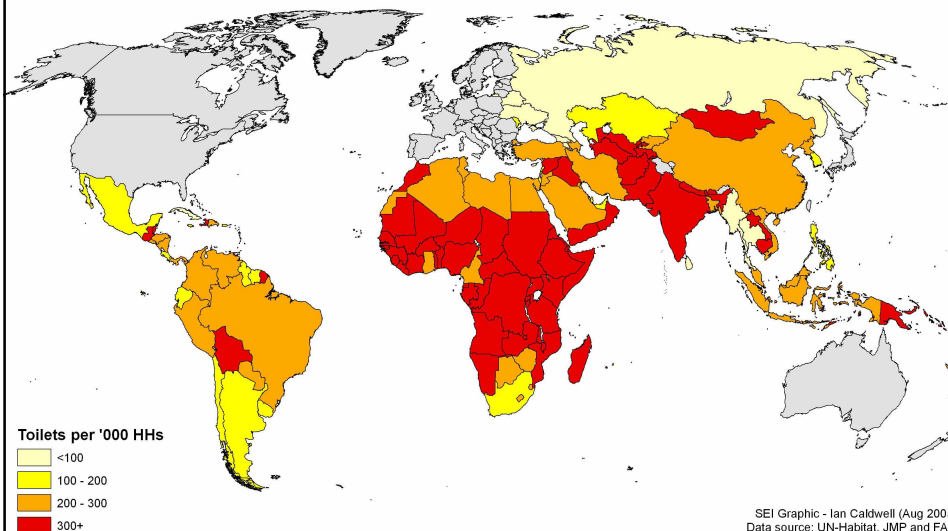


# The Global Sanitation Challenge

- App 2.6 billion individuals are totally without sanitation
- App 2.7 billion individuals have pit latrines - inadequate in protecting human health & the environment
- More than 1 billion individuals have flush sanitation system, of which 70% is not properly treated
- 700 million people in 50 countries eat food from crops irrigated with untreated sewage
- 80 countries with 40% of the world pop. suffer from water shortage



## Number of toilets per thousand households to be installed through to 2015 to meet the MDGs



# Ecological Sanitation/Ecosan Fundamentals

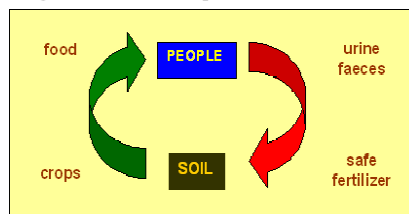
- **Contain fractions** - *don't mix*  
reduces quantities to be dealt with
- **Sanitisation**  
destruction of pathogens to render fractions safe for improved health of humans and nature
- **Reuse**  
enhances crop yields and biomass production with nutrient and water re-use



## PARADIGM SHIFT RE. SANITATION

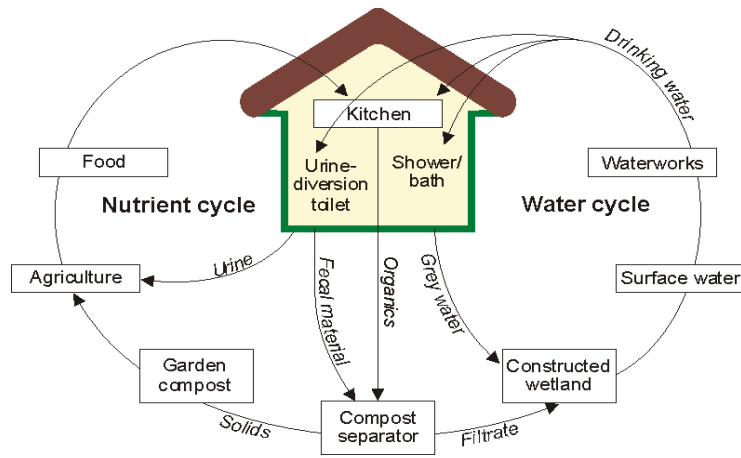
Requires *change in attitude* for reuse of nutrients in a safe manner and the recovery of treated greywater to the environment

### Closing the Loop on Sanitation



# The Complete Ecosan Household

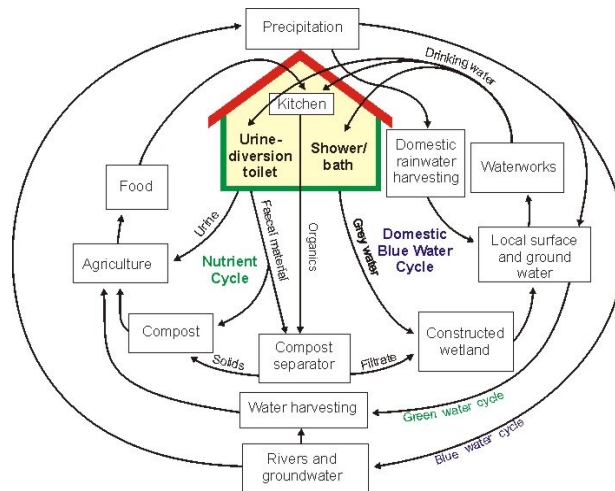
## Ecosan Communities and Agriculture



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# Complete Ecosan and Eco-water Use



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## Compost from Human Excreta - appearance and texture of the final product depends to a large extent on what is placed in the pit. Example from Malawi

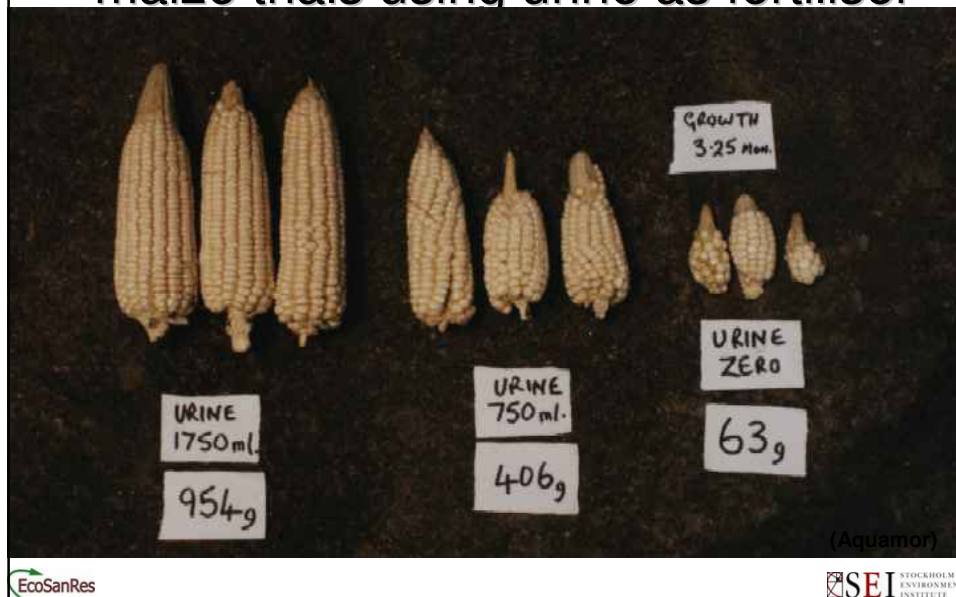
Left: mix of composted faeces, urine and sandy soil  
Right: mix of composted faeces, urine, red soil and leaves



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## Zimbabwe – maize trials using urine as fertiliser



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# Ecological Sanitation

## AN APPROACH

### with many

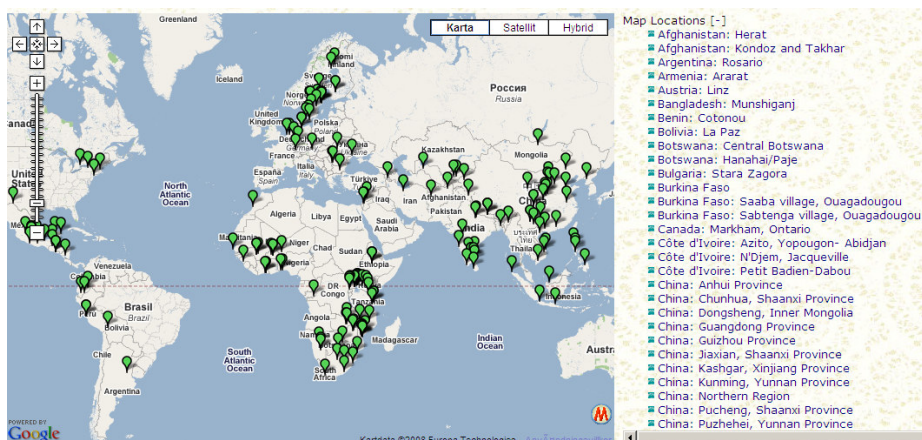
## TECHNOLOGICAL APPLICATIONS

*to sanitise and reuse the fractions*



## Global Map of Ecosan Initiatives

On-line questionnaire and information at [www.ecosanres.org](http://www.ecosanres.org)



## Greywater management – tests of filters and systems for diffusion of water, Mexico



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Figure 1: Constructed wetland reed bed in Haran Al-Awamied, Syria 2004  
(source: Mohamed)

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## Toilet Users Get Paid

Money for Using the Public Ecosan Toilet at Musiri, TN, India, is offered by NGO SCOPE in Trichy



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EcoTown for 833 HHs, based on Ecosan Principles. A PPP Development in China, where R&D was provided by ESR



Dongsheng, Erdos, Inner Mongolia, China

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**Solid Waste Source Separation**  
with collection of household organics **SOPOR**



## **New Window of Opportunities with IFAD**

*Ecological sanitation*

*Conservation agriculture*

*Rain water harvesting*

**can provide new growth  
opportunities in poor  
countries and climate**



[www.ecosanres.org](http://www.ecosanres.org)

**Cecilia Ruben**  
cecilia.ruben@sei.se

Stockholm Environment Institute (SEI) at [www.sei.se](http://www.sei.se)