

Experiences with ecosan systems to provide sustainable sanitation in schools in Kenya and India

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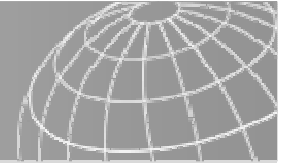
partner of

**sustainable
sanitation
alliance**

commissioned by



**Federal Ministry
for Economic Cooperation
and Development**



Activities of the GTZ-ecosan programme (since 2001, funded by ministry BMZ)

1. Disseminating knowledge on ecosan worldwide (www.gtz.de/ecosan)
2. Mainstreaming, awareness raising and capacity development for ecosan
3. Supporting ecosan pilot and up-scaling projects
4. Secretariat of the Sustainable Sanitation Alliance (SuSanA, www.susana.org)

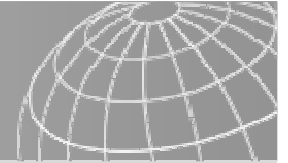
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Reminder for Millennium Development Goal 2

- **Achieve universal primary education**
 - Indicator: “net enrolment ratio in primary education”
 - But hygienic school toilets are lacking all over the world!

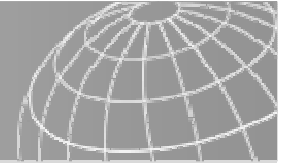




Problem summary



1. Sick children miss many school days (preventable diarrheal diseases)
2. Female adolescent pupils miss school days or drop out due to lack of hygienic sanitation facilities (menstruation)
3. Typical school toilet in developing countries is pit latrine – overflowing, odorous, no means to empty it
4. Sanitation essential for health and thus learning abilities (link with malnutrition, cognitive abilities)

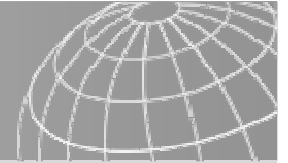


Opportunities for ecosan systems in schools

1. With the right training, UDDTs are easy to build and maintain by school children and staff - increasing ownership
2. UDDTs are more suitable than pit latrines in dense urban settlements
3. Ecosan systems produce valuable liquid and solid fertilisers which can be used in school gardens
4. Biogas toilets also produce biogas for cooking in school kitchen



UDDT = urine-diversion dehydration toilet

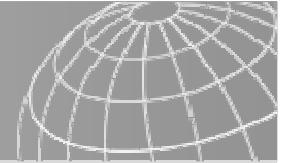


Experiences in Kenya

UDDT at Khaimba primary school in Butere - 1



- EU-Sida-GTZ ecosan promotion project (2006 – 2009)
- Participation in decision making process
- Cost share toilet construction with at least 20% contribution
- 2 UDDTs for students and 2 for staff; 40m³ rainwater harvesting tank for handwashing
- Health club responsible for maintainance, and reuse of fertiliser in school farm

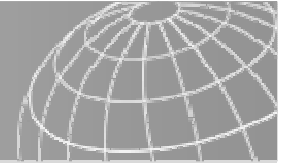


Experiences in Kenya

UDDT at Khaimba primary school in Butere - 2



- Health club is active: toilets properly used
- Surplus of farm products sold to benefit club members with books and rewards
- Awareness raising, training session and follow up monitoring are crucial for success
- Main incentive to choose UDDTs was the cost advantages for avoiding regular construction of new pit latrines

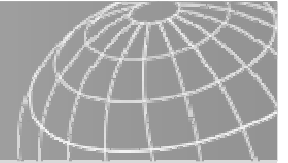


Experiences in Kenya

Gachoire Girls high school, Nairobi (outskirts)



- 30 pour flush toilets connected to fixed dome biogas digester
- Biogas used in school kitchen → reduces expenditure on LPG
- Operational since Feb 2009 -Monitoring is currently being carried out



Experiences from India

Navsarjan Trust schools, Gujarat - 1



- 3 primary boarding schools
- 8 single vaulted UDDTs, waterless urinals, greywater recycling into gardening
- In operation since Aug 2006
- Capacity development needed to change initial prejudices

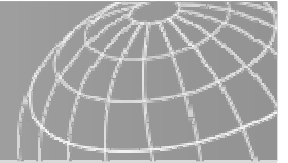


Experiences from India

Navsarjan Trust schools, Gujarat - 2



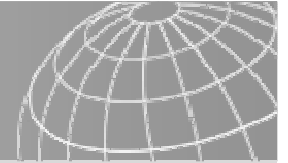
- Students take turns in maintaining toilets
- Supervision required to ensure proper use
- Children taught the teachers to use UDDTs !
- Children construct toilet model → included in curriculum



Challenges for ecosan systems in schools

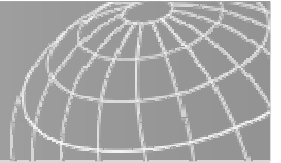
1. Constant replacement of students every year, hence loss of knowledge
2. A sense of ownership is crucial in the proper maintenance of the installation
 - Involve students and teachers in planning, construction and maintenance
3. Need to link sanitation promotion in schools to the policy level, health and education sector





Recent advances in Kenya

- The Ministry of Water and Irrigation has included ecosan in its Water Sector Sanitation Concept in 2008.
- Ministry of Public Health and Sanitation, Ministry of Education and Ministry of Agriculture have shown interest in adopting ecosan as one option of sanitation intervention.
- Kenya Water Institute and the Kenyatta University are introducing training and curriculum on ecosan.



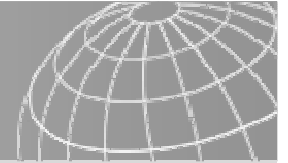
Recent advances in India

- The Indian federal government is planning to introduce sustainable sanitation as part of the curriculum in schools
 - starting with the 10,000 Central Board of Secondary Education (CBSE) schools through its Urban School Sanitation Program (www.schoolsanitation.com).



Conclusions

1. Ecosan systems (UDDTs/biogas plants) received acceptance due to lack of odour, additional economic benefits and cost savings
2. Need to develop ownership and continued training to ensure proper maintenance
3. Students can play an important role in spreading knowledge of sanitation and hygiene
4. Ecosan systems can work well when they are connected with school gardening activities and school feeding programs
5. Sanitation needs to be included in curriculum, involve Ministry of Education



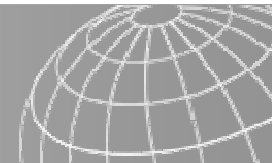
Sustainable Sanitation Alliance

Working group 7 on school sanitation – please join!

(www.susana.org)



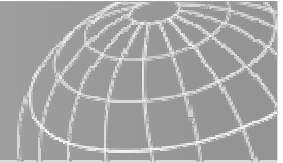
- SuSanA = loose network of 105 organisations
- 12 thematic working groups
- Joint publications, case studies
- 10th meeting at the Stockholm World Water Week on 18th Aug



Thank you!

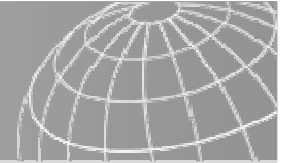
www.gtz.de/ecosan and www.susana.org





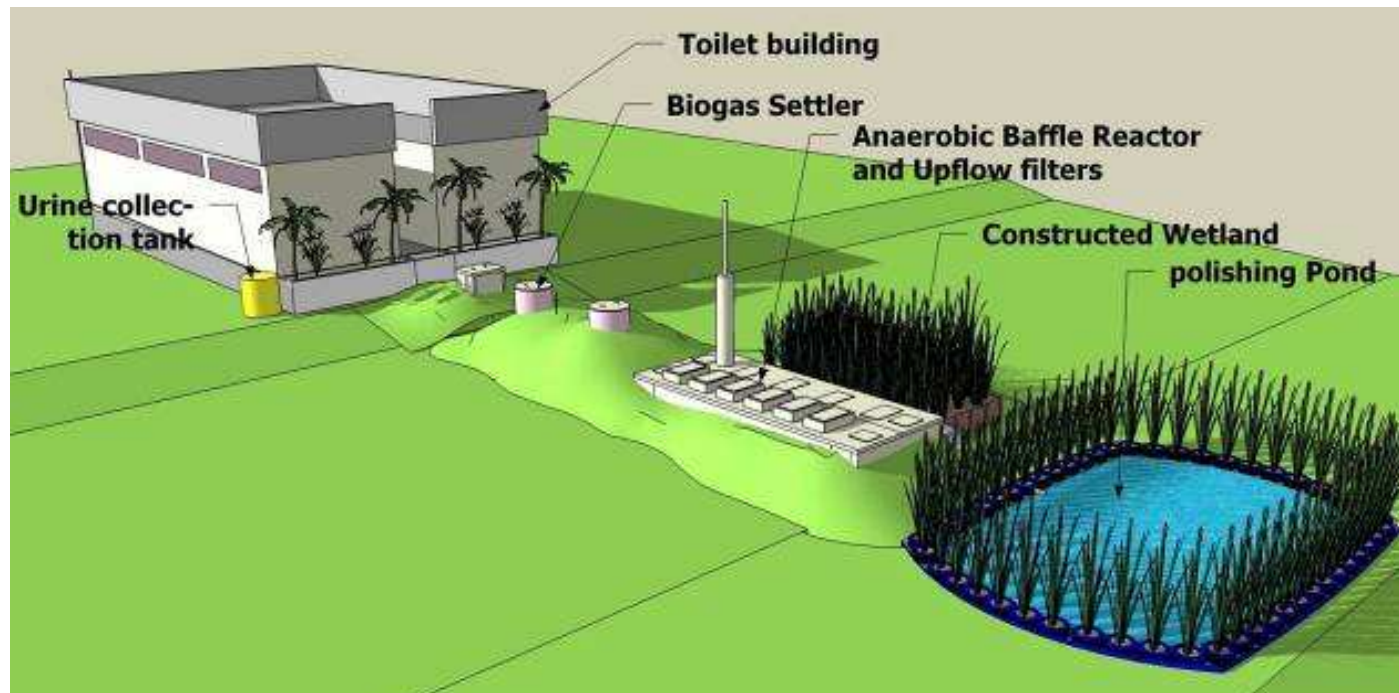
Advancement in India

- Awareness raising through inclusion of sanitation as curriculum in the schools
- Preparation of school sanitation manual as a handbook of best practices with reuse of water and advanced waste management in schools
- Sanitation rating of schools and appreciation through National Urban School Sanitation Awards
- Orientation program for the school principals
- Inclusion of sanitation as a requirement for school accreditation/affiliation by CBSE
- Creation of the brand value for the sanitation initiative by having a sanitation brand ambassador and sanitation week



Experiences from India

Adarsh School, Badlapur, Maharashtra



- 15 low pour flush urine separation toilets for boys and girls each and 15 urinals for boys with hand washing
- Capacity development and participation is increasing ownership