gtz supported ecosan projects in India

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Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH
ecosan program, division 44 – environment and infrastructure
closing the loop

restoring soil fertility

agricultural use

organic waste

treatment / hygienization / energy recovery

food

faeces

urine

greywater

water reuse

no waste disposal in water bodies

rainwater harvesting

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2007-08-27/31-Sustainable cities and villages, DongSheng, China
Rajendra Nagar Slum

- 12,000 to 15,000 inhabitants
- 1,500 - 1,600 households
- existing toilets (in 2000): 44
eco-friendly public toilet

biogas plant

biogas for cooking

compost

sludge drying

local women

banana plantation

baskets from banana leaves

greywater to municipal sewer

transport of urine & blackwater using a vacuum suction truck

urine storage

ACTS Eco-friendly Public Toilet Centre, Bangalore

ecosan pilot projects

2007-08-27/31-Sustainable cities and villages, DongSheng, China
Adarsh Vidya Mandir School, Badlapur, India

**location:**
Badlapur town, Maharashtra’s Thane district, India

**implementation period:**
2006/2007

Source: Werner, GTZ

There are about 11,000 college students.
Adarsh Vidya Mandir School, Badlapur, India

proposed ecosan system for Badlapur

- pour flush pans
- urinals
- hand-wash facilities
- greywater garden
- urine storage
- biogas-plant
- constructed wetlands
- biogas
- sludge drying bed
- soil amendment
- agriculture

ecosan projects
Navsarjan “Dalit Shakti Kendra“ in Gujarat, India (supported by SDC and GTZ)

- Upgrading of a vocational training institute
- Start of construction 02/2005
- 250 resident students
proposed system for the DSK Campus

- dung
- source-separating toilet
- greywater (pre-treated)
- ornamental garden
- biogas
- urine storage
- vegetable garden
- sludge drying beds
- compost
- biogas-plant

Navsarjan Trust ecosan pilot project – DSK ecosan projects
Navsarjan Trust ecosan pilot project – DSK

Toilet block with biogas plant, almost finished, Feb. 2007

UDD as “emergency toilets”

Ladies urinal

Source: esf
Navsarjan Trust ecosan pilot project – primary schools, India

location:
Dhandhuka Taluka, Karjan Taluka, Limbdi Taluka and Sami Taluka

implementation period:
2005/2006

Navsarjan primary school in Gujarat

school sanitation block
Navsarjan Trust ecosan pilot project – primary schools, India

collection, storage and reuse of urine

urinals

hygienization tank

kitchen garden
Navsarajan Trust ecosan pilot project – primary schools, India

collection, treatment and reuse of faecal matter

urine diversion squatting pan

processing chamber

kitchen garden
ecosan projects
Navsarjan Trust ecosan pilot project – primary schools, India
greywater collection, filtering and reuse for irrigation purpose

bathrooms, washbasins, laundry facility
vertical flow filter
kitchen garden
collection tank

(source: Martin Wafler)

2007-08-27/31-Sustainable cities and villages, DongSheng, China
Navsarjan Trust ecosan pilot project – primary schools, India

hand washing

waterless urinals

rear view of dehydration chambers

infiltration of anal cleansing water

storage of treated greywater
ecosan training course

ecosan services foundation, India (supported by gtz)

objectives:

to provide ecological sanitation services to…

• urban local bodies
• state governments
• NGOs
• consumers/private individuals
• developers/ companies
Week 1: module “ecosan for you”
- ecosan concept & technological options
- social & institutional aspects
- reuse & health
- economics
- best practice examples, site visits

Week 2: module “ecosan – exercises & case studies”
- UDD toilets and urine management
- biogas sanitation
- greywater management
- reuse options
- vacuum systems
- development of own case study

Week 3: module “ecosan – on the job”
- practical hands on, on the job training in ongoing ecosan projects
The first ecosan training course started in India in March 2007 and got a tremendous response from the participants.

The ecosan training courses will be conducted every three to four months. The participation in the course costs approximately 150 Euro including board and lodging.

The training course can be adapted to other countries

The next ecosan training course in India will be held from 3rd to 14th September 2007.
Course materials include

- course folder with handouts of all lectures, group works and case studies
- technical manuals for UDD toilets and urine management, biogas sanitation and greywater management
- “ecosan curriculum 2.0” on CD with dozens of tailor made lectures, tutorials and scientific articles on ecosan
- “capacity building for ecological sanitation” published by gtz and UNESCO
- Information material about projects and technologies
Thank you!

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