

sustainable sanitation alliance



sustainable
sanitation
alliance

SuSanA working group ,food security and productive sanitation systems‘



urban agriculture in Havana - source: Robert Gensch

goals and objectives

- **bring together all relevant organisations with global competence in agriculture, sustainable sanitation and neighbouring disciplines**
- **raise awareness for the reuse-oriented sustainable sanitation approach and its prospective contribution to global food security**
- **preparation of different publications flanked by a collection of case studies**

partners (in alphabetical order)

- **Aquamor** (Zimbabwe)
- **Ecosanlac** (Ecological Sanitation for Latin America & the Caribbean)
- **FAO** (Food and Agriculture Organisation)
- **gtz** (German Development Cooperation Agency)
- **IDRC** (International Development Research Centre - Canada)
- **IEES** (International Ecological Engineering Society)
- **IFAD** (International Fund for Agricultural Development)
- **IWMI** (International Water Management Institute)
- **PUVeP** (Periurban Vegetable Project - Philippines)
- **RUAF** (Resource Centre for Urban Agriculture and Food Security)
- **SEI** (Stockholm Environment Institute - EcoSanRes)
- **TTZ** (Technology Transfer Centre Bremerhaven)
- **University of Essex** (United Kingdom)
- **Water for People**
- **WHO** (World Health Organisation)
- **Xavier University** (Cagayan D'Oro - Philippines)
- **and several individual contributors**

aimed deliverables



- factsheet



- case study collection



- broader publication



- guide for farmers

- articles in different magazines

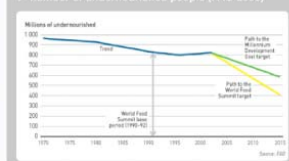
the millennium development goals
fighting the most pushing global problems

Within the United Nations Millennium Summit in New York in 2000 and the World Summit on Sustainable Development in Johannesburg in 2002, the global community agreed in establishing a set of measurable and timely limited goals to combat the most pushing global problems, which are among others, the noticeable reduction of poverty, hunger and environmental degradation. These so called Millennium Development Goals set the standards the global development has to cope with. Most important goals with intersection to both the food security and the sanitation issue are to reduce by half the number of people who suffer from hunger until 2015, to increase their amount of food, and halve, by 2015, the proportion of people without access to basic sanitation.

the scale of the problem
the food security situation and global population growth

The concept of food security has been on the international agenda since the Human Rights Declaration in 1948 and was seen by many as one of the fundamental rights of human beings. By FAO-definition food security exists 'when all people, at all times, have access to sufficient and nutritious food to meet their dietary needs and food preferences for an active and healthy life'.

► number of undernourished people (FAO 2006)



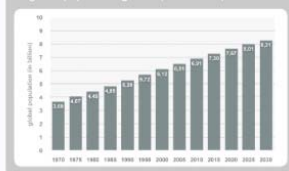
Unfortunately the prevailing statistics foiled this international claim gravely. Currently some estimated 854 million people worldwide are chronically hungry due

to extreme poverty (FAO 2006), which is equivalent to around 15% of the world's population and about 2 billion people lack food security intermittently due to varying degrees of poverty (ibid.). With regards to health the permanent nutrient deficiency often causes weakness and fatigue, inhibits mental and physical development particularly in children, and makes people susceptible to other fatal diseases such as diarrhoea and tuberculosis. Despite the great efforts and promising attempts in decreasing the number of people suffering from food insecurity, such as improving agricultural productivity, encouraging small-scale farming or securing property rights, the number of people suffering from food insecurity worldwide still remains tenaciously high.

population growth and urbanisation
increasing pressure on global resources

With the continuously growing world population – according to UNPD another 1.5 billion people will be expected by 2025 - and its substantial additional food demand, the problem of food insecurity will most likely intensify in the coming decades and increase the pressure on global resources. A great deal of this population growth will take place in cities with a substantial increase in the volume of urban waste products, the over-exploitation of rural resources and a significant increase in urban food demand.

► global population growth (UNPD 2006)



By 2008 the global community is arriving on an important historical point of inflexion (UNPD 2006) and will be predominantly urban for the first time in history. Developing countries are particularly affected by the



- second draft of the factsheet
 - elaborated for the SuSanA steering group meeting in Delhi
 - will be distributed to the participants of the meeting
 - final comments from the SuSanA participants most welcome!

- final version to be elaborated until the next SuSanA steering group meeting

- open questions:
 - corporate design of all factsheets?
 - ...who will do that?
 - who will cover printing costs?
 - different languages

no: xxx project location, country

case studies of sustainable sanitation projects

sanitation system	solid bio waste	faeces/manure	urine	greywater	rainwater
applied components	collection	urine diversion, dry toilet, toilet (examples)	urine diversion, dry toilet, toilet (examples)	separate greywater collection (examples)	
treatment		urine storage, faeces, dewatering (examples)		constructed wetland (examples)	
reuse		reuse in urban agriculture (examples)		reuse for irrigation (examples)	

no: xxx
project number and title
project location, country

1 general data
type of project:
(rural or urban upgrading, individual or community-based sanitation, new constructed area, type of reuse activities etc.)
project period:
(start of planning: mm/yyyy, start of construction: mm/yyyy, start of operation: mm/yyyy)
project scale:
(number of inhabitants covered/involved, total investment, etc.)
address:
(of project location)
planning institution:
(name of institution only)
executing institution:
(name of institution only)
supporting agency:
(name of institution only)

2 objective & motivation of the project
Description of the general and specific objective of the sustainable sanitation project or project component.

3 location & conditions
Description of the location and its general conditions, with emphasis on conditions relevant to the implementation of the sustainable sanitation project and its intended reuse options, such as:
• climate and geographical conditions
• population density
• type of settlement
• general water situation
• economic situation
• agricultural aspects, type of soil
• institutional and legal framework
• socio-cultural conditions

4 technologies applied
Description of applied technologies and implemented infrastructure (quantitative and qualitative) with special emphasis

5 sustainability of the system
Qualitative assessment regarding the sustainability of the system with emphasis on:
• health
• environment & natural resources
• technology & operation
• finance and economics
• socio-culture & infrastructure

6 type of utilisation/reuse
Description of the type of reuse applied in the project and organisational scheme for the collection-treatment-reuse chain:
• application of sanitary resources
• frequency of application
• scale of impact
• crops planted and plant requirements
• area under cultivation
• characterisation of the users

7 further project components
Specific focal points within the project, e.g. research on social and economic issues, aspects of reuse, up-scaling, institutions or others.

8 project history
Starting point and milestones of the project, specific: hindering and favouring aspects.

9 costs & economic benefits
Quantitative and qualitative description of investment, operation and maintenance costs and subsidies involved. Description of the financing scheme for the collection-treatment-reuse chain.

10 operation & maintenance
Organisation of operation and maintenance, transport infrastructure etc.

11 design information & technical specifications
Design information that has been used in planning for the project (basic parameters, assumptions, applied design methods, plans and schemes). Technical specifications such as methods of construction, materials used etc.

12 practical experience, challenges & lessons learned
Detailed description of experiences, such as acceptance of technologies, reuse by the implicated stakeholders, technical aspects, scale of impact on the stakeholders involved etc. Analysis of occurred problems, challenges, constraints and recommendations for future activities.

13 available documents & references
Short description and comment of each document, document language, download/order address:
• project documents (feasibility studies, design reports, fact sheets, bidding documents, operation manuals, training material evaluation, publications, maps etc.)
• documents relevant to the water/agriculture/health sector in the project area

14 institutions, organisations & contact persons
Contact details of all parties involved in the project, including description of role and responsibility within the project.

dd/mm/yyyy Sustainable Sanitation Alliance page no: 1

- elaboration of a case study template
 - based on gtz ecosan project data sheets
 - in collaboration with the working group on sustainable sanitation for cities & planning

- first collection of case studies
 - Gebers housing project - Stockholm (Sweden)
 - wastewater use in Kolkata wetlands (India)
 - reclaimed water project (Jordan)
 - allotment garden project - Cagayan (Philippines)
 - wastewater use in urban agriculture - Accra (Ghana)
 - compost and biogas plant for farmers (Kenya)
 - urine use in aquaculture - West Bengal (India)

no: xxx project location, country

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case studies of sustainable sanitation projects

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- **template could be used as a general template for all other working groups**
 - particularly for the working groups 02 to 08
- **working groups can use the structure of the template and change the focus according to their topic**
- **draft version will be distributed to all participants**
 - final feedback on the factsheet most welcome
 - **deadline for feedback: end of November 2007**
- **in December circulation of the template to a wider public asking for sustainable sanitation related case studies**
- **final collection of all case studies can be published step by step on the SuSanA homepage**

case study collection

case studies	02	03	04	05	06	07	08
gtz ecosan project data sheets							
• vacuum sewerage and greywater recycling at KfW - Germany							
• innovative wastewater management Lambersmühle – Germany							
• ecological settlement, Hamburg – Germany							
• ecological housing estate, Lübeck – Germany							
• urine diverting dry toilets, Guanxi province - China							
• biogas project – Bessenbach – Germany							
• Öko-Technik Park, Hannover – Germany					x		
• Gebers collective housing project – Sweden				x			
• ecosan project, Hanahai & Paje – Botswana							
• ecosan pilot project, Koulikoro – Mali							
• ecosan school toilet, Garla Mare – Romania							
• TepozEco urban ecosan program, Tepoztlan – Mexico							
• use of reclaimed water - Jordan				x			
• humification of sewage sludge, El Minia - Egypt							
• constructed wetland, Haran-Al-Awamied – Syria							
• urine and brownwater reuse at gtz headquarter – Germany					x		
• ecosan project Solar City, Linz – Austria							
• greywater recycling at ArabellaSheraton, Offenbach - Germany							
• ecosan project, Chordeleg – Ecuador							
• urine diverting dry toilets, Kunming - China							
• ecosan concept at Navsarjan Institute, Gujarat – India							
• UDDT centres in Navsarjan Boarding schools, Gujarat – India							
• ACTS ecofriendly public toilet centre, Bangalore – India							
• dry urine diverting school toilets, Gozhuli – Ukraine							
• dry urine diverting school toilets, Hyanist - Armenia							
• waterless sanitation at UNESCO-IHE – Delft – Netherlands							
• urine diversion project, Sofala Province – Mozambique							
• private UDDTs in Katmandu Valley – Nepal							
• compost and biogas plants for smale scale farmers - Kenya							
• automated composting toilet system at Asahiyama Zoo – Japan							
• Improved traditional Ladakhi toilet, Leh - India							
urine reuse for aquaculture - India							
wastewater reuse in Kolkata wetlands – India				x			
Peri-Urban Vegetable Project – Philippines				x			
wastewater reuse in urban agriculture – Ghana				x			

next steps

- **next working group meeting on November 28th 2007 in Cagayan D'Oro (Philippines)**
 - attached to the RUAFA Regional Advisory Committee meeting
 - with focus on the aimed guide for farmers
- **finalising of the factsheet until the next SuSanA meeting**
- **continuing the work on the case study collection**
- **starting to work on the broader publication based on the factsheet**
- **planning for a special sustainable sanitation related issue of the Urban Agriculture magazine**

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thank you for your attention!



slum scene in Accra - source: Cities Alliance