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Sanitation and related
sustainability criteria –

How to indicate the quality of
sanitation?

Institutional partner



Principal sponsors



Platinum sponsor



GTZ Germany

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

Organisers



VIENNA 2008



“Sanitation” includes:

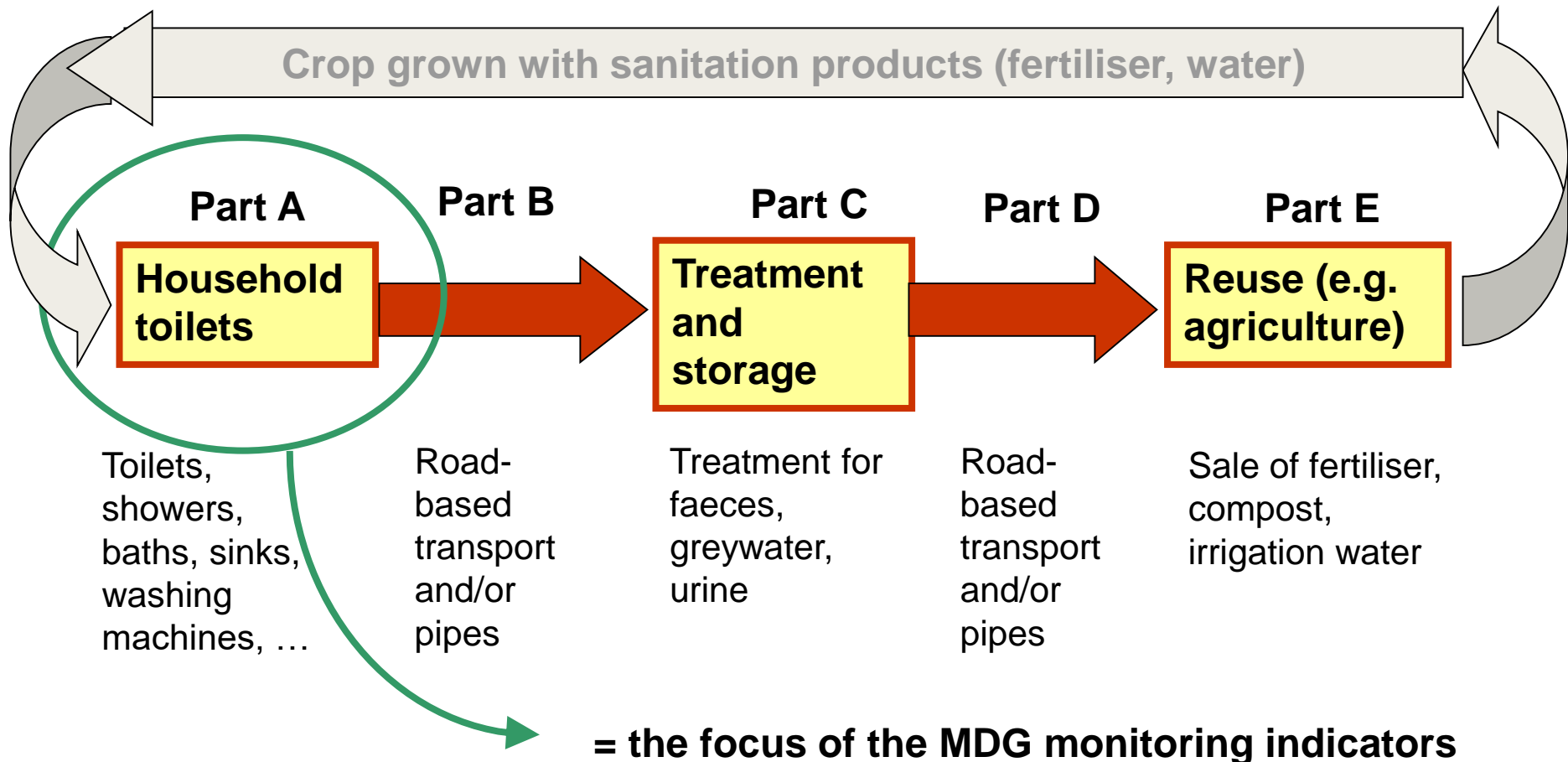
- Excreta management (faeces, urine)
- Greywater management
- Solid waste management
- Drainage (for rainwater / stormwater)



The main (the only) focus of the MDG indicator on access to basic sanitation



Sanitation should be understood as a system





Why is it so difficult and important to indicate the **quality** of sanitation?

- Whilst someone can have “no water”, there is no such thing as “no sanitation”
- Even in the absence of any infrastructure, we still excrete urine and faeces → we always “have sanitation”
- Sanitation of low quality causes:
 - Pollution of drinking water sources
 - Spread of diseases
 - High under-5 child mortality
 - Intestinal worms
 - Low school attendance (especially girls)
 - ... needless suffering!



Child defecating in a canal in the slum of Gege in the city of Ibadan, Nigeria
(Photo: Adebayo Alao (Nigeria), Sept. 2007)



How can we measure the **quality** of sanitation?

MDG (JMP) language

Basic sanitation

Improved sanitation

SuSanA language

Sustainable sanitation

Ecological sanitation

Human right to water and sanitation language

Safe sanitation

Adequate sanitation

UN Habitat

Acceptable sanitation



General Comment 15 on the International Covenant on Economic, Social and Cultural Rights (ICESCR)

“Ensuring that everyone has access to adequate sanitation is [...] a fundamental for human dignity and privacy [...]”:

Requirements to be considered in human right to sanitation:



Reminder: 8 Millennium Development Goals (MDGs), with targets and indicators



1



**ERADICATE
EXTREME POVERTY
AND HUNGER**

2



**ACHIEVE UNIVERSAL
PRIMARY EDUCATION**

3



**PROMOTE GENDER
EQUALITY AND
EMPOWER WOMEN**

4



**REDUCE
CHILD MORTALITY**

7




**ENSURE
ENVIRONMENTAL
SUSTAINABILITY**

5



**IMPROVE MATERNAL
HEALTH**

6



**COMBAT HIV/AIDS,
MALARIA AND OTHER
DISEASES**

7



**ENSURE
ENVIRONMENTAL
SUSTAINABILITY**

8



**GLOBAL
PARTNERSHIP FOR
DEVELOPMENT**



Reminder: MDG Water and Sanitation Monitoring: Targets and indicators

MDG 7 Target 7c

- "Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation"

Indicator for this access:

- Proportion of population using an improved sanitation facility, urban and rural



Categorisation of sanitation facilities

(according to JMP, the joint monitoring program of WHO and UNICEF)

(these indicators refer only to the toilets, not to the rest of the sanitation system)

IMPROVED

- **Flush/pour flush toilet to:**
 - **piped sewer system**
 - **septic tank**
 - **pit latrine**
- **Ventilated improved pit (VIP) latrine**
- **Pit latrine with slab**
- **Composting toilet**

UN-IMPROVED

- **Flush/Pour flush to elsewhere**
- **Pit latrine without slab/open pit**
- **bucket latrine**
- **Hanging toilet/hanging latrine**
- **No facilities, bush or field**
- **Shared facilities**

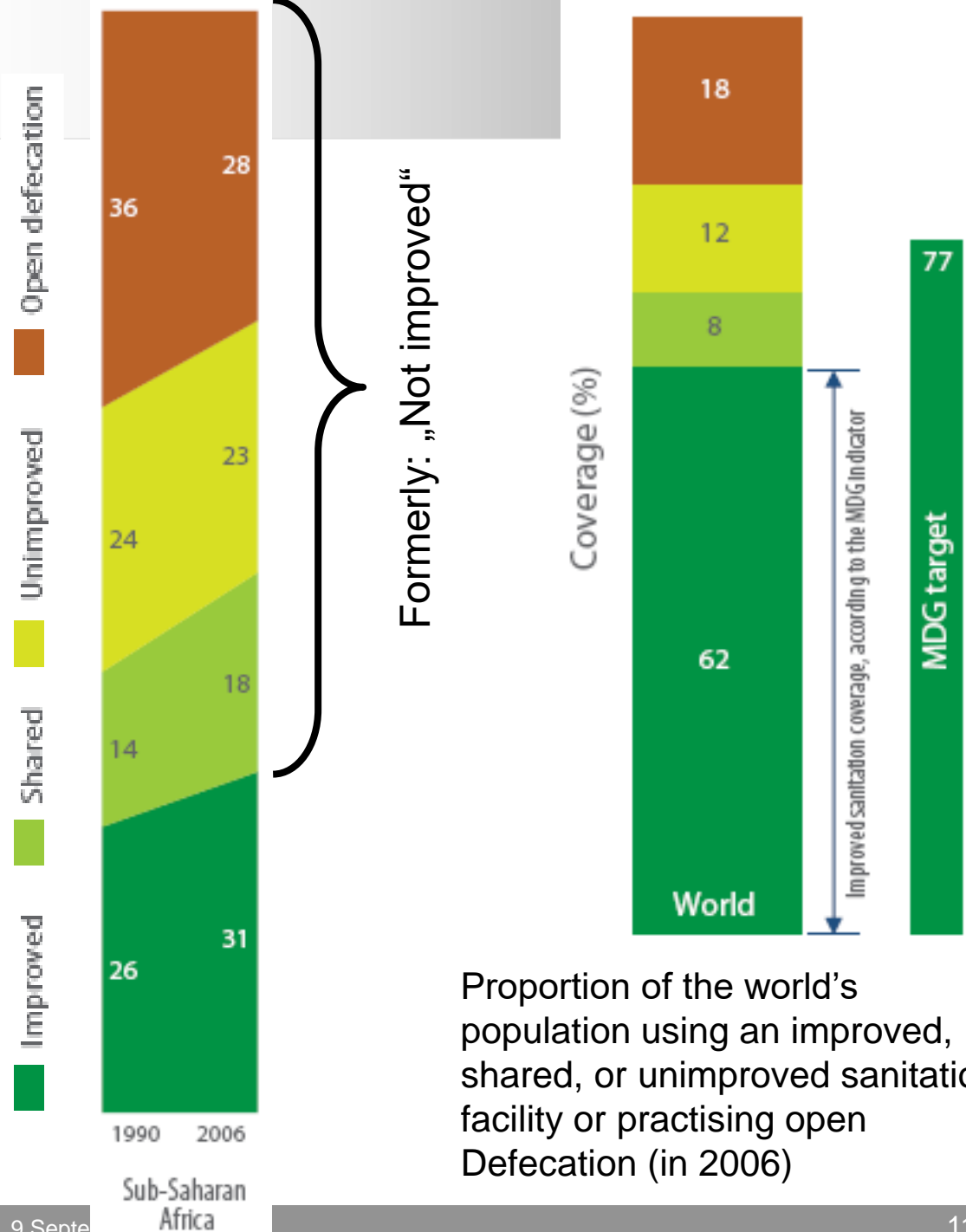


OPEN DEFECATION	Open defecation in fields and in plastic bags (flying toilets)
UNIMPROVED	Unimproved sanitation facilities: do <u>not</u> ensure hygienic separation of human excreta from human contact
SHARED	Shared sanitation facilities: Sanitation facilities of an otherwise acceptable type shared between two or more households. Shared facilities include public toilets.
IMPROVED	Improved sanitation facilities: ensures hygienic separation of human excreta from human contact <u>and</u> not shared

The “ladder approach” to improved sanitation

World Health Organization and United Nations Children’s Fund Joint Monitoring Programme for Water Supply and Sanitation (JMP). Progress on Drinking Water and Sanitation: Special Focus on Sanitation. UNICEF, New York and WHO, Geneva, 2008.

Disaggregated data on types of sanitation facilities used



Proportion of the world's population using an improved, shared, or unimproved sanitation facility or practising open Defecation (in 2006)



Globally, 1.2 billion people practise open defecation, 83 per cent of whom live in 13 countries

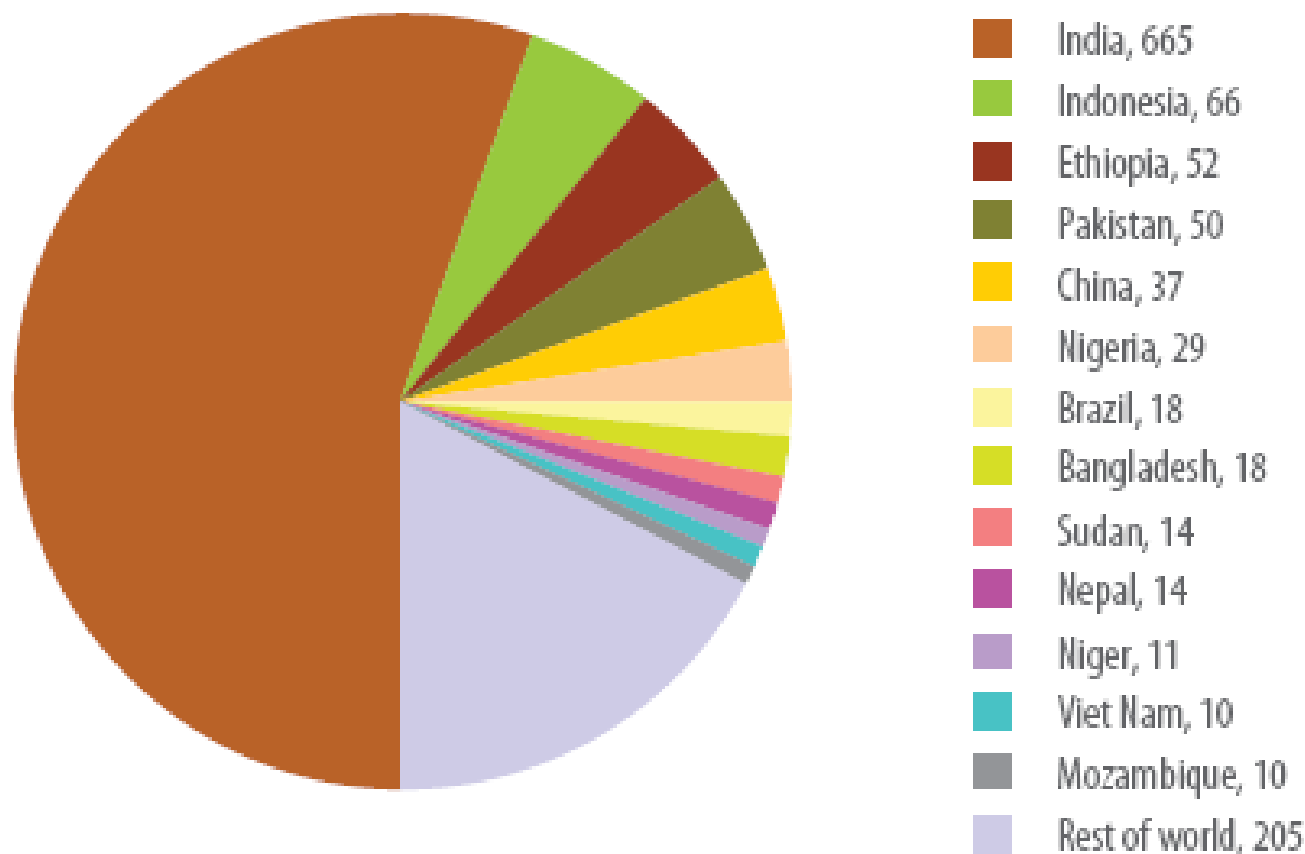


Figure 18 Population practising open defecation, by countries with highest prevalence in 2006 (millions)



Are the challenges the same in urban as in rural areas? Are all “improved” facilities adequate for densely populated urban areas?

Urban (unplanned)



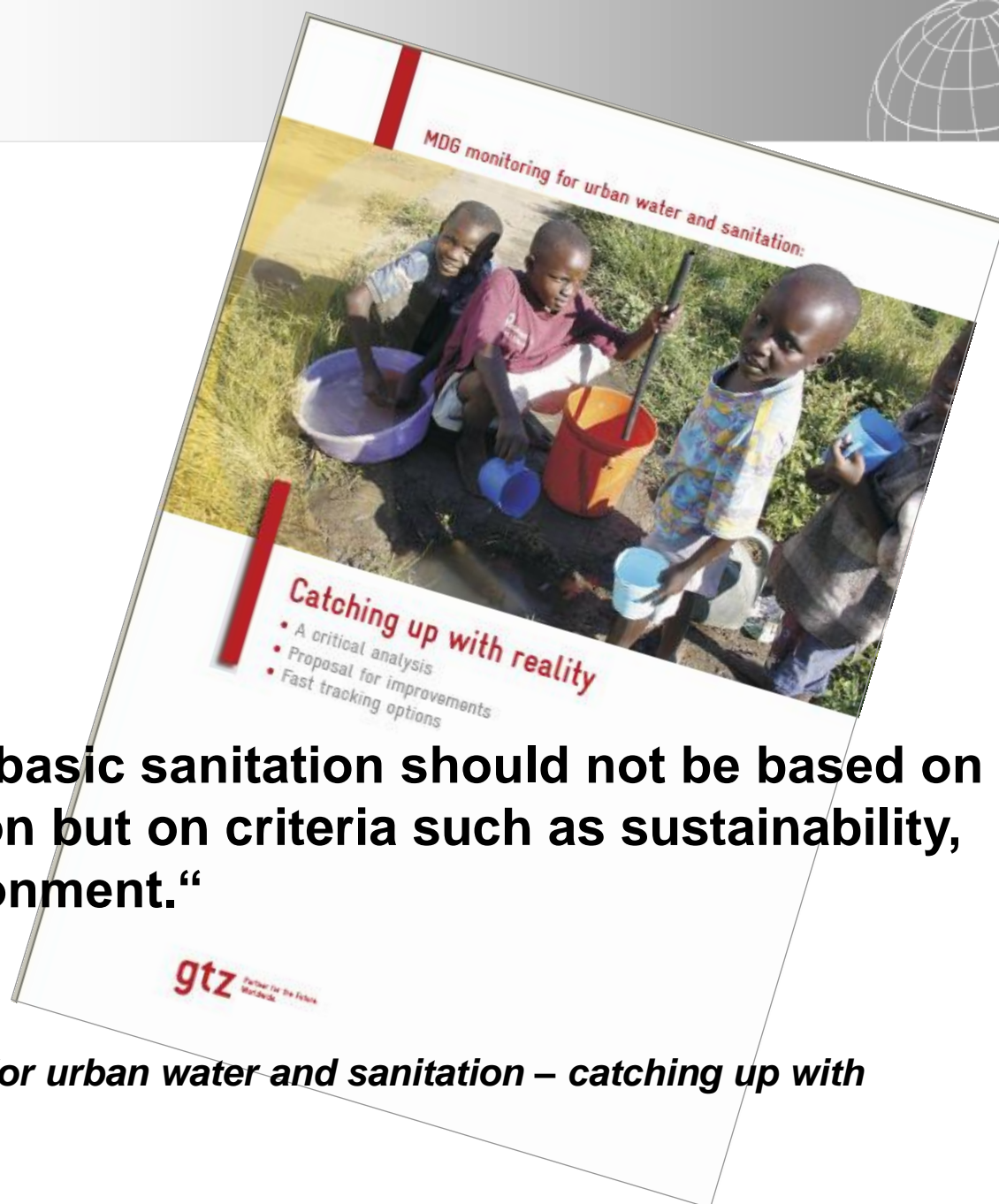
**If not, why apply the same definitions for “improved” sanitation for urban and rural?
Monitoring needs to address the differences of urban and rural realities**

Gege slum in the city of Ibadan, Nigeria
(photo: Adebayo Alao, Sept. 2007)

Peri-urban



Pit latrine in Maseru, Lesotho
(E. v. Münch, Dec 06)



„The assessment of basic sanitation should not be based on the type of installation but on criteria such as sustainability, health and the environment.“

GTZ (2007) *MDG monitoring for urban water and sanitation – catching up with reality*, Eschborn, Germany

(slide courtesy Dirk Schäfer, gtz)



“Improved sanitation” is not always equal to sustainable sanitation:

1. Systems which use flush toilets that deliver excreta to a piped sewer connection, but where the generated wastewater is not treated at all, and contributes to downstream environmental pollution and health risks
2. Pit latrines (with a slab) if they obviously contribute to groundwater pollution with nitrate and pathogens (for high population density)
3. Septic tanks where faecal sludge is dumped indiscriminatorily into the environment

Are counted in MDGs but are not sustainable



What is “sustainable sanitation”?

A sustainable sanitation system is one which:

- is economically viable,
- is socially acceptable,
- is technically and institutionally appropriate,
- protects the environment and natural resources

There is probably no system which is absolutely sustainable.

The concept of sustainability is a vector (direction).

Source: Vision document 1 of Sustainable Sanitation Alliance “Towards more sustainable sanitation solutions”, Feb. 2008

SuSanA is a loose network of 91 organisations with common goal
 Started Jan. 2007, open to others, 12 thematic working groups
 Website: www.susana.org





Goal of the SuSanA

- to contribute to the achievement of the MDGs by promoting sanitation systems which are taking into consideration all aspects of sustainability

sustainable sanitation alliance

Towards more sustainable sanitation solutions

Version 1.1 (November 2007)

Introduction

The urgency for action in the sanitation sector is obvious, considering the 2.5 billion people worldwide who remain without access to any kind of improved sanitation, and the 2.2 million annual deaths (mostly children under the age of 5) caused mainly by sanitation-related diseases and poor hygienic conditions.

The United Nations, during the Millennium Summit in New York in 2000 and the World Summit on Sustainable Development in Johannesburg (WSSD) in 2002, developed a series of Millennium Development Goals (MDGs) aiming to achieve poverty eradication and sustainable development. The specific target set for the provision of water supply and sanitation services is to halve the proportion of people without access to safe drinking water and basic sanitation by 2015.

As the Joint Monitoring Programme of WHO/UNICEF and the UNDP Human Development Report (2006) have shown, the progress towards meeting the MDG sanitation target is however much too slow, with an enormous gap existing between the intended coverage and today's reality especially in Sub-Saharan Africa and parts of Asia.

The reasons for this are numerous. A major issue is the fact that sanitation rarely receives the required attention and priority by politicians and civil society alike despite its key importance for a society. Political will has been largely lacking when it comes to placing sanitation high on the international development agenda. This has pushed sanitation into the shadows of water supply projects for example, and limited innovation in the sector.

Motivated by the UN's decision to declare 2008 as International Year of Sanitation (IYS), a core group of organizations active in the field of sanitation took the initiative to form a task force to support the IYS. In January 2007, a first meeting resulted in a large number of commitments by the participants from various organizations, and in drawing up a first draft of a "joint road map for the promotion of sustainable sanitation in IYS 2008". During a second meeting which took place mid April, the goal

and the objectives of this global competence network were clarified and the joint road map was reviewed.

In order to have a joint label for the planned activities, and to be able to sign with other potential initiatives, the group formed the "Sustainable Sanitation Alliance (SuSanA)".

What is sustainable sanitation?



The main objective of a sanitation system is to protect and promote human health by providing a clean environment and breaking the cycle of disease. In order to be sustainable a sanitation system has to be not only economically viable, socially acceptable, and technically and institutionally appropriate, it should also protect the environment and the natural resources. When improving an existing and/or designing a new sanitation system, sustainability criteria related to the following aspects should be considered:

- (1) **Health and hygiene:** includes the risk of exposure to pathogens and hazardous substances that could affect public health at all points of the sanitation system from the toilet via the collection and treatment system to the point of reuse or disposal and downstream populations. This topic also covers aspects such as hygiene, nutrition and improvement of livelihood achieved by the application of a certain sanitation system, as well as downstream effects.



SuSanA
Towards more sustainable sanitation solutions
Version 1.1 (November 2007)



Sustainability criteria:

to be considered when improving an existing or designing a new sanitation system



1. health and hygiene
2. environment and natural resources
3. technology and operation
4. financial and economic issues
5. socio-cultural and institutional aspects

Source: Vision document 1 of Sustainable Sanitation Alliance “Towards more sustainable sanitation solutions”, Feb. 2008

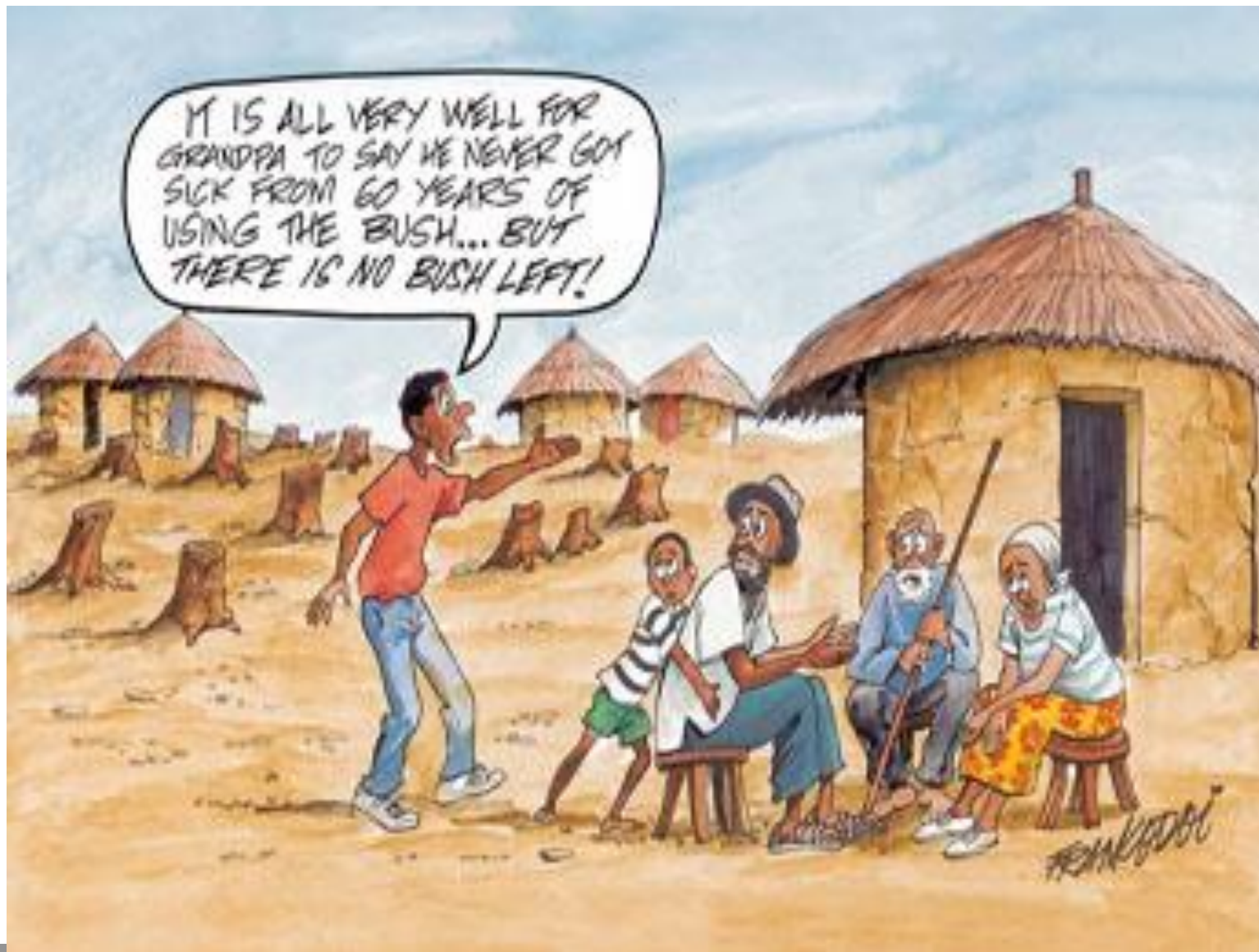


Conclusions

- Measuring the quality of sanitation is a difficult task
 - Most attempts overly simplify the issue to toilets alone
 - Sanitation is a system (transport, treatment, reuse; excreta, greywater, solid waste, drainage)
- Indicators used in MDG programme are very simplistic but presumably “fit for purpose” (?)
- Assessing the sustainability of sanitation as promoted by the SuSanA is difficult to do in household surveys
- We need to communicate regarding the quality of sanitation: JMP, SuSanA, UN-HABITAT, human rights approach group, advocacy groups, the media, ... → can we speak with one voice?



Appendix (slides not used)





„Who is SuSanA?“

- SuSanA is a loose network of existing organisations working along the same lines, and open to others who want to join and be active in the promotion of sustainable sanitation systems
- SuSanA has agreed on a “short statement” (vision document 1) and has regular SuSanA meetings
- All partnering organisations contribute their work and resources on their own expense
- SuSanA started in January 2007 and is a dynamic network: further organisations are welcome to join
- SuSanA currently has 12 thematic working groups





Sustainability criteria: to be considered when improving an existing or designing a new sanitation system (slide 1 of 2)

- health and hygiene:
 - risk of exposure to pathogens & hazardous substances
 - hygiene, nutrition & improvement of livelihood
 - effects on the health risks of downstream populations
- environment and natural resources:
 - required energy, water & other natural resources
 - potential emissions to the environment
 - degree of recycling, reuse practiced & the effects of these
- technology and operation:
 - functionality & ease of construction, operation, maintenance & monitoring
 - robustness of the system
 - flexibility & adaptability of the system



Sustainability criteria (slide 2 of 2)

4. financial and economic issues:
 - **capacity of households/communities to pay for sanitation**
 - **direct costs for construction, operation & maintenance of the system**
 - **direct economic benefits from recycled products**
 - **external costs such as environmental pollution & health hazards**
 - **external benefits (e.g. increased agricultural production; reduced costs in health services; reduced environmental risks)**
5. socio-cultural and institutional aspects:
 - **socio-cultural acceptance & appropriateness of the system**
 - **convenience of the system**
 - **impacts on human dignity & gender issues**
 - **food security & contribution to subsistence economies**
 - **compliance with legal framework & institutional requirements**



Relevant websites for Millennium Development Goals

- All information about UN Millennium Development Goals (targets and indicators)
 - <http://mdgs.un.org/unsd/mdg/Default.aspx>
- Joint Monitoring Programme (JMP) for water and sanitation by WHO and UNICEF
 - <http://www.wssinfo.org/en/welcome.html>
 - The latest JMP report: *Meeting the MDG drinking water and sanitation target: the urban and rural challenge of the decade (2006)*
- The latest Millennium Development Goals report 2007 (June)
 - http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2007/UNSD_MDG_Report_2007e.pdf



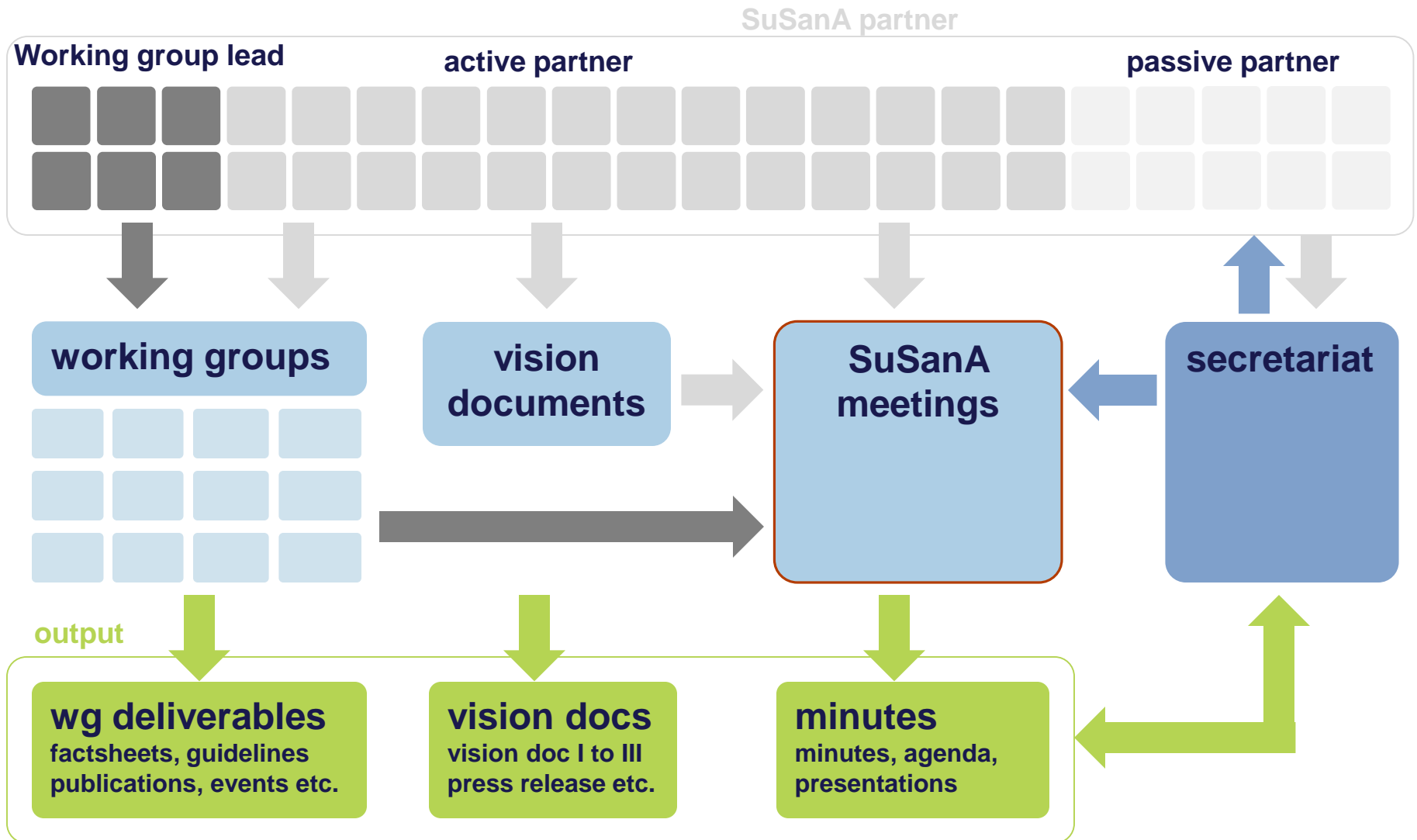
Objectives of the SuSanA

- To raise awareness of what sustainable sanitation solutions are and promoting them on a large scale
- To highlight the key role of sanitation for achieving a whole series of MDGs
- To show how sustainable sanitation projects should be planned with participation of all stakeholders (hand in hand with hygiene promotion and capacity development)

Source: Vision Document 1 (“Towards more sustainable sanitation solutions” Version 1.2 Feb 2008)



Current structure of the SuSanA



SuSanA thematic working groups (key issues for sustainable sanitation)



1. Capacity development for sustainable sanitation
2. Cost and economics of sustainable sanitation
3. Renewable energies, groundwater protection and climate change
4. Sanitation systems, technology options, hygiene and health
5. Food security and productive sanitation systems
6. Sustainable sanitation for cities and planning
7. Community and rural sanitation
8. Sustainable sanitation in emergency and reconstruction situations
9. Sanitation as a business
10. Public awareness & sanitation marketing
11. Operation and maintenance of sustainable sanitation
12. Knowledge management and communication

number and thematic subjects of working groups can change in the
future



Another proposal on how access to basic sanitation should be measured

	Improved access (sustainable access) to basic sanitation
Sustainability	<ul style="list-style-type: none"> ▪ Robust construction ▪ Easy to use ▪ Maintenance
Health	<ul style="list-style-type: none"> ▪ No contact with excreta ▪ Easy to clean ▪ Controlled sludge evacuation ▪ Little down-stream effect
Environment	<ul style="list-style-type: none"> ▪ Controlled sludge disposal ▪ Provision against flooding ▪ Low risk of groundwater pollution