



Experiences of urine diverting dry toilets (UDDT) in Arba Minch, Ethiopia

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Presentation outline

1. Sanitation situation in Arba Minch
2. Resource oriented sanitation in Arba Minch
3. Challenges of UDD toilets
4. Conclusion and lesson learned



Arba minch



1. Sanitation situation of Arba Minch

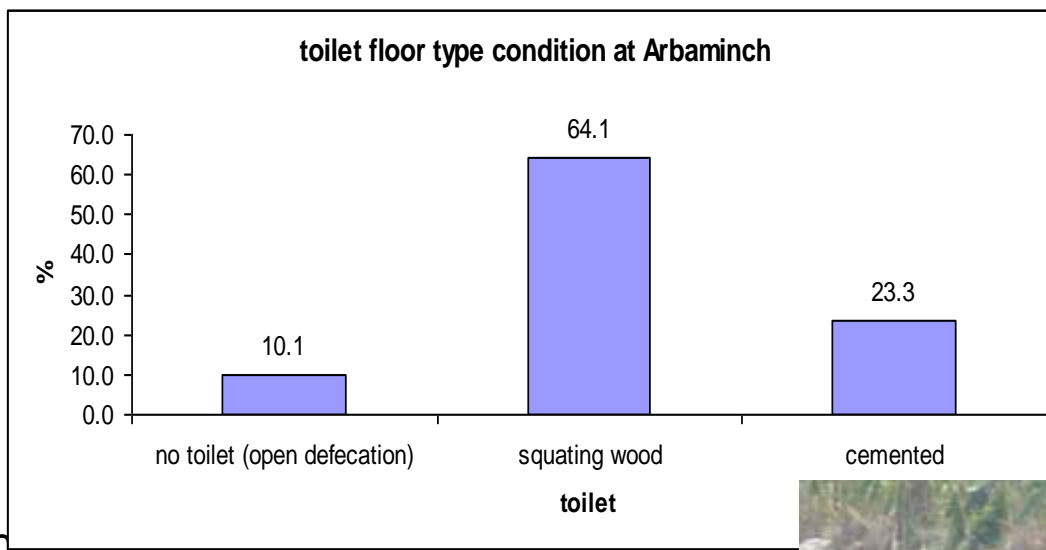
Arba Minch

- Area: 21 km² ; Altitude: 1100 – 1350 m a. s. l. , dry;
Population :100,000
- Topography: Undulating, Gullies, Gorges; rocky and loose soil
 - exposed for flooding
 - problems associated with sanitation aggravated ; Shallow pits



gorges

Open defecation sites



Major type of pit latrines toilets



Desludging of pit Latrines is done manually and with vacuum truck



Transfer sludge to new pit or refill the old with soil and dig new toilet



2. Ecological sanitation in Arba Minch

ROSA: Resource-Oriented Sanitation concepts for peri-urban areas in Africa (2006-2010)

CLARA: Capacity-Linked water supply and sanitation improvement for Africa's peri-urban and Rural Areas (2010-)

SPA: sustainable sanitation for peri urban areas in Africa (2010-)

Ecological sanitation toilets in Arba Minch



UDDT
>15 March 2010
+41 SPA



10 arborloo



Fausa alterna
32 March 2010; +13

Ecological sanitation in Arba Minch

Grey water tower



Ecological sanitation in Arba Minch



Composting at AMU

Egnan Mayet
(youth group)
Compost
Production
Association



Composting at
household level



Plastic reuse training (40
women)

Solid waste



Ecological sanitation in Arba Minch

Biogas unit @AMU



To show the
waste reuse in
energy
production

Urine experiment

- Urine as fertilizer - field trials
 - Maize, lettuce and tomatoes
 - Dose optimised at Arba minch level
 - People attitude is changed



Research activities of ROSA Arba Minch some topics

1. Urine use as a fertilizer
2. Concentration of nutrients on solid material
3. Vegetable and fruit market survey in Arba Minch
4. Microbial and Helminthes Analysis on vegetables (dry and wet season)
5. Greywater quality and quantity
6. Financing sanitation
7. Perception attitude and use pattern
8. Operation and maintenance
9. Co-Compost production

UDD toilet types in Arba Minch



Bamboo wall



Male/ Female,
corrugated iron
wall



School UDDT



Mud vault and bamboo
and plastic sheet wall

UDDT pan
used
#5 is
cheapest



Scheme of the plan of Ecosanitation in Arba Minch



UDDT



Solid waste collectors transport dried faeces and urine as additional income



CO-/composting site



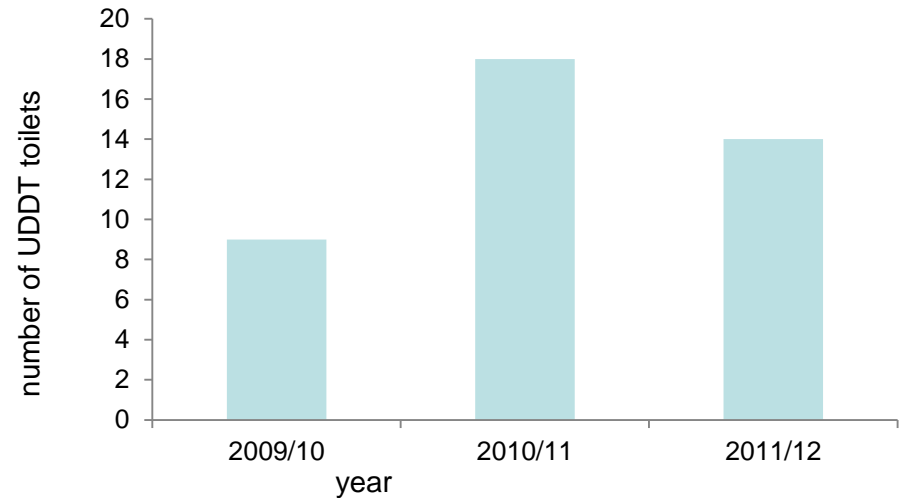
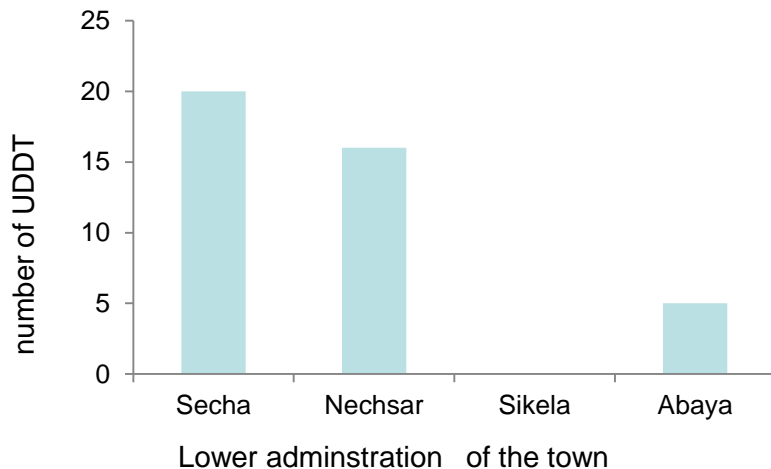
Sell for farmers

3. Challenges of UDDT

Weak market link between Co-composters and farmers

UDDT construction by SPA loan

- The increase in the number of UDDT is not satisfactory (loan + soil problem)
- 41 UDDT constructed since 2010



Distribution in relatively rich and new areas

Challenges...

- Co-composters do not have enough market for their products and seedling
 - Weak marketing and awareness activity and low support in this regard by the responsible NGO and GO
 - Composters rather search alternative jobs
 - No additional incentive to transporter

Challenges of UDD toilets- household



Overflow of urine



- .misuse of holes
- .blocking of urine holes
- .adding ash in the urine holes



Expose dried faeces for rain, chicken and kids

Challenges of UDD toilets- common use



- No ownership
- The users are passersby
- No operation & maintenance

- School:** no responsible person
- Knowledge transfer is missing



- Govt. Office:** Urine is draining open
- , no responsible person
- Low user frequency, no promotion
- Knowledge transfer is missing



- Garage:** abuse of squats
- Every time new users

Challenges of UDD toilet

- Do not store hand washing water
- some users do not have ash (for desiccating) in their toilets
- carelessness to reuse urine as fertilizer at household level
- Some UDDT can not be reached by roads or too far to collect by donkey cart (not fast and convenient)
 - this increase transportation cost to the users
 - Less interest to collect

4. Conclusion and lesson learned

- There is not enough market & awareness efforts for co-compost consumers so low income to composters results in low demand for UDDT waste which this decreases the demand of the toilet although there is loan and pit latrine problem in the town

Conclusion and lesson learned

- The fear to buy UDDT can be avoided if the O & M are done by private sector who are easily approached by owners- train skilled individuals
- From 7 years of UDDT implementation in Arba Minch and visited, household toilet are in relatively in a better condition than public or governmental offices
- Generally, The visited toilets are working except the abandoned one

Thank you for your attention!!