REPUBLIC OF RWANDA

MINISTRY OF HEALTH

# East Africa Practitioners Workshop on Pro Poor Urban Sanitation and Hygiene LAICO Umubano Hotel, Kigali, Rwanda, March 29th-31st 2011

**1. Title 'Best Practice'**: The case study of ECOSAN in Ethiopia, started 1996

*Almaz Terrefe*

**2. Country: Ethiopia, different areas for comparative studies**

**3. Initiator of the 'Best Practise':**

A group of activists and academicians from different disciplines in Sweden, Ethiopia and Kenya Found the NGO called Society for Urban Development in East Africa (SUDEA). Through this organization the first concept for Economical, Ecological Sanitation (ECOSAN) was spelled out by about ten researchers and practitioners. Already from the beginning the non-mixing system was described as the most challenging but also securing technique.

**4. Background of the initiative:**

Ethiopia, like most developing countries in need of an integrated approach to eradicate poverty, was the first country chosen to do a pilot project of ECOSAN 1996: ECOSAN as the first pilot project of its kind with an integrated approach of all biodegradable substances from the household including human excreta was financed by Sida in Sweden: the system was designed and spelled out to recycle all biodegradable substances from the household including human excreta in a safe and clean manner. For further information see Google ECOSAN history.

**5. Description of the initiative**

The main objective of the ECOSAN project had been to show the do-ability of specifically human excreta as fertilizer and produce food, fodder flower and/or forest (4F). Through the introduction of Urban Agriculture or Home Gardening we have learned how to empower women with natural resource management from the household. This has shown to be a very good income generating method for poor peri-urban households. The system is suitable and sustainable not only for the poor in particular but also for the nation in general

Before building the toilet the introduction of the whole system in a clear and clean manner is very important both for the family, the project and all involved have agreed to participate in the immediate work, maintenance and sustainability involved. Here comes the discussion of culture religion and who does what to see to that it functions as it should.

Then…. The description of the different circles on the first slide!

a) First step is to build a Urine Diverting Dry Toilet. (UDDT) that never allows urine and faeces to mix. Main advantages: No bad odour, no fly breading and production of fertilizer and soil conditioner. (Often mis-understood to cost more). Cost benefit analysis should be done not only by the initial cost. It should include safety, durability, sustainability and (w) human and environmental friendly approach.

b) Second step is to treat the faeces to make them safe, because they are carrying almost all pathogens. This can be done by storing the faeces for some time since it is mixed with ashes and/or composting together with household and garden refuse which takes between three months and one year depending on climate, what is mixed and other factors.

c) Third step is to use the urine – *fertiliser* - and composted faeces – *soil conditioner* -for agricultural purposes, producing food, fodder, flowers and or forests. To secure the safety of the edible it is important to train the users that neither the urine nor the soil conditioner get in contact with the edibles. There are varieties of techniques to be used securing the safety. Both urine and the compost should be used under the top soil! Many studies have also shown that Urine is good not only as fertilizer but also as pesticide. Home gardening or Urban Agricultura is an important effort to enrich the nutrition at home. By producing vegetable which contains different proteins, minerals and vitamins close to the house the frequency of feeding the children and pregnant women with good nutrition is an add up. (In most cases it is an activity of the women at home but unfortunately not recognized as and income). FAITH gardening, Food Always In The Home.

d) The fourth step involves methods to raise the eco-balance factor. Solar cookers can be used to save the nutritional value, water and energy when preparing the food.

e) The fifth step is to inform and diversify the eating habit of the family with the new production of the vegetable at home. In the pilot project of Ethiopia the introduction of the solar cooker together with the toilet has been very popular. To make the introduction of the ECOSAN system testy, to introduce edible flowers like nasturtium had been stimulating the beneficiaries.

An integrated approach, awareness creation and monitoring with respect is vital!!

## 6. Major drivers of the process and success

-The main target of the project was women in particular and the whole family in general. The introduction of the system started in gathering the whole family and came to an agreement that the work load of the system should be shared by everyone in the family since it should be kept clean and the work like composting and urban agriculture need an extra effort from the family. In most places men were very much interested in helping the building and agricultural part and gradually the women are in the lead group and in some places only the women. Does that mean the ECOSAN system increase the work load of women? Comparing to what they had before no. If they produce the vegetable in their own compound and in the neighborhood they compensate the time of going

to the market and get their fresh vegetable from their own garden work. One problem is that nobody calculates the time the women work as an income maker at home.
-The other target group is government organizations and NGOs who got the training for trainers and continued to introduce it further.
-International workshops and training for the ECOSAN system

## 7. Resources

- The pilot project was financed by Swedish Sida and Belgian Government and ran for almost ten years totally. It was a low-cost project which needed contribution from the families. Contribution was mostly through work and training other neighbours.

## 8. Successes

The pilot project had been evaluated and recommended for scaling up.
Many other countries have shared the experience of Ethiopia and implemented ECOSAN in their country strategies.

## 9. Lessons learned

- The basic concept can be used in many areas, not only on household level
- The system has empowered the whole family in general and women and children in particular
- The concept is proper for both rich and poor households
- The use of urine, when applied under the top soil, is suitable even for countries with low rain fall
- “Untrained” or “semi trained” trainers have sometimes caused problems which result in draw backs. The same goes for “experts” who believe to know whole the whole concept.
- Donors and governments in one have made it possible to introduce the sustainable sanitation systems, but on the other they have financed other projects which compete with no sustainability and sounds convincing. People have thus been confused specifically on the advantages and disadvantages of mixing or not mixing human excreta.
- As a whole where sustainability, human friendly technology, introduction and monitoring are conducted the result has been durable and sustainable

*To the writer of the paper: many of the questions below can be deleted, while the responses can be expanded upon*

- ***Is this achievement the end or just the start?***

The achievement is neither the end nor the start. Much had been done to share the experience and implement not only in Ethiopia but also to different part of the world.

- **What is the way forward to achieve sustainability, what still needs to be done?**

Political will and commitment from the governments to do the scaling up of sustainable sanitation. Donors NGOs, Civil Society Organizations, Consultants and other Private Sector to reach to an agreement not to compete not only for money and confuse people with buzz-words.

- **What should we do differently when we could start afresh and how can we correct the weak aspects in the initiative????????**

We should start the introduction in peri-urban areas only! I am not sure of that. I believe it is doable even in urban areas if the product is transported where it can be used instead of the existing technique where mixed urine and faeces are transported to peri-urban areas and dumped to contaminate the ground water, shallow water, the air and the soil. In most African cities the treatment plant are not compatible to the amount of sludge accumulating per day. The transport method existing today in most urban areas can be used to transport the clean urine to pre-urban and even rural farmers instead of spending their money for chemical fertilizers. Another problem today with poor farmers is using the land without adding any fertilizer. That crates drainage and degradation of the land which takes up to 25 of storage to recover.

- **Which were the most difficult components, perhaps still not solved?**

For us who initiated the concept of Ecological Sanitation with a spelled out concept by a multidisciplinary group of academicians and chose the Urine Diverting Technique as a safe lead for recycling it created a huge confusion when others came with mixing technique and started to call it ECOSAN. There is a need of solidarity and respect to initiators among the chore group of Water and Sanitation activists. From the governments of the African countries we have seen the luck of genuine political will to scale is one of the biggest constraints.
Duplicating studied efforts with no genuine understanding or igno-arrogancy, use the same name and some times change the name and sell it as new ideas immoral.

- **What were the easiest and what the most difficult elements in this 'best practice'?**

At the beginning one of the most difficult issues was to convince the bureaucrats that this system should be tried. Many people argued that the system of recycling human excreta will not be accepted due to culture. The challenging and rewarding aspect was when we were with the grass root people we were having fun laughing, discussing and in most places we end up observing families implement as we explained and we also saw the acceptance. Culture is in not a hindrance! By not having an enabling environment of experience exchange widely even within Africa we are now witnessing in Uganda and Kenya the discussion of culture as a hindrance for the system. A good example is the Ugandan culture widely discussed as a big issue that Ugandans will not add ash to faeces due to culture is so exaggerated. In many areas where we are implementing there is no enough ash. Thus we can add other substances like saw dust soil and sand according to what there is and what people want to use.

- **Could this intervention/initiative/practice be scaled up in other towns/areas in the country with similar challenges and comparable conditions?**

That is exactly what happened. Good examples are among others the CREPA countries. Twelve persons from different countries in West Africa came to Ethiopia to learn from what we had done and now they are one of the leading countries on ECOSAN. We have been to around 40

countries to share the experience and have witnessed good knowledge exchange with respect to the culture.

- **What is very unique or context-specific for our community/area and might be difficult to find/get somewhere else?**

We have families who used the ECOSAN system with the recycling component for 14 years and cover their need of most vegetable. We have also found that many young people have become very good in running the ECOSAN systems including composting human excreta. Some have started their own private business mostly in composting and recycling.

- **What are crucial preconditions for the initiative to be successful elsewhere? (in terms of resources needed, knowledge and attitude of different stakeholders, support structures, leadership etc)**

Good knowledge of the concept. Solidarity with knowledge contribution and exchange.

Comment to the editors. In General I am happy for the edition made. I think the questions will give a clear understanding to the answers and should remain. If you find it better without I do not mind.

**10. More information**:

Almaz Terrefe, a_terrefe@yahoo.se, P.O.Box 31673, Addis Ababa, Ethiopia.

**11. Further reading:**

Google on Almaz Terrefe and/or Gunder Edstrom.