Agro money for sanitation provision – examples from Niger, Burkina Faso and Côte d'Ivoire

Dr Amah Klutsé, Head of research and demonstration programs, CREPA
Linus Dagerskog, Associate Expert, CREPA
Postal adress : c/o CREPA, 03 BP 7112, Ouagadougou 03, Burkina Faso
Email: ámahklutse@yahoo.fr linusdagerskog@yahoo.fr
Telephone: +226-50366210

Abstract
By emphasizing the reuse potential with EcoSan, CREPA has managed to mobilize funds from the agriculture sector:

- *Productive Sanitation in Aguié, Niger, with IFAD support*. Low cost technologies for human fertilizer production and adapted PHAST tools on the fertilizer potential of sanitized urine and feces;
- *ECOSAN_UE II in Kourittenga, Burkina Faso, with EU food security funds*. Scaling up EcoSan in 30 villages, with focus on participative experimentation and strong involvement of agriculture extension officers;
- *Agro industrials in Côte d'Ivoire.* SAPH, an agro industrial specializing on rubber tree plantations, is contracting CREPA to implement EcoSan in the workers' villages, to improve living conditions while diminishing the use of chemical fertilizer in the rubber tree nurseries.

Sanitation in rural areas could be driven by the agricultural sector. With food security being a world wide problem, productive sanitation can provide part of the answer. Tapping into agriculture funds should be a high priority for the dry toilet promoters.

Key words: demand creation, sanitation funding, productive sanitation

Introduction
Ecological sanitation emphasizes the safe reuse of nutrients and organic matter in excreta. However the reuse part can be either a blessing or a curse in EcoSan projects, depending on the attention and resources allocated. The risk of failure in EcoSan projects is high if there is not a clear reuse strategy. With urine diversion toilets, the sheer volume of urine produced can quickly become problematic. Handling and applying urine is quite cumbersome and neither "intuitive" nor pleasant.

Since 2002 CREPA has been working with EcoSan done research on reuse of the use of urine and feces. It is however only recently that a particular accent has been put on the reuse aspect in EcoSan dissemination projects. In this new approach the hygienized urine and feces are in focus and promoted as "new fertilizers" in the rural communities. Participative field tests are made with urine to practice application and evaluate the effect on plant growth. This has been an efficient way to create demand for the toilets and urinals that facilitate fertilizer production. Using the toilet correctly and frequently will produce fertilizers of both good quality and good quantity.

For this fertilizer approach to be successful, agronomists need to be involved, as the regular sanitation professionals, such as sociologists and technicians, rarely have the competence to

carry out and follow up participative fertilizer tests. In pilot scale the project agronomist can do the training, but when scaling up a different approach is needed. In West-Africa, the agriculture departments are quite well represented on local level, with agriculture extension officers covering most villages. Their role is to give advice to farmers and promote new techniques and crop varieties. Collaboration with these extension officers offers an opportunity for scaling up demand creation via the training on use of EcoSan fertilizers. After the "agro-triggering" the work in the community with building toilets, user training and follow up becomes easier.

Emphasizing the fertilizer value of human excreta has enabled CREPA to attract funding from the agriculture sector. This poster shows some specific aspects of CREPA's three agro-funded sanitation projects.

Case studies

Productive Sanitation in Aguié, Niger - innovative technology and sensitization

IFAD (International Fund for Agricultural Development) is the main donor of this one year pilot project implemented by CREPA, PPILDA and SEI with the aim to show that productive sanitation is efficient, acceptable and possible to disseminate at scale. The term "productive sanitation" is used instead of ecological sanitation to emphasize the reuse aspect.

The reuse training is made in farmer field schools by comparing urea and urine in tests on different vegetable and cereal crops.

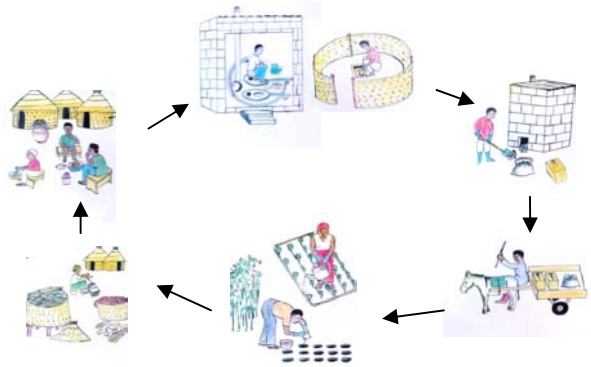
700 urinals and 210 toilets will provide the fertilizers. The project promotes the fossa alterna with urine diversion as well as the double vault UD toilet. The toilet subsidy is 45 $ (for the slab, vent pipe and vault construction) while the urinals are entirely supported (13 $ including eight 25 liter jerry cans).

A jerry can, funnel and light bulb can function as urinal. It can be dug down into the ground for squatting position.

The fossa alterna with urine diversion

The double vault UDDT in local material except slab and vent pipe.

The traditional PHAST tool that reveals the danger in excreta (the "transmission routes-exercise") has been complemented with tools that show the resources in excreta. With the correct use of toilets and urinals the danger can be eliminated and the resource captured!



"The PS circuit": The participants try to place the pictures in a cycle that show how what we take from the soil with the harvest is given back with the application of sanitized urine and feces.

"The field close to the village": Most villagers recognize that the harvest is better closer to the village, and that the reason is human waste. PS then becomes a way to improve what is already done.

"One family = two bags". In Aguié, the nutrient in excreta from an average family (9 persons) is roughly equivalent to one bag of urea (50kg) and one bag of NPK (50 kg). This is worth 80 $ on the local market and is about twice the amount an average family can afford to buy per year. Some of this is of course recycled already as open defecation is the common practice. However most people urinate at home in the shower/ablution area and the nutrients are then lost from the productive cycle.

If the pilot project proves satisfying PPILDA will spread the approach in the Aguié province with more than 250 villages, and there is a big uptake potential within other IFAD projects.

EcoSan_UE II Kourittenga – scaling up productive sanitation

In Burkina Faso a large EcoSan project, ECOSAN_UE II, running over three years (2008-2011) is financed with EU food security money. CREPA together with INERA (The National Agriculture Research Institute) and Ministry of Agriculture are implementing the project that covers 30 villages. Productive sanitation is combined with soil and water conservation techniques. The methodology this far has been:

Year I

- Informing and training the different actors on the new fertilizers
- Urine collection with simple urinals
- Participative tests with pilot farmers to show the effect of urine as a fertilizers
- Evaluation of tests and field visits

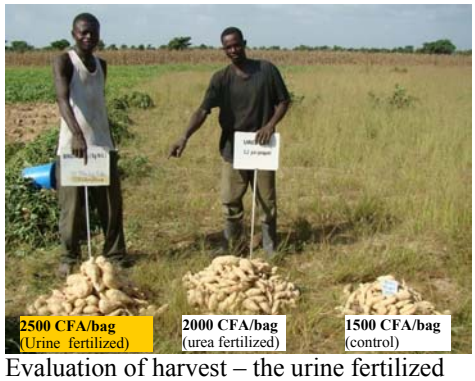
Year II

- Training on conservation agriculture techniques and urine tests at scale in all villages with farmer field schools (1/village) and individual tests (35/village), supervised by the agricultural extension officers
- Construction of 1050 toilets and 2100 urinals for fertilizer production

In Burkina and Niger the sanitized urine and feces have been given local names meaning "liquid and dry fertilizer". This is a great way to get over the mental barrier and distinguish between safe and unsafe human fertilizer.

Training of agriculture extension officers

Farmer training



Evaluation of harvest – the urine fertilized sweet potato has the greatest market value

SAPH, Côte d'Ivoire – partnership with the agro industry

In Côte d'Ivoire, CREPA is collaborating with SAPH, an agro industrial giant in the rubber tree industry, to provide the SAPH workers' villages with urine diverting dry toilets. After a period of testing and evaluating the EcoSan toilets in 2006/2007, SAPH decided to cover all 20 workers' villages. The urine and compost is used as fertilizer in the rubber tree nurseries, with the aim to reduce the chemical fertilizer use. This work is in line with SAPH environmental policy and with the efforts of improving the conditions in the worker's villages. CREPA provides the training and sensitization, a private company builds the toilets and SAPH provides the funds. Other agro industrials (Palm-CI, GREL, Michelin) have visited the pilot sites and have approached CREPA Côte d'Ivoire for eventual collaboration. The fact that the EcoSan coordinator at CREPA Côte d'Ivoire is an agronomist has been important for this partnership with the agro industry.

Toilets

Training

Urine storage

Enriching sawdust compost with urine

Applying urine with irrigation water

Conclusion

The "fertilizer approach" to sanitation has potential to trigger demand for sanitation similar to what happens in the CLTS, with the difference that the decision to take action is based on resource generation and pride rather than shame and disgust. However once the demand has been created there is still the need to support the communities with more training, with information on how "reuse-oriented" toilets can be constructed and often some subsidy to allow for a safe construction.

Sanitation in rural areas could be driven by the agricultural sector. With food security being a world wide problem, productive sanitation can provide part of the answer. Tapping into agriculture funds should be a high priority for the dry toilet promoters.