

A School Challenged by an ECOSAN Pilot Project: ECOSAN or ECOSIN?

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Ecological sanitation (ecosan) pilot projects in Rwanda go back some years. However, there is not much known about the results of these experiences. What did the WASH sector learn from the ecosan pilot projects? What are the implications for sanitation development in Rwanda? Based on a cursory investigation at a school in Karwasa, this article contributes to the ecosan discussion by describing the school's efforts to implement ecosan, how it got stuck along the way and eventually became an unfinished story.

The Karwasa School

The school entrance and centre court had a bumpy rocky underground, but were surprisingly clean. We parked the car and found someone to guide us to a teacher in charge of the keys to the toilet. The school director accompanied us to the latrines. Just around the corner of the school building, we saw teachers and children washing their hands and collecting water from a rainwater harvesting tank connected to the school roof. A wooden case had been built around the tap with a lock to protect it from unwanted users - this school was serious about hygiene!

Our visit to the school was an impromptu one, made in response to information shared on school ecosan during a meeting of the district water and sanitation team.. Thinking that this deserved serious inquiry, we convinced the district WASH officer of the same and left immediately after the meeting.

The school director led us to a corner of the school premises where we found six blue eco-latrines. The headmaster told us that the latrines were built in 2008 with funding from the Ministry of Education. On the first latrine door we read, "ECOSIN" and pondered what that could mean. ECOSIN? We looked into each latrine and saw that they were very clean and that each had a small bucket full of ash, as well as a wooden tap to close the hole. Everything looked perfect and in place: the plastic container for the faeces, a

Action Research

The water and sanitation sector is in dire need of curious WASH technicians that want to learn from on site observations and inquiries. SNV advocates for 'action research' by stakeholders to find better sanitation solutions. Action research is a reflective and interactive process that involves asking questions, jointly analyzing the answers, and drawing lessons to improve practice.

It is about critically reflecting on ground level interventions: What was the process that led to this particular set of results and impact? How sound are the underlying assumptions? What are the elements that lead to success or failure? What are the perspectives of the stakeholders? What do the people say: the builders, the users, the mothers, the managers and the children? How can we improve practices based on what we have learned? The WASH commissions of the Joint Action Development Forums are ideal spaces to bring the research results to the table and discuss actions to be taken.

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separate container for the urine, doors with keys, and buckets and sweepers for cleaning. There was only one problem: the latrines had never been used! Why?

The director explained: "The main problem is the composting and use of the faeces". For safe handling of faeces and to use it as fertilizer, it needs to be stored and decompose for at least six months in order to kill the pathogens. However, "The design did not include or consider a composting site for the faeces", he continued. "With 1789 students the plastic containers filled up within two days and then we didn't know what to do with it". He explained that after the

construction of the toilets, the school had been made responsible for maintenance and operation. The school had done their best, but lacked the knowledge to operate the ecosan units. "The builders had not even given guidelines to orient the school on the management of the ecosan installation", the director lamented.

In an attempt to solve the problem, the school management decided to dig a large deep pit next to the latrines for composting the faeces. However, it soon became clear that the pit also needed protection from flooding, as well as walls around it to prevent the children from falling in. "As a school, we didn't have the money and didn't know how to solve the problem". As a last resort, the school requested support from the District, which in turn promised to lobby various NGOs working in the district. In conclusion, the school had a beautiful yet dysfunctional battery of ecosan latrines.

Urine and ash

Urine separation has been a success. Urine is collected in plastic reservoirs and used in agriculture to supply nitrogen, phosphates and potassium. According to the headmaster, families are still testing and evaluating its impact on production. The headmaster is already convinced about the value of urine as fertilizer. When asked, he vehemently confirms that he would use the urine, as well as the faeces, on crops.

Ash is added after each deposit in the latrine for hygiene purposes and to support the decomposition process. *"The ash is contributed by the parents. It is not always easy to get ash since the parents also use the ash or sell it"*

Missing links

The headmaster explained to us, "The construction and the idea of ecosan in itself are excellent, but the management of the latrines is the problem". Apparently nobody thought in advance about storing the faeces for composting, nor where to use the compost afterwards. "During the construction, there was no sensitization and training on how to operate the ecosan system. Hence, nobody knew how to manage the ecosan latrines. Teachers, as well as children, have to know and understand ecosan in order to maintain it". We asked some children about ecosan, but they did not understand what we were talking about. The school director continued, "Water and sanitation go together. Water is even a bigger problem for the school. The rainwater harvesting system works well as long as the rains fall regularly, but in dry season the storage runs dry during periods of more than a month without rain".



The builders' assumption that the school would be able to solve the management of the ecosan latrines turned out to be unrealistic. After construction finished, the director visited a successful ecosan project, but did not learn how to solve his specific problem. After some unsuccessful attempts on the part of the school, the director put his hope on external support to get the ecosan experiment afloat.

The district officer who accompanied us to the school, after having heard the story, proposed a series of small technical projects: more rainwater harvesting tanks, connection to the main water supply, diversion ditches, and a finished compost pit. The school director agreed with the solutions, which he already knew, but also showed a feeling of being misunderstood yet again in his quest to actualize these projects.

On the other side of the school, the children were using the older generation of pit latrines. The director told us that these latrines worked perfectly well and digging the pits had not been a problem (the difficulty of penetrating hard volcanic rock just beneath the surface is one important reason why ecosan latrines are preferable). The school director reported that once the storage was full, farmers collected the composted faeces to spread on their fields, which allowed the nutrients to be recycled in the production system. So, why then all the hassle with ecosan? Having arrived at the same conclusion, the director recently requested 36 ventilated improved pit latrines (VIP) from UNICEF. And what will he do with the ecosan toilets? He said he wrote about the 'unfinished ecosan' in the 'observations' section of the VIP project proposal form.

The view of a district officer

A district officer is very clear about his opinion of ecosan: *"Ecosan doesn't work for us and we refuse to build more of them! Here, people simply don't care about hygiene like they do in other parts of the country. The people don't maintain and even can damage the works. Not because they are badly built, but simply to express frustration about other things. And, by the way, nobody likes to be seen going to a toilet"*.

What's next?

"The ecosan pilot did not fail, but is unfinished", asserted the director. Our analysis concurs that there is a need for an additional step: that of taking stock and learning about the experiences. Our school visit reveals that ecosan requires more than simply building the toilet blocks. The headmaster would insist on the need for sensitization on the ecosan concept and management. We also agreed with the conclusion that every aspect of the ecosan cycle should fit with the school environment. Recycling is fine, but where and who is going to do it? Could a school garden serve as an incentive to manage and recycle the faeces? Would neighbouring farmers assume the management of the faeces if they knew more about the value of its nutrients? Further exploration and additional inquiries are necessary to complete the picture. Findings can then be presented to and analyzed with stakeholders from the Ministry, local authorities, the builders, NGOs, teachers,



students and farmers. All of their experiences and viewpoints hold valuable keys to the success of future sanitation development.

The Karwasa school is just one example of an unfinished ecosan experiment. In Rwanda, across the board there are signs that the ecosan promise is not yielding the expected benefits. District administrations are responsible for service provision to the people, so they are in the position to demand that stakeholders develop practical solutions to the sanitation challenge. The Joint Action Development Forum offers the space to engage stakeholders in this type of action research. And, as illustrated in this article, many answers can be found just by being genuinely interested and critically inquisitive. For now, to increase awareness of the problem, we propose writing on all the doors of dysfunctional ecological toilets 'ECOSIN', because that is what they are.

School: Karwasa Sector: Gacaca District: Musanze 1789 children 33 teachers More than 100 children per latrine No running water (though a main tap/water source? is less than 100m away) Main water source: two rainwater harvesting tanks
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