

With Our Own Hands: Promoting Ecological Sanitation in Mindanao

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Abstract

Ecological sanitation or ecosan for short in the Philippines and elsewhere is a new paradigm which has the potential of improving food security and health and sanitation especially among the poorest of the poor. It considers waste as a natural resource needed in growing crops and thereby closes the loop between sanitation and agriculture. Our experience shows that marginal farmers adopt ecosan when it is incorporated in a holistic manner into the larger program of assistance to them and in our case, agro-forestry, vegetable gardening, community organizing and capacity-building. A multifarious and sustained education and communication strategy is also needed for beneficiaries to really be able to adopt the technology. We focus our attention first on the most innovative farmers and leaders in the community. Our recommendation includes the following; a) for the government to institutionalize ecosan in schools and public places and allocate some budget so that ecosan toilets can be constructed in these places; b) for the department of education to integrate ecosan teaching in the curriculum; c) the adoption of ecosan at the family level; and, d) the conduct of more research especially in the arena of economic measurements of the impact of ecosan to the community. Finally best practices must be documented, disseminated and popularized.

Introduction

Ecosan or ecological sanitation is a new paradigm in promoting health and sanitation in the Philippines and as I can surmise it is also a new paradigm globally. It is a system of “closing the loop between agricultural production and health and sanitation and is a shift from the traditional end-of-pipe system” (Werner: 2004). The argument is that “sanitation could be solved in a more sustainable and efficient manner if the resources contained in excreta and wastewater are recovered and used rather than discharged into water bodies and the environment.” Feces, urine and grey water are stored in ecosan toilets and the resulting organic matter is used to fertilize plants such as vegetables which are very much needed in a country like the Philippines where most of children living in the rural areas are undernourished. Using feces and urine in this way also prevent it from contaminating the environment and prevent communicable diseases from spreading. Ecological sanitation follows the Bellagio Principles (2000) stating that “current policies in waste management are abusive to human well-being, economically unaffordable and environmentally unsustainable.” It further states that “human dignity, improved quality of life and environmental security should be at the center of the new approach” and that “waste should be considered a resource...”

The idea of ecosan was first introduced to the Local Empowerment Foundation (LEF), a grassroots NGO I am directing by one of our partners, the German Doctors for Developing Countries based in Frankfurt. In one of the visits of its Project Officer, Mr. Peter Wychodil, he brought with him a piece of paper with some diagrams about ecosan. The diagram was not very clear but I got the web address and conducted a search and came in contact with Ms. Ulrike Lipkow, a German technical expert from GTZ who has a project in the Visayas

promoting ecosan. I got also some information that a nearby university here is promoting ecosan with their peri-urban gardening project. With this serendipitous confluence of events, our ecosan project came into being and well on its way to offer some solution to the pollution and unmitigated spread of diseases in Mindanao due to improper disposal of feces and urine. Our project is not only relevant in our locality because on the whole, 90% of the sewage generated in the Philippines is not disposed or treated in an environmentally acceptable manner and diarrhea is top 3 major cause of death especially among children. There are also 2.6 billion people worldwide without access to any kind of improved sanitation and 2.5 million annual deaths of mostly children under the age of 5 is caused mainly by sanitation-related diseases.

This paper attempts to describe our concrete experiences in promoting ecological sanitation to small, marginal farming households in the project areas in Northern Mindanao and describe peoples' responses, benefits, challenges and opportunities. One caveat that I may say is that I do not attempt to present a panacea, or a "cure all" for all the health and sanitation problems besetting our country but to offer some solutions based on pragmatic, on the ground and localized experience. This is also a song of hope showing that if people do study, think and initiate, no matter how small they may be, then positive things can synergistically happen and that help is not really far behind. The phrase "think global, act local" may be appropriate here.

Present practices of defecating and relieving oneself in the project area

The present practices in defecating and relieving oneself here are; a) using water-sealed toilets common in lower to upper middle class homes, b) using an "antipolo" system which is no more than a hole in the ground and a piece of wood or bamboo planking at the mouth for people to sit, and, c) just doing it under the open sky. The last case is very common in rural barrios and in coastal areas. In the interior barrios, there are a lot of open spaces and shrubs where one can just sit down and defecate while in coastal areas, feces is easily covered by sand. A convenient banana or any leaf or sea water is used to clean the anus. Urinating is much simpler where any natural obstruction can easily be used. Men and women equally do this but it is the men who are more unbothered while the women have to hide and be somewhat modest. Children have no qualms at all and just relieve themselves anywhere they like. It is really amazing because when Filipinos travel the world in our Diaspora we are very sanitary and uses the most modern toilets with facility. It is unthinkable for a Filipino to urinate like dogs in the sidewalks of Sydney or Rome, for example. The connection between communicable diseases or pollution of the waterways do not bother the ordinary Filipinos who in a sense is much more bothered in finding the next meal than thinking about microscopic germs infecting them. A disease or a sickness is considered an "act of God" and in the same vein of reasoning only God can save the sick. Of course I am not talking about educated, middle class Filipinos but those 92% in our project areas that are dirt poor and "uncultured".

Negative consequence of defecating and urinating in anywhere is well documented and we can see it in scrawny children with bloated stomachs which is a sign of infestation of all kind of worms be it tape, round, ring or even schistosomiasis. Small children bear the brunt since they like to play hide and seek and explore the nooks of the neighborhood and it is here where a mound of feces often sits and are trodden upon by innocent feet. Parasites are freely exchanged in the water table as feces and urine seeped through the numerous open wells to be drunk and partaken by all including the salmonella, helminth ova and enteric viruses

associated with it. In our measurements in one of our coastal project the presence of fecal coli forms is constantly high all throughout the 3-year project indicating that the coastal waters are very much polluted already. Given that the Philippines is composed of 7,000 + islands, this is a great challenge indeed.

How we promote ecosan

Promoting ecosan in our areas is fraught with inaction, benign distrust and resistance simply because it challenges local values and age-old practices. One problem also is the lack of political will (and budgets!) of the local government units in pursuing waste management here. Fortunately for us, the German Agency for Technical Cooperation (GTZ) has an entire website promoted to ecosan and we make full use of this. The steps on how to start an ecosan initiative is particularly helpful although during our implementation we found out that the steps outlined consisting of awareness, launching, baseline study, social preparation, decision making and implementation is not necessarily linear but is an iterative, recurring process, with no particular order at all. For example, awareness-raising should not be seen as a one-shot deal but should be done all throughout. Ms. Ulrike Lipkow also sent us practical tips and communication materials appropriate for our needs. Here I can cite some of our success factors;

a. Identification and mobilization of local promoters – the local promoters comes from the rank of innovative farmers in the locality whom we think have the leadership capability and stamina to promote ecosan to his or her neighbors. Our idea is that given the new way of doing things, we need to have local champions in the area whom we can depend upon in order to defend us in controversies and guide those who show willingness to adopt the practice. We roughly divide the people in a given barrio into roughly 70% neutral (to the ecosan idea), 15% vehemently opposed and 15% as our champions. Our simple contention is that why focus on the 15% who are vehement oppositionists? We better focus on the 15% champions (or early adopters) first then let them persuade the 70% neutral to lean to our sides, the oppositionists we left to fend for themselves. The approach is similar to those used by itinerant direct marketers in our area whom we observe will talk only to those who sign some positive indication to what they are selling but will not spend an iota minute to those whose facial expression show that a sale cannot be had. We target as part of the group of champions or those who are on our side the local barrio officials and the teachers in the elementary schools who are more exposed to issues of health and sanitation.

b. Use of incentive under our water, agro-forestry, nutrition and development (WAND) project. Our WAND project is an award-winning initiative (Development Marketplace 2004) and focuses on providing a package of assistance to the small farmer consisting of support to their need for water, need to conserve soil and water via agro-forestry, promotion of vegetable gardening and organizing them into functional neighborhood clusters. So to complement the WAND, we provide as incentive vegetable seeds on credit to the farmer-participants. The ecosan initiative perfectly matched the w, n and d components of the WAND. Capacity-building, gender and development and community strengthening are themes cutting across all the components.

c. Use of multiple teaching and learning techniques- some of the early ecosan initiatives suffer from lack of sustained training and capacity-building and were declared failures. There is always the mistaken notion that when we introduce something to unlettered farmers, they

get the solution immediately, when in fact it is not really the case; what is simple to us may be very complex for them given a host of major considerations on their side such as budget (it is easier to defecate in the open, clear blue sky), time, values, cultural practices and so on. In our case, we use multiple teaching methods like lectures, field demonstration, bringing them to see actual ecosan operation, using posters and simple illustrated manuals in the local dialect (Cebuano). Added to this we added a senior promoter coming from our staff to focus closely on capacity-building activities. This has ensured that the ecosan technology is slowly being institutionalized and become part of the day to day actions of the local people. The GTZ assisted us by training 3 of our community facilitators on ecosan in Dumaguete City.

d. Establishing communal ecosan models. It is said that when we promote something we should be the first ones to lead by example. In this case, we constructed one ecosan toilet in the LEF main office in Libertad and ask all the staff to use it. In this way, farmers coming to the office to conduct their business or attend trainings will be able to see that we ourselves are practicing what we are preaching. We also constructed communal ecosan toilets in 4 barrios in Misamis Oriental. We have submitted a proposal to the German Federal Ministry of Economic Cooperation for expansion activities and the construction of 60 more ecosan toilets in the province of Zamboanga del Norte in the years 2008-2010.

e. Linkage and partnership with local and technical expertise. With the advent and affordability of the internet nowadays, Asia and the rest of the world becomes just like next door neighbors. Thus when we have for example a problem with how long to store the urine before it can be used to fertilize the plants, an expert informed us that as per WHO standard, it should be stored at least 1 month. When we asked whether the underlying principle is anaerobic digestion or simple dehydration, an expert based in a university said that the principle working is simple dehydration. When we had a problem looking for the specialized ecosan bowl to be used, a contact in Manila gave us the address and facilitated the purchase of the bowls. This linkage and partnership we are able to exploit despite our being located in the most far-flung of places. In the 80's this could have not been done and we have to wait for months on end in order to get the information that we want. Our space has collapsed dramatically making us truly inhabitants of One World.

Conclusion and Recommendations

It is much too early to draw conclusions as to the impact of our initiative but the value in terms of prevention of diseases, savings in terms of the use of feces and urine as organic fertilizer and the reduction of pollution in the groundwater and coastal areas will be tremendous. The effect evaluation of our initiative will be done by next year when substantial data has been generated already.

At this point, some of the recommendations that we can offer are the following:

a. In terms of policy, for the government to come up with a pronouncement that will institutionalize ecological sanitation in schools and in public places. Coupled with this pronouncement will be a support fund that will be used in order to construct ecosan toilets in these schools and public places such as in barrio halls, waiting areas and public clinics. In our experience one double door ecosan toilet will cost approx 23,000 pesos to construct and this can serve a total of 300-500 households, a small investment compared to the benefits in terms

of low disease and parasite infestation, less pollution and contamination of the water tables, etc.

b. For the department of education to institutionalize ecosan teaching in the schools. The schools can well serve as the local promoter of ecological sanitation plus the help of local NGOs such as the Local Empowerment Foundation and the policy-level assistance of the local government units. These multi-level collaboration and coordination will be an effective tool to popularize and promote ecosan in the local areas.

c. Our present practice is to promote ecosan at the commune level since cost of constructing one is too high for a household to consider. One direction should be for ecosan to be adopted at the household or family level with NGO and local government support and incentive.

d. In the arena of research, more research should be done in the area of actual cost-benefit measurements using multi-criteria analysis to determine the actual benefit (and cost) in using ecosan toilets versus in just defecating and relieving under the hot sun. The research output can be used to educate and inform local stakeholders about the value of ecosan. Another research theme will be on the cultural and socio-economic aspects taking into consideration affordability, sustainability, conformity to religious and cultural practices, and so on.

e. In the arena of advocacy, there should be a network or even just a blogspot solely promoting and “marketing” ecosan to the public. This site should enable practitioners, policy makers, extension workers and advocates to exchange notes, get moral support and even find some funding possibilities.

f. Since eco-sanitation is an infant approach/concept in the Philippines (started only in 2005 with a GTZ-supported project in the Visayas), effort should be made to document best practices so that this can be popularized and or made into a resource book.

g. In terms of cost-recovery, an “ecosan user fee” can be implemented with those using the toilets paying a small fee to recover cost of construction and maintenance of the toilets. User fees in public toilets here are fairly common. Some of the organic fertilizer and compost can also be sold to seedling nurseries, flower enthusiasts and gardeners in order to recover cost.

References

Austin and Duncker (2002). Urine-diversion ecological sanitation systems in South Africa. CSIR, Pretoria, South Africa.

GTZ Webpage on Ecological sanitation.

Reintjes, Haverkort, Waters-Bayer (1992). Farming for the Future: An Introduction to Low-External-Input and Sustainable Agriculture. ILEIA, The Netherlands.

Werner et. Al. (2004). Planning and implementation of ecological sanitation projects. Draft version 08/04. GTZ.

Communications with Ulrike Lipkow of the GTZ and Peter Wychodil of the German Doctors for Developing Countries.