



Introducing ecosan in the Philippines

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Initial attempts to introduce ecosan in the Philippines met with failure. However, once a particularly dynamic Mayor and the city officials were persuaded of the appropriateness of ecosan, the new project has begun to take off.

In 2001, the Centre for Advanced Philippine Studies (CAPS) tried to introduce Ecological Sanitation (ecosan) in a small rural town 120 km south of Manila. CAPS targeted a handful of poor households, and oriented and assisted them to build their ecosan toilets. Unfortunately, CAPS was lacking in experience and knowledge about how to implement the project. Needless to say, the project failed miserably.

Keen to prove that ecosan is appropriate and applicable in the country, CAPS went to work to relaunch ecological sanitation. CAPS signed up with the ISSUE Programme of WASTE, a Dutch NGO, and committed to do better the second time around.

A window of opportunity

In 2003, CAPS submitted an entry to the World Bank's Philippine Development Innovation Marketplace (PDIM). Held every two years, the PDIM is the World Bank's way of identifying and supporting innovative ideas to address development challenges. Fifty winning proposals would be granted up to P1 million each (US\$22,000).

The objective described in CAPS's proposal was to propagate the ecosan system of urine-diverting dry toilets (UDDT) especially in areas of the country where water supply was a problem. The UDDT is not a water-reliant system; no water is needed to flush human excreta.

At about the same time, the dynamic and development-oriented Mayor Mary Jane Ortega of San Fernando City-La Union was about to embark on a

traditional sanitation programme of distributing pour-flush toilets to poor households who did not have toilet facilities. Based on the city's Minimum Basic Needs Survey at that time, San Fernando had more than 400 families without access to toilets.

By chance, Mayor Ortega learned of the CAPS proposal submitted to the World Bank. She immediately approached CAPS to express her interest, since her city was also experiencing water supply problems. Since CAPS at that time was looking for a local government partner to pilot ecosan projects, there was a meeting of the minds and purpose, indeed, an unbelievable coincidence.

Back then, practically no one in the Philippines knew about ecosan. But by this time, CAPS had become the project holder of the Integrated Support for Sustainable Urban Environment (ISSUE) Programme formulated by their long-time Dutch NGO partner, WASTE, Advisers on Urban Environment and Development. The programme was designed to introduce and advocate the wide use of ecosan in developing countries.

In 2004, the City of San Fernando and CAPS, along with three other local support NGOs, formed a consortium to oversee and implement the Ecosan pilot projects in the City. Since the ISSUE Programme was a Millennium Development Goal (MDG)-oriented poverty alleviation programme, CAPS requested the Mayor to identify two very poor *barangays* (villages), one urban and another rural to serve as the pilot areas.

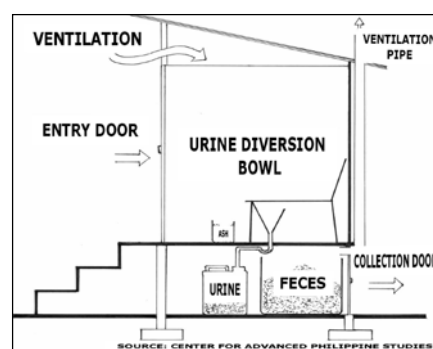


Figure 1 The urine-diverting toilet

Box 1. Ecological Sanitation

Ecosan is based on the principles of preventing pollution by sanitizing the urine and the faeces; and using the safe products for agricultural purposes. In a urine-diverting dry toilet (UDDT) system, the urine and faeces are separated by a specially designed bowl (see Figure 1). Urine which is rich in nitrogen, phosphorous and potassium, flows to a container while the faeces drop below the bowl and are covered with ash, lime or any additive to absorb moisture and to hasten dehydration and pathogen die-off. Handled properly, urine can be used as a fertilizer, while dried faeces can be used as soil conditioner.

How to get it right, first time

To ensure that the project would start on solid ground, the first major activity we did was to conduct an assessment of the city's sanitation (and to a certain extent, solid waste management) system. This assessment made an inventory of all the stakeholders involved, public, private and informal



During drought, as other sources dry up, long queues may develop at sources that are still working.

Mayor Mary Jane Ortega explaining ecosan to villagers

sectors, their roles, responsibilities and impact in or on these systems. We closely scrutinized and documented the conditions of water supply, ground and surface water pollution, waste-treatment systems, collection, transport, processing, treatment, reuse and disposal of waste.

To complete the picture, the relevant institutional, policy, legal, financial and social aspects of the sanitation system were integrated into the assessment. Moreover, the assessment was augmented by baseline studies of the two pilot areas to gather information about health status, mortality and morbidity rates, sanitation practices in the community, relevant belief systems and community-level relationships and leadership structures.

These assessment and baseline studies became instrumental in all aspects of ecosan project implementation. A discovery that shocked everyone was the sorry state of the groundwater in the city, a main source of water supply. Out of the 59 water wells, 56 tested positive for faecal contamination. People were polluting the water they were drinking with bad sanitation practices such as defective septic tanks which acted more like soak pits.

Attitudes had to change

People liked the convenience of a 'flush and forget' toilet system; even the poor

aspired to have one as a sign of progress and social status. All the city officials were sceptical about ecosan. But with the wholehearted support of the Mayor, we conducted a series of meetings and discussions among the city officials. We had to convince them first before we could convince the rest of the community.

We sponsored the City Health Officer and the City Engineer to attend short courses on ecosan in Sweden and Norway respectively. When the time

was ripe, we conducted a week-long participatory planning event to start the construction of the ecosan toilets. This was attended by city officials, *barangay* leaders and potential ecosan household adopters.

Finally, the Mayor ordered the construction of two toilets, one in each of the two pilot *barangays*, each one assigned to a family without toilet facilities in their home. This was a 'seeing-is-believing' strategy. After three months, we were able to dispel the fears of the community about bad odour, and demonstrated ease of maintenance. The first cooperators even showed their neighbours how they used urine as fertilizer in their flower and vegetable gardens.

As the project took off, more and more households in both rural and urban poor *barangays* began to submit applications to join in, despite the fact that they would have to cover the cost of the urine-diverting (UD) bowl and the walls and roof of their toilets.

Serendipity

The project was a huge success in the pilot communities and soon became a city-wide programme. By end of 2006, 150 households had joined the programme. Because of the positive results, the city went further by constructing ecosan toilets in three elementary schools, in the 20-hectare La Union



The first ecosan adopter with his water melon grown with urine fertilizer



A bonsai garden next to an ecosan toilet

Provincial Botanical Garden, in the Science Centrum Building, in a resettlement housing project of 95 houses for fisher families, in several nursery sites and in a Marine Sanctuary Watch Tower by San Fernando Bay.

The city became conscious of the importance of sanitation. Towards the end of the 2006, the city was able to pass a newly updated sanitation code and formulate a Strategic Sanitation Plan. This plan included the construction of wastewater treatment facilities for the wet market and slaughterhouse,

a septage treatment facility and 1,000 more poor families with ecosan toilets all to be completed by 2010. The simple ecosan community project crystallized the need of the city to protect people's health and water resources in a comprehensive way.

What started as a community project became the city's pride and the model for other municipalities. In 2006, two other towns in the province of La Union adopted and implemented ecosan projects with the active support of the Provincial Government. By 2007, the

Provincial Government of La Union committed to support ecosan projects province-wide.

Word spread far and wide. Soon other municipalities, cities and provinces all over the Philippines started to take notice of San Fernando's successful ecosan project. Local government officials from all over the country started to inquire about how they could start their own projects, and many of them visited San Fernando to see for themselves.

Blessings in disguise

Going back to the World Bank's PDIM in 2003, CAPS was not chosen to win a P1 million prize. However, CAPS won the cooperation and dedication of a city that budgeted P1 million for the Ecosan project for 2004–2006. More than that, the Sanitation Plan formulated by the City includes more than P25 million worth of sanitation projects for the future. With hindsight we now realize that the strides that were taken are worth much more than what could have been achieved with the cash prize of P1 million. Many results cannot be measured financially. There were invaluable learning experiences: awakening, networking and goodwill developed throughout the project.

We are proud to say that the San Fernando ecosan experience has put the Philippines on the global sanitation map.

About the author

Dan Lapid is with the Centre for Advanced Philippine Studies



An ecosan toilet in a school