17th WEDC Conference

Infrastructure, environment, water and people

Nairobi, Kenya 1991

The SanPlat System

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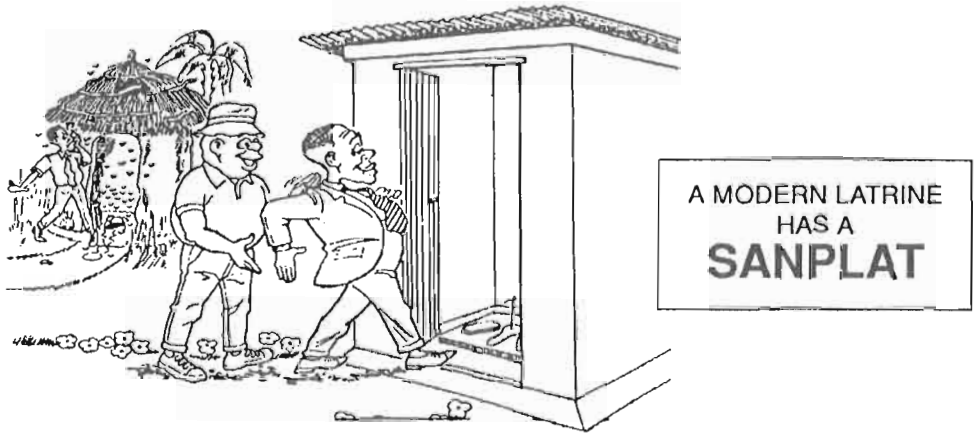
Lowest Cost Environmental Sanitation

Integrated implementation of lowest cost environmental sanitation based on experiences from Mozambique, Malawi and Angola or How to build a hundred thousand good latrines



YOUR VISTORS WILL LOVE IT
NO SMELL - NO FLIES - NO EMBARRASEMENT

MOZAMBIQUE: URBAN LOW COST LATRINES

Almost nothing is as simple as building a good latrine - the problem starts when you want to build some thousands of them or millions.

- Should you promote a standard latrine or should you allow the individual households to build their latrines the way they like?
- How much support should each household receive from the project?
- Should the latrine have a vent pipe or could it be made simpler?
- Must it be roofed?
- Which standard is acceptable and which one is not?

Many difficult questions

These and plenty of other difficult questions were risen when the Mozambican National Directorate of Housing (DNH), later the National institute of Physical Planning (INPF) started to develop a latrine programme suitable for low income housing in 1979.

A hard reality gave the answers

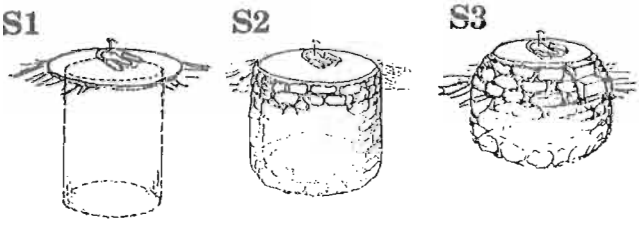
The shortage of building material and a will to respect existing building traditions gave the answer to many of our questions and we ended up with a latrine slab in three sizes and three standard pits.

S1 The simple pit

The sloping surfaces of the domeshaped slabs kept the lose sand from entering into the pit, and you could normally make a simple pit with no foundation.

S2 The lined pit
In unstable soil we lined the pits with simple sand cement blocks (7x20x40cm) stacked along the pit sides with no mortar in the joints (except for the top two or three courses.

S3 The elevated pit
In areas where we had difficulties to dig deep pits (because of high ground water tables) we continued the pit-lining over the ground level, now with cement in the joints.



We made lots of experiments on the slab and opted for a slightly domeshaped slab of non-reinforced concrete with the following features:

- **elevated footrests** - which help the user to find the right position even at night
- **a key hole shaped drop hole** - which due to the footrests has been reduced to minimum size, hence making it completely safe even for the smallest children;
- **a tight fitting lid** - which stops both smell and fly circulation, making possible latrine installation in the immediate vicinity of the house with no smell or fly inconvenience;
- **ease of cleaning** - due to the sloping surfaces and a very smooth finish, thus encouraging daily cleaning.

Test sale
We had managed to solve questions of: hygiene, child safety, smell and fly control and structural stability of the pit and of the slab. The difficult question was: Was it affordable and should it be accepted by the public. We put our proposal on test sale. If the latrine was good enough it should sell itself.

A difficult start
In the beginning sales were really poor. Some people wanted complete latrines built with walls and a roof. There was a shortage of building material. As a strategy it was impossible. The project could not build complete latrines for every family.

Slabs only
We gave priority to the families who wanted to build the superstructure them selves. We just built the pit. We had to give up to build the structures, but also the pit-queue was growing. We opened a new line of priority: Slabs only.

Transport made sale take off
People had difficulties to transport the slabs. We made push carts and sales took off. People bought slabs and sand-cement blocks for pit-lining. Sales were now only on Saturdays not to interrupt the production which now was the only bottleneck.

Other cities coming after
People started queuing early in the morning to be sure to get their slab, and many customers bought two slabs. And we sold the weeks production in a couple of hours. When the sales were as best, people started queuing at two o'clock in the morning and we had to open up new workshops (cooperatives) on 13 places in Maputo, and other cities were coming after.

1000 latrines a month
This was almost too good to be true, but there was a sellers market. There was plenty of money around and little to buy. A number of devaluations on a total of several hundred percent and more goods on the market gave competition to our latrine builders. Still sales continued over 1000 units a month and management became the main problem.

Fast growth created management problems
It was difficult to control the growing number

of cooperatives and an increasing amount of cement was getting stolen. A drastic change had to be made to break a circle where increased cement supply led to increased theft of cement. Today after a difficult time the programme is again expanding.

MALAWI: ADVANCING TO RURAL AREAS

Traditional latrines are easily improved through installing a small SanPlat over the existing drop hole.
The simpler the better!

After six years in Mozambique I was offered a job by the World Bank as a Sanitation Adviser to the Government of Malawi.

VIP-latrines

During six years we had developed a sanitation system which we found both simpler and better than the VIP-system (Ventilated improved Pit-latrines), and now my terms of reference said that I should promote the building of VIP-latrines.

No conflict between the two systems

The SanPlat was introduced as an improvement on the VIP-latrines, as the VIP-latrines also needed to have a hygienic and child safe slabs with elevated footrests. The big discussion was about the tight fitting lid. Was there a need for the lid or was it an obstacle to the famous flow of air which should carry the flies up the vent pipe!

The "Rolls Royce" version

Field testing showed that the VIP-latrines actually worked better with the lid. Less smell both in the toilet room an outside the latrine. No odours from the ventpipe any longer. And when people forgot to put the lid on, the latrine worked as an ordinary VIP. We had developed the "Rolls Royce" version. There was a discussion, however, about the affordability.

Protests against the cost

In Mozambique we could not build the VIP-latrines because of the lack of building material. In Malawi the material was there, but people protested against the cost. What was expensive and complicated was the ventpipe.

The SanPlat System

The excellent surface, the child safe drop hole with the footrests and the tight fitting lid were improvements easy to understand and good arguments in the sales. People often bought the slabs but blocked the hole for the ventpipe. And with the tight fitting lid to the drop hole they did not really need it.

Rural sanitation

During a seminar on rural sanitation we came to the conclusion that it should be possible to improve the traditional latrine design simply by putting the smaller San Plat (60x60 cm), a flat one, on top of the traditional mud floor.

Two US Dollar per unit

Malawian women easily carried the small latrine slabs (35 kg) up to 6 km from our SanCentres (=Sanitation Centres), were the SanPlats were produced, to install them in their traditionally built latrines. They also provided sand, stone and water. Only about 10 kg of cement was required per family and almost no reinforcement, to a price below two US dollars per unit! This subsidy together with project management and supervision permitted us to run the programme with no cash input from the families.

More and better latrines

More villages became interested. We could start negotiating with village head men and health committees for the community participation. Only families who had or who committed themselves to build a good traditional latrine were allowed to

participate. And the SanPlat was not released until they had their latrine completed. When we started only about 40 percent of the families had latrines, and most of them were poorly looked after. With the introduction of the SanPlat programme the figure rose to 70-80 percent and they were really good ones.

Health education

The programme developed in different directions in different parts of the country, but as a general rule the community participation component was becoming stronger and stronger. Health education was carried out in parallel with the latrine building programme and in some areas is was also linked to well building programmes and agricultural development.

Integration and improved living standard

Integration with other programmes, like primary health, water supply or agricultural development became the solution for cutting on the overheads for programme management, transport and supervision. Integration with other programmes was also the way to safeguard health benefits, as we all were aware that improved health was not only a question of better latrines but improved living standard in all aspects.

ANGOLA: URBAN REHABILITATION

Most people had nothing

Our latest experience is in Angola, where I have been invited to participate in the environmental rehabilitation of the two cities, Lobito and Benguela. Here only a small percentage of the population had latrines.

Multi media promotion

To get the programme rapidly off the ground we not only drew from the Mozambican and Malawian experiences, we also introduced a strong promotional component based on modern publicity and multi media promotion including radio, local tv, public events, posters pamphlets promotional gifts, etc. And health education will be given special attention.

An efficient system

Officially the programme is only in its preparation phase but we have 1000 latrine slabs made of which 500 already are installed. People are enthusiastic about the new latrines. Also Angola has shown that the SanPlat system is an efficient way to improved environmental sanitation at the lowest cost ever.

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ACKNOWLEDGEMENTS

So many people have contributed to make the SanPlat System to what is today. It should be unfair to mention some people and leave others out. Still I want to extend my thanks to SIDA, (Sweden) who financed my first assignment to INPF, Mozambique, to The World Bank and UNDP who assigned me to the Governments of Malawi, and Angola. I am specially grateful to Vic Kasinja who made the cartoons and to UNDP in Malawi who authorized their use in other sanitation programmes.

ABOUT THE AUTHOR

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