Is it Selling Toilets?
No, A Lifestyle.

Learning from Communities with Sanitation Success Stories in Indonesia

Nilanjana Mukherjee
and
Ratna I. Josodipoero

March 2000
Photographs by WSP-EAP and Pradipta Paramita team.

Field Research by:
Ratna Indrawati Josodipoero, Alma Arief, Devi Reti, Amin Robiaro, Devi Ariandri, Sita Laksmini,
Dea Widyaastuti, Henry Widjanarko

Study design and co-ordination: Nilanjana Mukherjee
Regional Community Development Specialist
WSP-EAP
"Is it Selling Toilets?"
"No, A Lifestyle."

Contents

◇ Quest for Understanding ................................................................. 3

1. What catalyzed demand for household toilets? ................................ 5

2. How long did it really take to change behavior? .............................. 9

3. What benefits matter most to users? ........................................... 11

4. Is sanitation coverage linked to hygiene awareness? ....................... 16

5. What kinds of sanitation & hygiene promotion were effective in changing behavior? ............................. 19

6. What is really needed for sustaining sanitation services? .................. 22

◇ LESSONS LEARNED
Quest for Understanding...

What makes some communities want to change sanitation behavior? What factors motivate, persuade and convince people to invest in their own sanitary toilets, when they could continue to use rivers, fields and sea-beaches for defecation, free of cost? Who among the community and within households most wants to make that change and why? Is the change linked to hygiene awareness, or something else? For effecting behavior change what does work and why?

These were some questions that arose out of participatory evaluation exercises in water supply and sanitation projects during 1997-1999, carried out with poor rural communities in Indonesia. Much has been studied, analyzed and written about in the past about why sanitation programs fail to bring about sustainable changes in community sanitation and hygiene behavior. When WSP-EAP was requested to undertake a series of evaluations of Rural Water Supply and Sanitation (RWSS) projects funded by major External Support Agencies in Indonesia, an opportunity to learn from the opposite kind of experience presented itself.

Communities with Sanitation "Success Stories"

WSP-EAP field research teams discovered a number of communities in different project areas, which could be called "Sanitation Success Stories". They typically had more than 80 - 100 per cent population coverage with household sanitary toilets. Those toilets were fully functional and in use. All had been built with substantial or full community investment. Following project interventions with limited number of 'stimulant packages' provided as toilet construction materials, coverage had continued to grow through community self-financed construction. In some communities assisted by NGOs this has happened even without the 'stimulant'. In another case project-provided public

Footnotes
1 Water and Sanitation Program - East Asia and the Pacific.
3 A project-provided package consisting of a toilet pan, a length of pipe and some cement, to households for construction of household toilets. The household receiving it has to invest rest of the resources needed for construction, e.g. labor payments to masons, aboveground enclosures, and other building materials.
4 CARE and Dian Desa
facilities had been dismantled by the community to make way for household toilets considered more sustainable by them. To sum it up, there seemed to be many untold stories in these communities about why sanitation programs succeeded therein. WSP-EAP resolved to go back to them to learn and understand more.

Sample and Methods

Towards the end of 1999, in a post-economic-crisis consultations with project authorities. In each community they used a specially designed combination of observation, depth interviews and participatory assessment tools drawn from the repertoire of Participatory Rural Appraisal (PRA) and Participatory Hygiene and Sanitation Transformation (PHAST) methodologies. This report is a summary of what was learned.

<table>
<thead>
<tr>
<th>Communities studied</th>
<th>Province/Island</th>
<th>Last project intervention*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lewoloba</td>
<td>NTT (Flores)</td>
<td>FLOWS (AusAID)</td>
</tr>
<tr>
<td>2. Mokantarak</td>
<td>NTT (Flores)</td>
<td>FLOWS (AusAID)</td>
</tr>
<tr>
<td>3. Sakuru</td>
<td>NTB (Sumbawa)</td>
<td>ESWS (AusAID)</td>
</tr>
<tr>
<td>4. Sesuit</td>
<td>NTB (Lombok)</td>
<td>ESWS (AusAID)</td>
</tr>
<tr>
<td>5. Dukuh</td>
<td>West Java</td>
<td>WES (UNICEF)</td>
</tr>
<tr>
<td>6. Rambatan Wetan</td>
<td>West Java</td>
<td>WES (UNICEF)</td>
</tr>
<tr>
<td>7. Panyindangan Wetan</td>
<td>West Java</td>
<td>WES (UNICEF)</td>
</tr>
<tr>
<td>8. Piyanggang</td>
<td>Central Java</td>
<td>WSSLIC (World Bank)</td>
</tr>
<tr>
<td>9. Sawal</td>
<td>East Java</td>
<td>WSSLIC (World Bank)</td>
</tr>
<tr>
<td>10. Genting</td>
<td>Central Java</td>
<td>WSSLIC (World Bank)</td>
</tr>
<tr>
<td>11. Trimulyo Mataram</td>
<td>South Sumatra</td>
<td>RWSS (ADB)</td>
</tr>
<tr>
<td>12. Kepuhardjo</td>
<td>Central Java</td>
<td>NGO (Dian Desa)</td>
</tr>
<tr>
<td>13. Cibodas</td>
<td>West Java</td>
<td>CARE</td>
</tr>
<tr>
<td>14. Dersono</td>
<td>West Java</td>
<td>CARE</td>
</tr>
</tbody>
</table>

* - Sanitation interventions had been made in many of these communities from more than one source during the course of the past 20 years. It is difficult to fully isolate the impact of specific projects. The study focused on the current sanitation situation which was most influenced by: a) the last project intervention and b) the communities' own initiatives after the last project.
1. WHAT Catalyzed Demand for Household Toilets?

According to people, the factors that have catalyzed demand for household toilets over the last 10 years in the communities visited, fall in two categories:

♦ Essential - which must be present in every community for demand to arise at all.

♦ Situational motivators - which can push up existing demand, but do not by themselves give rise to it.

The essential factors were: a) the availability of land within or around the household where the toilet and pit can be sited, and, to an extent, b) availability of a source of water at or within 10 meters of the site, since the only type of toilet being promoted was the pour-flush type.

Situational motivating factors were many more. Demand for household toilets was higher:

♦ In communities that were far from natural sources of flowing water such as rivers, irrigation canals and the sea. These are traditionally preferred sites for defecation.

♦ In communities that had had negative experiences associated with public toilets or defecation outdoors, e.g. long queues at public facilities, snakebites in forests and at riversides during rainy seasons, eels in the river.

♦ In better-off villages, where not being able to afford a toilet could become a threat to one's social status. Those who could not arrange the required cash all at once started small savings and credit groups (Arisan), where every member won by turns, the pooled contributions of all by lottery. Alternatively, several households co-invested and built a shared toilet.

♦ In communities where social pressure was created through multi-pronged promotion, making latrine ownership a social obligation. There were example of positive pressure through the promotion of a healthy life style by religious leaders, schools, women's groups, and community heads, including promotional events and inter-village competitions. There was also an example of negative kind of pressure where a
village chief instituted annual fines of money, chicken or goats, to be paid by households to the village administration if they did not have a household latrine!

This last strategy resulted in 100 per cent of the households in a Flores community acquiring basic pit latrines within a span of two years (in addition to high levels of public resentment against the village chief), whether or not they used them.

- In 6 communities out of 14, training of local masons and community members in latrine construction and production of toilet pans was reported to have helped supply of services keep pace with growing demand. This was however not true of all communities that received such training. Reasons are explained later in this report, in the section on capacity building.

<table>
<thead>
<tr>
<th>Factors influencing, according to community groups</th>
<th>Frequency of mention in 14 communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of land on which to site toilet and pit</td>
<td>14</td>
</tr>
<tr>
<td>Prestige: (fear of losing face in community/wish to be seen as “modern” and “able”)</td>
<td>6</td>
</tr>
<tr>
<td>Easy availability of construction materials through ‘stimulant package’</td>
<td>5</td>
</tr>
<tr>
<td>Availability of water supply at household level (tap/dugwell/handpump within 10 meters of toilet)</td>
<td>4</td>
</tr>
<tr>
<td>Promotion by schools/women’s groups/religious leaders/health workers/village government/competitions</td>
<td>4</td>
</tr>
<tr>
<td>Being situated far from the sea, irrigation canal or a river that is perennial (does not dry up in dry season)</td>
<td>3</td>
</tr>
<tr>
<td>Fund availability through community self-help savings &amp; credit groups (Arisan) and income generating activities promoted by project</td>
<td>3</td>
</tr>
<tr>
<td>Fear of snakebite in forests, on way to the river and eels in river/long queues at public toilet</td>
<td>3</td>
</tr>
<tr>
<td>Choice of designs of toilets and costs</td>
<td>1</td>
</tr>
<tr>
<td>Improved community health awareness</td>
<td>1</td>
</tr>
</tbody>
</table>
So what did the Projects 'Stimulate'?

Where essential factors were present and some situational factors were conducive, the availability of 'stimulant packages' made a quick impact. Construction of new toilets or conversion of traditional pit toilets to more sanitary ones continued in all 14 communities after project interventions ceased. Availability of land and water were the critical limiting factors. Predictably, it is the poorest households that have still not been able to catch up with the rest of the community. In January 2000 the households locally considered "well-off" in these 14 communities typically had 95-100 per cent coverage and usage rates of household toilets. The "middle socio-economic group" households (again by local criteria) had 78-100 per cent, and the "poor" typically had 60-80 per cent although there were 3 communities where even the poor had 100 per cent coverage and usage rates. The variations are shown in Figure 1.

The greatest numbers of toilets built in post-project phases were by the better-off households. They tend to be water-seal toilets with ceramic pans of higher cost and quality than the stimulants provided by projects. Their toilets have piped water, a water storage tank and are often completed with bathing facilities. New homes are beginning to site the toilets within the house rather than in the yard. The poor who cannot yet afford such construction continue with older direct pit or offset pit latrines while saving for a "water-seal, ceramic toilet" which is the desired ideal. Where situational factors were favourable, lack of resources did not prove to be a constraint, at least not till the economic crisis hit Indonesia in 1998. People found many ways to raise the funds including Arisans, selling goats or part of coffee or coconut harvested, sharing a toilet between 4-5 families and co-investing in its construction, and building it in stages over more than one harvest year.

Did Anything Inhibit Demand for Toilets?

- Escalating costs of construction during the economic crisis have become an important inhibitor since 1998, for the poorest sections of rural communities. According to the villagers, constructing a basic minimum level facility cost Rp. 150,000 - Rp. 200,000 in 1992-1993. In 1999-2000 it costs upwards of Rp. 700,000. The cost probably remains the same in US dollar value, but people's income in Rupiah (1 US$ = Indonesian Rupiah 7,400 in January 2000) has not tripled in the interim period. Minimum wages in the country still hover around Rp. 270,000 - Rp. 300,000 a month.

Figure 1

Percentages of rich, middle-income and poor households in the 14 communities, owning/having easy access to household toilets
Unavailability of land to site the toilet and pit was mainly the problem of the poorest in densely populated villages. They usually do not own land apart from the land their homes stand upon. Sometimes even that is rented. Some communities sought to solve this problem by several poor households jointly financing one toilet shared by them, on a piece of land that one of them owns or has access to.

Proximity to natural sources of flowing water such as a river, irrigation canal or the sea was a potent inhibitor. Particularly if the river did not dry up in the dry season.

Table 1b

<table>
<thead>
<tr>
<th>Factors influencing, according to community groups</th>
<th>Frequency of mention in 14 communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient funds due to fall in incomes</td>
<td>8</td>
</tr>
<tr>
<td>Due to recent economic crisis</td>
<td></td>
</tr>
<tr>
<td>Increase in cost of construction (mainly since 1998)</td>
<td>6</td>
</tr>
<tr>
<td>Sanitation program halted - System package no longer available</td>
<td>3</td>
</tr>
<tr>
<td>Unavailability of land to build toilet near or around home</td>
<td>3</td>
</tr>
<tr>
<td>Being situated far from water supply facility</td>
<td>2</td>
</tr>
</tbody>
</table>

Households located far from water supply facilities are reluctant to acquire toilets. Invariably it is the poorest homes that are farthest away from public taps or hydrants.

Although community groups did not specifically mention the following factors as 'inhibitors', information from depth interviews, Participatory Mapping, Timelines and Rating Scales for user satisfaction suggested that they significantly dampened demand for household toilets:

Communities that use human excreta for livelihood strategies such as breeding fish or pigs are averse to accepting toilet designs that prevent the animals' access to it, e.g. in closed pits underground. Traditional means of disposal include defecation into fishponds and connecting latrines to pig pens. Sanitation programs have never to date discussed possible toilet design modifications or strategies to accommodate such local-specific requirements, with potential user communities.
2. HOW Long Did It Really Take to Change Behavior?

Timeline explorations with men and women's groups showed that it took between 17-33 years in these 14 communities to move from 0 to 80 percent or higher coverage and usage rate of household toilets.

In these 14 communities the very first toilets were built between 17-33 years before coverage with sanitary toilets reached 80 percent or more of the households. The first toilets were built without external assistance and usually by the wealthiest members of the community who had greater contact with the world outside. In Java often the first reason was to cater to the needs of guests from outside the village, such as government officials, university students and relatives, who came from more urbanized places where they were habituated to using toilets. These first few toilets were technologically simple, usually direct pit or offset pit latrines. They appeared in the 1960s, in the communities visited. Following the 1-2 initiators, 1-3 per cent of the households in each community, only the well-off, followed suit within the next one year.

Thereafter, during the 1970s and 1980s coverage stagnated, despite external sanitation assistance beginning to flow in from the Government's Health Departments and donors such as UNICEF. However, most of the early latrines built with external assistance were no great improvements on older traditional direct-pit-latrines. They were not much appreciated or sustained by their users. In the late 1980s the water-seal toilets came into villages in a bigger way. Here at last was a toilet that really did not smell bad. Although it cost more to construct (and sometimes the pits collapsed) it seemed, particularly to women, a convenience that might be worth its cost, provided water was available for flushing.

Starting with the 1990s external assistance began to come in the form of 'stimulant packages' for sanitation from the Health Department, supported by donors such as UNICEF, Dutch aid, AusAID, Asian Development Bank, World Bank. The projects provided a toilet pan, some cement and a length of plastic pipe for households to construct their own toilets. Projects typically provided 20-30 stimulant packages in small villages and 50-70 in larger communities per year, for 3 to 4 years. The stimulants were distributed by project functionaries and village leaders according to their own, varied, home-grown criteria, resulting in a bias towards
serving the better-off sections of the community. The poor remained mostly unserved by sanitation facilities, and were often quite content to be so as they were yet to be convinced of the need to spend money for sanitation.

Gradually through the 1990s awareness spread about the advantages of having one's own toilet. As water supply facilities came closer to or into homes, people began to build household toilets at their own cost, often choosing sanitation materials of higher quality than those provided as stimulants. Various means of financing were adopted by poorer households – through small savings & credit schemes, investment of their labor and local building materials. Pace of new constructions accelerated during 1994-97 until the economic crisis in Indonesia suddenly pushed prices of construction materials to unthinkable heights. In spite of this, in these 14 communities, nearly 100 percent households of the 'well-off' and 'middle-income' groups now have and use their own toilets. The 'poor' category lags behind with coverage rates between 52-80 percent, which is still very high compared to poor households in average Indonesian villages today.

One common factor noted in almost all communities was the lack of choice in technology and design offered by WSS projects. Starting from the late 1980s every project (except the ADB RWSS project in Sumatra) had promoted only the single-pit, pour-flush, water-seal design. This could have been a factor inhibiting demand for sanitation facilities in water-scarce regions and where household dug wells or piped water connections were not possible. The decision to offer only one design was that of the project in each case, based on project authorities' assumptions about what poor rural communities need (rather than what they might want). There was also no attempt by project personnel to offer cost options by modifying toilet designs. Local masons and people trained to produce closets did, however, take the initiative to work out several cost options to cater to customers with varying purchasing power. This was seen in 4 communities. In those communities even the poorest households now have more than 80 per cent coverage and usage rate for household toilets.

The learning from all this is that community awareness and acceptance of a new concept grows in stages. After introduction to the idea of a sanitary toilet it took 2-10 years in different communities to get people to want to change a specific hygiene behavior. It took another 10-15 years in the same communities for a sufficiently large majority (e.g. 80 percent or more of the households) to actually make that change. It is hardly surprising. Given that a) changing and sustaining hygiene behavior is a matter of building it inextricably into the community's culture and way of life, and b) the time needed for a sanitation market to develop, 10-15 year time frames should probably be considered normal and appropriate for sanitation programs. That implies, however, that sanitation program performance be judged in terms of sustained improvements in hygiene behavior, NOT in terms of the number of toilets constructed.
3. WHAT Benefits Matter Most to Users?

It was clear that women users perceived more benefits from household toilets and felt them more intensely than the men did. While both men and women were almost equally satisfied with their household toilets in different communities, women reported consistently higher cost-benefit perceptions than men.

Men and women in all communities agreed that the most appealing thing about having household toilets was the cleanliness and pleasant environment it produces in their homes. This was the benefit

Footnote

5 Cost-Benefit perception was not strictly an economic ratio. It was a perception, measured using the Ladder 1 exercise from the METGLIDE: Methodology for Participatory Assessments - Linking Sustainability with Demand, Gender and Poverty. Published jointly by the WSP and IRC International Center for Water and Sanitation. March 2000.
mentioned most frequently by both men and women. Homes with toilets do not have excreta lying around and do not smell bad. For this reason households having their own toilets can also maintain good relationships with their neighbors. A household without its own toilet can become an embarrassing source of unpleasant odors for neighboring homes, leading to inter-household conflicts.

The next most mentioned benefit was convenience. Not having to walk to defecation sites which are usually far from homes saves energy, time and effort. Especially in inclement weather or at night. Women find it also saves them the chore of cleaning up and disposing off the feces of babies and small children who are too young to go to the defecation sites, i.e. river, canal, fields, forests.

Health benefits were mentioned next. Being the caregivers to the family's sick, women are more aware of the health protecting benefits of using toilets. They reported reductions in diarrhea and other diseases in the family after getting household toilets, more than twice as often as men did.

The comfort of being able to go to the toilet at home whenever one desired was placed fourth and was equally important to both men and women. This was especially true for the old, and when one had diarrhea. Safety from rain, wild animals, snakebites and accidents while climbing up and down slippery pathways to rivers in the dark was the next most mentioned benefit. Privacy, as expected, was a benefit felt predominantly by women.

Social prestige and economic benefits were mentioned with the same frequency. Prestige however, was a benefit perceived only by women. They were the ones who felt most embarrassed about
not being able to offer toilet facilities to guests requesting it, and about smells emanating from their homes offending neighbors.

A comparison of Tables 1a and 2 shows that the forces that first motivate people to acquire their own toilets are not necessarily the same as those that motivate sustained use. "Social prestige" was an important initial motivator whereas "health protection" did not even figure among the motivating factors. After getting their own toilets, however, users valued the convenience, cleanliness and health benefits much more often than the prestige derived from owning the facility. It is easy to see why promoting latrines for health benefits rarely works. The obvious implications for marketing are thus to find out and capitalize on whatever initial motivators are operating within a community.

**Cost-Benefit Perceptions**

Users in all 14 communities agreed that on the whole, the benefits exceeded the costs they had incurred for construction and maintenance of household toilets. The cost : benefit ratio was around 1:1.5 in a quarter of the communities. It was between 1:2 and 1:3 in another quarter of the communities. The rest had Cost : Benefit ratios between 1:5 and 1:9, signifying a benefit perception that was worth 5 to 9 times the cost. Averaging from 14 assessments with men and 14 with women showed that men perceived the benefits to be worth nearly 4 times the cost, while women thought them to be worth about 6 times the cost.

These perceptions are in line with the finding that it was the women who initiated family discussions and proposals to acquire household toilets in 10 of the 14 communities. Their school-age children supported them in their initiatives in 3 communities. Men alone did not initiate the idea in their families anywhere but men and women jointly did so in 4 communities. The decision to invest family resources and construct toilets was reportedly a joint one by the husband and wife in 7 communities, by the male head of the family in 6 communities and by women alone in 1 community, where the women's group (PKK) was specifically targeted for sanitation promotion.

**User Satisfaction**

Satisfaction of users was measured using visual rating scales drawn on the ground. Groups of men and women indicated their assessment by marking a point on the scale following discussion and consensus. The two ends of the scale represented "No satisfaction at all" (0%), and "Full satisfaction" (100%). Quarter points (25, 50, and 75 per cent) were indicated on the scale for ease of people's estimation. Ratings from 14 communities are summarized in Figure 3.

Users' ratings were at or close to "Full satisfaction" in half of the communities. The rest mostly clustered around the 75% mark. Women were more satisfied with their toilets than men, overall.

The principal reason for less than full satisfaction seemed to be the desire for upgrading to a "ceramic toilet" from the existing cement pans. Women find them easiest to keep clean. Both men and women agreed that ceramic pans look and function best. Along with upgrading to a ceramic pan, they also wanted to upgrade the toilet to a full bathing-cum-sanitary toilet facility and incorporate it inside their homes (the present one being built in the yard). In 2 cases the dissatisfaction arose from having to share public toilets with many others. The long queues were inconvenient, uncomfortable and time-wasting, especially for those who lived far from the facility. In one case the dissatisfaction was due to inadequate water supply to the toilet from the local gravity-fed piped systems being inadequate in the dry season.
How satisfied are users with their sanitary toilets? (expressed in % of Full Satisfaction, which is 100%)

<table>
<thead>
<tr>
<th>Community</th>
<th>Rating</th>
<th>Explanatory Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lewoleba</td>
<td></td>
<td>Would like to progress to ceramic pans. All offset pit toilets changed to ‘bottle’ type.</td>
</tr>
<tr>
<td>Molantrak</td>
<td></td>
<td>Most have cement pans. Want to upgrade to ceramic pans.</td>
</tr>
<tr>
<td>Senuk</td>
<td></td>
<td>Many toilets shared by 4-5 families.</td>
</tr>
<tr>
<td>Sesali</td>
<td></td>
<td>All homes have piped water. Toilets built within the house, not in the yard.</td>
</tr>
<tr>
<td>Dukuli</td>
<td></td>
<td>Water supply inadequate in dry season. Producing site for cement closets.</td>
</tr>
<tr>
<td>R. Wetan</td>
<td></td>
<td>Strong social pressure against defecation outdoors.</td>
</tr>
<tr>
<td>P. Wetan</td>
<td></td>
<td>A lot of toilets supplemented to become toilets for bathing places. People want to supplement toilets to become complete bath rooms.</td>
</tr>
<tr>
<td>Piyanggang</td>
<td></td>
<td>Want ceramic toilet. Have cement ones at present.</td>
</tr>
<tr>
<td>Sawal</td>
<td></td>
<td>Oored pit toilet was cement pan easy and cheap but would like to change to ceramic pans ultimately.</td>
</tr>
<tr>
<td>Gezala</td>
<td></td>
<td>Beil snakebites cases in the past while going to river to defecate. Very unhappy with public toilet. Some have built household toilets.</td>
</tr>
<tr>
<td>T. Matram</td>
<td></td>
<td>Those living far from public toilets are unhappy with long queues at the facility.</td>
</tr>
<tr>
<td>Kepartopa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cloodes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dersono</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

0 = No satisfaction at all  
100 = Full satisfaction

1 = Shared / public toilet  2 = Less near public toilet  3 = Less far from public toilet  4 = Far from public toilet

NB: These ratings are from visual scales. 2 meters long drawn on the ground. Men and Women’s groups marked their positions by group consensus on the scale. In Durum men and women differentiated between public and household toilets. In Cadara only men did.
4. IS Sanitation Coverage Linked to Hygiene Awareness?

Contrary to logical expectation, high coverage and usage rates for toilets in all 14 communities did not consistently co-exist with desirable community hygiene awareness and practices.

Common features in all communities: Good hygiene practices

- Clean, regularly used household toilets, from observation of 140 toilets selected at random from locations on community maps.

- Water was available at or just outside the toilets everywhere (except in the dry season in Dukuh, when people went back to defecation in the river). However, the availability of water did not necessarily mean it was a hand washing facility. Soap was available less than 50 per cent of the time, and only where the toilet was located along with a bathing facility.

- Organic garbage was collected in pits behind the house and composted, often with cattle dung. Inorganic waste was burnt off periodically. In non-Muslim communities organic garbage was fed to pigs.

- Household wastewater was led through drains to kitchen gardens, soak pits or ponds behind homes. In dry regions drains for household wastewater were not considered necessary. Only storm water drains existed.

- Living environments were generally free of human excreta. Cattle dung and other animal excreta were seen by the roadsides in only half the communities.

Also Discovered: Not so good for hygiene

In 12 out of the 14 communities, despite access to sanitary toilets, people continue to defecate in rivers, ponds, canals, forests and crop fields for different reasons.

- In Lombok they use the river in the rainy season, because “the dirt is quickly carried away.” For the same reason they throw most of the household garbage in the river during the rains.

- The river is a convenient site for completion of all washing and toilet-related activities when women go there to wash clothes, bathe children as well as themselves.
In West Java they defecate in the river in the dry season because water supply from the gravity-fed system is inadequate for flushing toilets during the season.

Toilets discharge into rivers rather than pits in some Java villages. Several communities had toilets overhanging fishponds or discharging into pigpens, providing animal and fish food.

In a West Java village served with public toilets from a project, many people were defecating in the fields because of long queues at the public facility or the public facility being far from their homes. About a quarter of the households have now invested in household toilets to avoid using the public ones.

When away from home, working in the fields or forests, the bushes, a river or the irrigation canal flowing by is a convenient site for defecation for most people.

Even when people use their toilets for defecation, in 5 of the 14 communities they did not dispose of their babies' feces in them. It is either thrown into the river or the garbage pit or buried in the backyard.

Hygiene Awareness

Men and women in these communities showed a wide range of awareness of how fecal contamination happens and preventive hygiene behaviors that can block its spread.

- Every community identified hand washing as an effective way to block the transmission route of fecal contamination, but:
  - Only 11 out of 14 said it should be done with soap.
  - Hand washing after working in the fields, before eating or after cleaning up a baby's feces was identified as necessary in half of the communities. No group identified the need to wash hands after defecation.
  - While hand washing was identified as necessary for the mother (after she cleans the baby, works in the field or eats) it was rarely identified as necessary for children before they eat.
Keeping food and drinking water covered and protected from flies was mentioned in just over half the communities.

Boiling water for drinking was identified as a good preventive practice in 10 of the 14 communities.

Defecation in the toilets instead of in the open was identified as a preventive practice in 12 out of 14 communities. Women did not identify it as a transmission blocker in both the remaining communities.

Pocket voting and Flow diagramming were used to study hygiene awareness and practices.

Why this Disconnect?

"Hygiene education" activities had been undertaken in all of these communities, using traditional, educational approaches and standard hygiene messages. The level of hygiene awareness achieved was, however, not adequate for health protection. People had selectively adopted project-prescribed "good hygiene behaviors" depending on what was convenient to do or not do. This is in line with findings from previous evaluation studies of RWSS projects in Indonesia. Past projects have not attempted to design hygiene promotion interventions on the basis of local practices and beliefs, resulting in, among other problems, mismatches between what is promoted and what is locally relevant. Communities have seen posters printed in Jakarta and heard lectures from health workers on good hygiene, but have never had assistance for analyzing their own hygiene-related behaviors and consequences thereof. Most sanitation facilities have also not been acquired for reasons and motivations related to health protection. It is therefore understandable that high coverage and usage rates for sanitary toilets are not necessarily accompanied by high levels of hygiene awareness and hygienic practices.
5. WHAT Kinds of Sanitation-Hygiene Promotion were Effective in Changing Behavior?

All the communities visited had had health education interventions at irregular intervals from the nearest health center staff. The Women's Welfare Movement (PKK) which has roots in every Java village was also extensively utilized by the government to promote health - sanitation messages through women's groups. Competitions were held between villages in some areas whereby winning communities were chosen according to sanitation coverage and extent of environmental cleanliness judged by Health Department personnel. The prize could be the construction of sanitation facilities such as the public toilet cum bathing and washing units built by CARE in Dersono and Cibodas. The end results however were not particularly sustainable or impactful in terms of changing hygiene practices.

A few examples of effective local strategies for hygiene and sanitation promotion were discovered in the 14 communities. They suggest that interventions for community hygiene behavior improvement are best designed and carried out locally. Community-devised behavior change strategies effectively target local obstacles to adopting new behaviors, thus directly influencing the acquisition and sustained use of improved sanitation facilities by households.

Every community has a wealth of knowledge about locally operating motivating and inhibiting forces. Allowing communities the freedom to design their own behavior change strategies brings this knowledge into the process. It also enables people to track progress in changing the selected behaviors within their communities and take appropriate corrective action in response. External assistance is needed only for facilitating this process and not for delivering educational hygiene-related messages. The following examples illustrate what worked.

- School children were the prime motivators of household hygiene behavior change in 5 out of 14 communities, all in Java. Their schools had toilets and hand washings facilities. Their teachers held weekly hygiene-sanitation promotion classes and games that were "fun". Annual competitions were organized for different neighborhoods where the students lived. The children pushed their parents to
build household toilets, simple garbage and waste water disposal systems and buy soap for hand washing – in order to win competitions and not be "left behind other kids."

◆ The NGO Dian Desa promoted water – sanitation facilities in Kepuhardjo (Central Java) along with savings & credit groups and income generating activities linked to local productive potential, e.g. cultivating cloves, production of handicrafts. The extra income generated helped pay for water – sanitation facilities. The NGO did not promote them on the basis of health benefits. Rather, they positioned the ownership of facilities and improved hygiene behavior as indicators of improved socio-economic status and being “with-the-times”. Unlike elsewhere, almost all toilets observed in Kepuhardjo had soap and water, because people had built them as bathing places along with latrines. Presently there are 578 households. All have either their own toilet or one shared with another neighbor. Only 10 of them were built with any assistance from outside the village.

◆ In Genting and Sawal (Central and East Java) religious leaders were roped in to promote hygiene behavior, along with schools and Parent – Teacher Associations. Environmental cleanliness messages were coined in the community to promote use of sanitary toilets and disposal systems for cattle dung and wastewater. The fact that a ditch used for public defecation spread bad odor as far as the mosque was given a sacrilegious connotation in Sawal. It became a social and religious responsibility of every household to prevent the sacrilege by building and using household toilets. The ditch has now been cemented over and made into a road so no one can misuse it anymore. Of the 144 households, 126 now have their own sanitary toilets. The rest use their neighbors’ toilets.

◆ Piyanggang and Genting (Central Java) were field trial sites for a participatory hygiene promotion toolkit developed by the Health Ministry. Religious teachers (Ustadz), religious leaders, schoolteachers, Women’s groups (PKK), and village government officials were trained in its use. Funds for WSSLC project were channeled through the primary school to provide a sanitation revolving fund for parents of poor students. The Parent-teacher association decided to use funds available for hygiene promotion to locally produce hand washing facilities i.e., low-cost washbasins for classrooms. Local masons have devised a simple cement-glazed washbasin, which is now available for sale in the village at a price far lower than the factory-produced ceramic one sold in urban sanitary hardware stores. All classrooms and many homes in Piyanggang now have a washbasin with soap and a pail of water next to it. School children are habituated to washing hands with soap when they enter the school, before eating and after a visit to the school toilet. It is reasonable to believe that they carry the habit home, where the same facility exists.

◆ In a Lombok village volunteers of the village youth committee keep watch at the riverside. The names of people found defecating in the river are publicly announced every week over the loudspeaker at the mosque, after the Friday prayers. They say that the intense individual embarrassment resulting from having one’s name thus announced is an effective check on unhygienic use of the river.

◆ Although no choice in design and costs was offered by projects, communities have tried to develop a range of options, however small, because they know it promotes demand. Men and women trained by projects to produce water closets from cement

Footnote
6 Water Supply and Sanitation for Low Income Communities Project.
World Bank financed project in 6 provinces of Indonesia, 1994-2000.
concrete quickly realized that their products needed modifications for the local market. The pans they could produce using moulds and cement provided by the project were not smooth enough and thus difficult to keep clean. Nor were they shiny and attractive as the plastic or ceramic pans available in the market. Also, the cost of getting a mason to build the platform around the pan on site was proving disproportionately high by local standards. Depending on the mason’s skill, the platforms had variable quality and stability.

In Sawal and Rambatan Wetan (East and West Java) local closet producers have taken the initiative to add a white cement (grouting) glaze over the moulded concrete pans to make it smoother and easier to clean. They add tints of blue and pink color to the glaze for customers willing to pay a bit more. This adds the appearance and ease of cleaning found in ceramic pans at a fraction of the cost. They also cast the platform along with the pan in one piece for a little extra cost, thus making the package cheaper and more durable for customers. Platforms are available in circular, rectangular or square shapes to suit customers’ preference for pit shape and size. The net result is that sanitary toilets of desired quality are now within reach of all sections of the community, making it easier for more people to adopt improved sanitation behavior.
6. WHAT is Really Needed for Sustaining Sanitation Services?

Sanitation programs usually combine construction activities with training for community members in construction and production of required parts. The aim is to build local capacity for self-financed replication of facilities in the future. Capacity building interventions are decided in a top-down manner, with the assumptions that all communities have the same capacity building needs for sanitation.

Experiences from the communities suggest that training is only one of the several aspects that must be considered in building not just capacity, but an enabling environment for sustained sanitation services. Sustainability in sanitation seems to be a matter of helping to develop a viable market for sanitation facilities, which would endure over the many years that it takes for demand to grow and supply mechanisms to respond.
If sustained sanitation services be a project objective, enabling interventions need to be decided in consultation with client communities. For sustainable impact, capacity and market development for sanitation needs to consider and address local consumer preferences, market potentials and constraints, access to capital and raw materials.

The following examples explain why.

❖ CIBODAS

In 1984 the village youth organization (Karang Taruna) of Cibodas (West Java) was given training by the Social Welfare Department, for making septic tanks for public toilets. At that time there were no public toilets. Only a few households had simple direct pit latrines. Eight years later, in 1992 a CARE intervention brought piped water and public toilet cum bathing/washing facilities to the community. The decision about the type of facilities being public rather than private was not that of the community. The trained youth still in the village participated in construction of septic tanks. Villagers contributed cash, labor and materials for construction. The community did not have access to services for emptying septic tanks periodically. Every time a pit was full, they had to dig new pits and install new pipes and pans. Trying to move the old pans and pipes resulted in breakage and required higher labor expenses than for new construction.

By 1997 the people of Cibodas were disillusioned with public toilets. They dismantled the public latrines in 1997 and public washing/bathing facilities in 1999. They sold the land, divided the proceeds amongst themselves and have now built their own household toilets. However, since the only design prompted was the single-pit type, the pattern of replacement with new pipes and pans for new pits continues every time the old pit is full – every 3 to 4 years. The latest pits being dug are huge, some up to 25 meters deep, to avoid the recurring expense every few years. The risk of pollution of dug wells and deep aquifers is high.

Asking the community at the start of the project would have indicated their real preference, i.e. household rather than public facilities. Training in more appropriate technologies such as construction of twin-pit household toilets instead would have saved them the cost and effort and sustained the service to greater user satisfaction.

❖ RAMBATAN WETAN

This village in West Java is considered a widely publicized success story in community capacity building. In 1994 twenty men and women from the village received training from the Health and Public Works Departments for producing concrete pans (water closets) and pit lining rings for latrines. They have been producing concrete closets using fiber glass moulds given to them since 1994 and have to date supplied 36000 closets as project ‘stimulants’ and for institutional toilets in their own community as well as many other villages in the district. The activity has generated substantial income for the producers particularly in the lean agricultural months of the dry season.

However, their entire production to date has been only in response to orders placed by Health and Public Works Departments. The volume ordered and produced climbed to 14000 units per year in 1996, but has suddenly fallen to less than 600 in 1999-2000. All the raw materials, i.e. cement, sand, paint and oil has so far been supplied by Health/Public Works agencies. There has been no self-initiated production or marketing.

According to the villagers they are unable to access capital to buy their own raw materials. Their product is acceptable only to the poorer sections of the community, who have by now all got low-cost latrines through ‘stimulant’ packages from projects. Owners of new homes now being built in the community are from the upper classes who prefer ceramic pans. These pans cost more (Rp.25,000-Rp.50,000) but are of higher quality and easier to keep clean. The concrete closets they produce are now priced at Rp.8,000 of which Rp.1,000 is what they earn per unit. They cannot increase the price and compete in the market because plastic closets produced by factories are available for Rp.7,500 - Rp.8,000. Thus there is no local market for their skills and products any more. The government departments
(which could transport their products to more distant markets) are now unable to place large orders as they could in the pre-economic crisis period.

Involving the villagers in exploring local market possibilities and jointly deciding the forms of capacity building could have led to more sustained solutions e.g. improving their access to capital for raw materials and marketing channels, and training people for production only if local consumer preferences indicated that there was a gap in the local market that could be filled with their product.

LEWOLOBA

11 men from Lewoloba received training in technical aspects of water-sanitation services in the FLOWS project on Flores Island. This included training in production of concrete pans for latrines. They were however unable to make use of their training because the project authorities decided to procure concrete closets only from a particular local factory and supplied them to all communities. Villagers were not happy with the quality of the pans, which were rough in finish and had narrow water seals that frequently got blocked. They gave it the name "chicken-neck" (leher ayam) toilets, distorting the actual name "LeherAngsa" which means gooseneck. In the post-project phase one of the community members trained by the project has devised an alternative water-seal using beer bottles. At present Lewoloba has three kinds of toilets: the 'bottletoilets', the gooseneck toilet bought from the nearest town, and traditional offset-pit toilets that are progressively being replaced by the water-seal types.

Providing skill training and then preventing its utilization through top-down supply decisions was a major design flaw in the project. It would not have happened if the community had a voice in procurement decisions. Also "since there was already a local factory producing affordable cement concrete closets, it was probably not useful to train local villagers in producing the same. Rural Flores communities are small and the area sparsely populated. The market for concrete closets was not large enough to sustain many producers and the villagers would never be able to compete with factory owners in the market."
Lessons Learned

a. Sanitation promotion strategy needs to begin by identifying and categorizing "essential factors" and "situational motivating factors" influencing demand in a project area. Essential factors are those that must be present for demand to arise and are less amenable to external intervention, e.g., availability of land and water for household toilets. Technology options need to be first selected to be compatible with the essential factors. Promotional strategies for those options can then be designed by capitalizing on the situational motivating factors, e.g., higher potential demand in areas far from the river or sea where peoples' desire for an odor-free environment, women's interest in privacy and reducing inner burden of caring for sick in the family, specialty children, men and women's desire to save time and effort by eliminating trips to defecation sites far from home.

b. Sanitation projects need to be planned for longer time frames than those appropriate for water supply. While initial interventions may be made over a 3-4 years period, they should be designed to generate self-sustaining sanitation promotion activities for much longer periods. Impact and sustainability assessment for sanitation programs can be meaningful only if done 8-10 years after project interventions. What would then be assessed is not just the condition of sanitation facilities (which may have undergone repair and renovation since their originally constructed) but the extent of community behavior change effected and sustained.

c. Supply strategies need to be developed with a view to sustainability of services for all sections of the community, i.e., in keeping with current and projected future demand. This implies that designers of sanitation programs need to think about and incorporate:

- Menus of technologically feasible options at a range of costs
- Upgradability of options to local consumer preferences
- Financing arrangements enabling the poor to progressively acquire their desired level of service
- Provision for local capacity building geared to local markets for skills and products as present and in the projected future. Capacity to be built could be for construction production, marketing, or management depending on needs locally analyzed with communities.

Evidently this is only possible if supply, financing and capacity building decisions are worked out in consultation with men and women, the poor and the non-poor in potential user communities. Projects functionaries could help them make informed choices bringing in information not only on technology and cost but also on the existing market for sanitation supplies and skills.

d. For sanitation and hygiene interventions to impact community health, it is necessary to design them to target the rationale underlying current sanitation and hygiene behavior.

This means:

- Analyzing current sanitation - hygiene behavior and the rationale behind it with local interest groups (e.g., men, women, rich, poor, schoolchildren, community leaders)
- Identifying with them the key hygiene behavior improvements needed to impact community health
- Sanitation facilities that could be promoted there and local capacities needed to create and sustain them

- Gauging financial capacities, desired levels of service options and factors that could motivate 'mind hygiene behavior change - among the poor and non-poor sections of the community

- Selecting promotional strategies in consultation with community groups based on the above information linking promotional strategies to the provision of services and capacity building interventions

- Positioning and 'selling' improved sanitation facilities and hygiene practices in accordance with local motivations for change, i.e., selling not just a facility, but an image or a lifestyle attractive to the community. Thus in different communities sanitation would be promoted as a range of new or upgraded facilities as enhancers of social prestige 'amenity/convenience' safety or privacy, as something that is practiced by the enlightened well-informed socially respected people of all classes, as enhancers of quality of life that all segments of society can have access to, as something that the majority of households from all sections of the community needs to adopt for the community to experience the full beneficial impact on their quality of life.

- Helping community groups decide indicators for and ways to monitor sanitation and hygiene behavior change at individual, household and community level
An international partnership to help the poor gain sustained access to improved water supply and sanitation services. The program’s main partners are the governments of Australia, Canada, Denmark, Germany, Italy, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom. The United Nations Development Programme and the World Bank.