



**Water and
Sanitation
Program**

An International
partnership to help
the poor gain sustained
access to improved
water supply and
sanitation services

Selling Sanitation in Vietnam

What Works?



**Water and Sanitation Program
East Asia and the Pacific
(WSP-EAP)**

January 2002



ACKNOWLEDGMENTS

This report is based on site reports and community data records prepared by researchers from ADCOM. Hoa Thi Hoang and Nguyen Cong Tranh supervised the work in Vietnam. Technical assistance for the methodology, training and documentation was provided from WSP-EAP's regional office.

Peer reviewers: Barbara Evans, Richard Pollard and Peter Kolsky, provided valuable comments and questions for further consideration.

Field team in Vietnam: Hoa Thi Hoang, Phung Xuan Bihn, Le Thi Thia, Bui Van Kiem, Nguyen Chau Loan, Le Xuan Thuy, Nguyen Tranh Phuc.

Selling Sanitation in Vietnam

What Works?

Contents

Preface	3
Introduction	5
1. What influenced the demand for household latrines?	8
2. Demand, Coverage, Access : How it worked for the poor	11
3. What benefits matter most to users?	17
4. Is sanitation coverage linked to hygiene awareness?	22
5. How long does it take to change behavior?	25
6. What interventions were effective in changing behavior?	27
7. What helps ensure sustained sanitation services?	29
Learning and Recommendations	31
Annex A - Participatory Tools used for investigation	34

Preface

Why country-specific studies on selling sanitation?

It is widely acknowledged that by the end of the second millennium considerable progress has been made in the water supply situation in the developing world, but little or no progress has been made in terms of sanitation improvements for much of the world's population. Consequently, despite heavy investments in clean water supply since the 1980s worldwide, gains in terms of community health and quality of life have been far lower than expected.

During the end of the 1990s several East Asian countries undertook nationally-led policy and strategy formulation efforts in the water and sanitation sector. Country governments engaged in sanitation sector policy development have drawn upon lessons amassed from global experience about why past sanitation interventions have had so little impact. However, policy development is more than a matter of simply avoiding failed strategies of the past. Communities being complex bio-cultural systems and sanitation improvement being essentially a matter of improving community hygiene behavior, sanitation promotion policies need to be crafted with reference to

another kind of knowledge, i.e. *what does make sanitation interventions work, in country and culture-specific settings?*

Examples of successful sanitation interventions are not abundantly available, though. Deliberately seeking out communities within a country where sanitation programs have had better than average outcomes and studying the factors associated with such outcomes can offer possible country-specific insights to guide policy and strategy development, and identify ways to start translating policies into practice. This is the rationale underlying the present investigation in Vietnam.

Why participatory assessment studies?

How policy-related research is to be conducted is a second issue.

Policy development is no longer seen as the exclusive precinct of few national top bureaucrats and international consultants. With increasing recognition of the roles and influences of a range of stakeholders in the development process, policy development is becoming more participatory. The Water and Sanitation Program – East Asia and Pacific (WSP-EAP) is privileged to assist the process

of sector policy development, improvement and implementation in Cambodia, Laos, Indonesia, the Philippines and Vietnam. The values guiding this work are: optimal stakeholder participation, informed choice by all concerned, national leadership and ownership of the process and learning generated, national capacity development, bottom-up and horizontal knowledge sharing . The present study, executed and analyzed by a team of Vietnamese stakeholders and assisted technically by WSP-EAP¹, is a tool designed to promote these values. Similar studies have been carried out with country teams and communities in Indonesia and Cambodia.

The findings of these studies are discussed and debated at national stakeholder workshops where conclusions and recommendations for policies and strategies emerge from

government personnel, NGOs, donor agencies and private sector agencies engaged in the sector. Studies like the present one bring into the process the voices of a hitherto excluded principal stakeholder group – the intended users of services, the poor men and women from rural communities in different parts of the country. Through such studies their voices can reach national debates, raise questions about existing policies and suggest alternatives which may not otherwise have been contemplated.

For ultimate impact on the country's people, *who* learns *what* lessons from *what local situations and exchanges* is of greater importance than whether the learning generated adds unique new insights to the global store of sector knowledge. This report documents the learning gained by sector stakeholders in Vietnam.

¹ Water and Sanitation Program – East Asia and the Pacific.

Introduction



In the 1960s, agricultural cooperatives initiated promotional campaigns aimed at improving environmental sanitation in the northern countryside of Vietnam. Campaigns such as the “Clean House – Fertile Field” and “Building Three Sanitary Works: Water Wells, Bathrooms and Toilets” encouraged rural households to increase agricultural production and improve sanitary practices in rural areas. Initially, the Government encouraged people to build double-vault composting (DVC) latrines, which were both sanitary and a source of night-soil for the agricultural cooperatives. However, the

early sanitation interventions did not last, because of economic difficulties, the lack of required skills and materials in the countryside, the war and the resulting disruption of community life.

By the early 1990s, the Vietnamese economy began to prosper. Village development boards started to forcefully promote sanitation programs in an environment where project assistance became more widely available. However, the use of toilets and more particularly changes in hygiene behavior have tended to proceed slowly. The 1999 National Rural Water Supply and Sanitation Strategy (NRWSS) states: “about 50 per cent of households have some form of latrine (the remaining 50% use a neighbor’s latrine, or more commonly practice open defecation. Most latrines are unhygienic, consisting mainly of single vault latrines (with the excreta removed regularly for use as fertilizer) or simple pit latrines. About 20% of households have hygienic sanitation”². The NRWSS further provides explanations for what are considered ‘hygienic’ latrines based on practices prevalent in Vietnam (see Box 2 in Chapter 2).

2 National Rural Water Supply and Sanitation Strategy (NRWSS), Volume 1. The Socialist Republic of Vietnam. March 1999.

The NRWSS targets that 50 per cent of the country's households should have coverage with "hygienic" sanitation facilities and 80 per cent with "domestic quality"³ water supply by 2005. This should facilitate widespread adoption of good personal hygiene behaviors. These figures are targeted to grow to universal coverage with "clean water supply"⁴, "hygienic sanitation facilities" and universal adoption of good hygiene behaviors by 2020.

How can sanitation habits that have been deeply rooted in people's ways of life be changed? What interventions and time frames are needed to effect changes in sanitation behaviors? What relationships exist between sanitation behaviors and hygiene awareness? What factors motivate or discourage people from investing in their own sanitary latrines? What is needed to ensure the sustainability of improved sanitation services?

To find the answers to such questions, the WSP-EAP consulted men and women in 12 communities in three provinces of Vietnam, which had unusually high sanitation coverage rates as compared to the national average. These communities, labeled by local governments as "sanitation success stories" typically had coverage rates (with any kind of latrines) at 80 to 100 per cent of households in the communities, compared to a national average for sanitation of only about 50 per cent, at the time of the study. It was hoped that investigating how they achieved the present situation would provide insights about what it takes to scale up successful sanitation programs in Vietnam.

The quantitative data emerging from this study are from a small, purposive⁵ sample and therefore not intended to be used for quantitative generalizations. They are to be used for identifying patterns of demand, supply, behaviors and situations associated with successful sanitation interventions, so that the underlying rationales may be better understood and issues for policy and strategy debates identified.

Sample and Methods

During November-December 2000, field research teams went out to four communes in the provinces of Ninh Binh, Thanh Hoa and Thai Nguyen in northern Vietnam. A total of 12 communities were selected where there had been interventions from community sanitation projects, and which had achieved uncharacteristically high sanitation coverage rates as compared to the national average. The field study used additional criteria for diversification of the sample to understand the influence of geographical locations (mountains, plains and coastal areas) on hygiene behavior patterns.

In each community, the study team used a combination of techniques to find out why these communities were more successful than others in increasing sanitation coverage. The field team used a specific sequence of open-ended investigation tools including community focus groups, observation, in-depth interviews, and activities drawn from the repertoires of Methodology for Participatory Assessments (MPA), Participatory Rural Appraisal (PRA) and Participatory

3 Water that is adequate for domestic use, but requires further treatment before it can be used for drinking.

4 Water that meets the national drinking water quality standards (in the process of being defined) and is considered safe to drink without further treatment.

5 A sample of respondents, groups or communities chosen based on the purpose to be served by the informants. A *purposive* or *judgment* sample is a nonprobability one, selected not by chance but based on the researcher's judgment in order to reflect the things the researcher is interested in studying. Qualitative research on special populations (e.g. first-time mothers of Asian-American origin in USA, practitioners of herbal medicine in China, East European communities that experienced religious and ethnic violence over the last 5 years, communities that have unusually high sanitation coverage rates, in a particular country) rely on purposive sampling.

Hygiene and Sanitation Transformation (PHAST) methodologies (see Annex A for details). The field study team also worked with local government personnel, including heads of hamlets, Women’s Union staff, health department staff, and rural population planning staff that accompanied some of the teams as observers.

In each community the researchers met with key individuals and groups of men and women at times and places of their convenience, over a period of 3-5 days. Groups varied in size between 10 and 30 people for different assessment activities. The assessment process thus involved an average number of 150-180 people per community. Since the populations of the communities visited ranged between 63 and 202 households, this meant that the process covered approximately 50 per cent of the adult populations of the communities. Poverty targeting methods were employed to ensure that the groups met represented both the poor and the non-poor categories of households. For topics considered sensitive to gender issues, assessment was done in gender-segregated groups.

The decision to explore patterns associated with “success stories” rather than use classic comparative studies of successful and unsuccessful examples was based on three considerations :

- Substantial global research evidence already exists about why sanitation programs fail, but little

documented evidence is available about why some sanitation interventions succeed.

- A Vietnam-specific exploration of what works is the aim. What works or has worked in another country may not apply to Vietnam as sanitation is a behavioral issue embedded in local culture and practices.
- For identifying the range of possibly diverse and not fully predictable factors associated with “successful sanitation” in Vietnam it is more efficient and cost-effective to study known high coverage cases (in the absence of other indicators for success), instead of studying a sample representing good, bad and average cases in the country.

Ninh Thang is a densely populated commune typical of the northern plains. The majority of its population are agricultural peasants. Some also do carpentry, lace-making and construction work. Quang Thai is a coastal commune with little cultivable land. Over half the population is engaged in fishing, the rest being peasants and handicraft producers. It is getting increasingly difficult to survive only on fishing. Many handicraft workers have lost their jobs since the collapse of the Soviet Union and the Eastern European Treaty by 1990. There is a strong out migration trend from Quang Thai in search of alternative livelihoods. Two communes in the Phu Luong district are in the mountains, where agriculture, livestock rearing and forestry are the principal livelihoods.

Participating Communities

The following 12 communities were included.

Table 1: Communities participating in the assessment

Community	No. of Households in the Community	Last Project Intervention	Geographical Zone
Province of Ninh Binh			
Commune of Ninh Thang :			
Hamlet 1	63	UNICEF, in 1985 and 1998	Plains
Hamlet 2	105	UNICEF, in 1985 and 1998	Plains
Hamlet 4	111	UNICEF, in 1985 and 1998	Plains
Hamlet 5	108	UNICEF, in 1985 and 1998	Plains
Hamlet 8	83	UNICEF, in 1985 and 1998	Plains
Province of Thanh Hoa			
Commune of Quang Thai:			
Hamlet 3	153	UNICEF, 1997-98	Coast
Hamlet 6	166	UNICEF, 1997-98	Coast
Hamlet 7	202	UNICEF, 1997-98	Coast
Hamlet 9	117	UNICEF, 1997-98	Coast
Hamlet 10	167	UNICEF, 1997-98	Coast
Province of Thai Nguyen			
Hamlet 11, Ban Cai in Yen			
Trach commune	68	CIDSE, 1996	Mountains
Hamlet 12, Xom Ha in Yen			
Do commune	60	CIDSE, 1996	Mountains

1. What influenced the demand for household latrines?

Discussions with mixed-gender focus groups of 25 – 30 villagers were used to explore people’s perceptions about what factors influenced household demand. All household latrines in the villages had been financed partially or fully by the household owners. After the social mapping exercise had identified all the households owning latrines, the questions used to initiate group discussions were: “*Why did people in this commune acquire household latrines?*” and “*Why did the others (the non-owners) not do so?*” In the ensuing discussions, factors that had helped or hindered community demand for household latrines were identified. Some were planned interventions, some related to the overall country situation and some others were found to be connected with local livelihoods.

What promoted demand for household latrines

In the 12 communities the factors that were most commonly perceived to have helped increase the demand for latrines were: (i) the role of the local government authorities, and (ii) an increase in community awareness of sanitation as an improved way of life. Table 2 lists the factors identified by 12 community focus groups in decreasing order of mention.

Local government leadership: Villagers explained that local governments play an important role in community

activities in Vietnam. In all the communes participating in this assessment, local governments have been involved in numerous interventions aimed at improving hygiene awareness and sanitation coverage. Such interventions included:

- Mass education campaigns to improve hygiene awareness and practices in the community, including the organization of “Commune Cleaning Day”. (*Hygiene education and community mobilization through IEC activities are considered very important in Vietnam for the creation of demand for sanitation facilities. The NRWSS states this strongly. Local authorities everywhere in the study areas also made this observation*).
- The collection of excreta, and solid waste for site treatment by encouraging the construction of family latrines and public dump sites. This was done by:
 - setting construction targets as key goal for the village to achieve
 - getting families and community organizations to commit to construction targets, and
 - stringent monitoring of the construction against commitments made.
- Health staff and local government personnel setting good examples themselves by building and maintaining sanitary latrines in their own homes.

Improvement of sanitation awareness: In all the 12 communities focus groups emphasized that economic prosperity contributed significantly to increased awareness. As economic growth accelerated, rural people gained greater contact with the outside world which brought in new ideas about sanitation standards and behavior. Beyond the simple purpose of collecting excreta, latrines are increasingly recognized as a means to improve cleanliness and comfort in daily life.

Other motivating factors that were felt to have increased the demand for household latrines were :

- *Project assistance:* Project assistance helped a number of families in constructing pour-flush latrines by providing toilet pans, steel bars and cement. In some areas, as in Phu Luong, projects also provided financial assistance such as credit schemes to help poorer households build their own latrines.
- *The use of human waste as a supply of night soil.* In many areas night soil is still used as fertilizer-making latrines necessary for its collection and storage. This

factor may promote or inhibit demand depending on the technology and design of latrines being promoted.

- *Economic prosperity:* Living conditions have improved since the *Doi Moi* (economic liberalization) policy reforms were introduced, which has resulted in an increased demand for basic services and better housing, including latrines.
- *Increasing population pressure on land,* which has reduced the availability of sites for open defecation.
- *Reputation with neighbors and guests:* The desire to be considered modern, save face with guests, and get respect from neighbors can also be an important factor that can influence the decision to build a latrine.
- *Availability of building materials and construction skills:* In 5 out of the 12 communities, the availability of building materials and local masons was reported to have helped fuel an increasing demand for latrines after project assistance had ceased. This has not happened in all the communities.

Table 2: Factors influencing demand for household latrines

Factors that positively influenced demand for household latrines, according to community focus groups	Frequency of identification of the factor in 12 focus groups in 12 communities
Promotional and monitoring role of the local governmental and medical authorities	12
Improvement in people's sanitation awareness	12
Project assistance (materials support in all communities, financial support in 2 out of 12 communities)*	9
Latrine design suited to the practice of using human waste as fertilizer (refers to double and single vault latrines)	9
Rising expectations for more comfortable and convenient living conditions	8
Increased population and limited land availability making it difficult to find places for outdoor defecation	7
Reputation with neighbors and guests	7
Availability of building material and builders in the community	5

* In Ninh Thang commune: 1 cement pan, steel bars and a bag of cement to interested households + 1 free sample toilet built by the project per community. In Quang Thai commune: 7-8 cement pans per community. In Phu Luong district: 1 ceramic pan, 150,000 VND in cash and technical guidance to each interested household.

What inhibited the demand for household latrines?

A number of factors that were identified by the community focus groups to have worked against the emergence of a demand for household latrines are listed in Table 3, in decreasing order of importance.

Lack of financial resources: In 9 of the 12 communities, lack of resources was mentioned as a major factor that hindered households from having their own latrine. Poor households reported being unable to save or access sufficient cash resources to pay the costs of latrines. During 1999-2000 a pour-flush latrine cost VND 500,000 – 2,000,000 to build. A double-vault latrine was VND 300,000 – 700,000. The current minimum daily wage rate for unskilled labor is VND 10,000 – 15,000 per day in different provinces (14,000 Vietnamese Dong = US\$1 in 2001).

Latrine design and technology that interfered with local practices: Latrine designs were often too rigid. Programs urged people in the plains, coastal areas and mountainous regions to build pour-flush latrines – while local practices of fertilizing crop fields still require a regular supply of night soil and many communities still lack access to a regular water supply close to home, especially in the dry season. In 9 of the 12 communities, lack of regular access to night soil due to latrine design was identified an important factor that dampened people’s desire to construct and use pour-flush latrines, especially in those communities

where only one type of latrine design was promoted. In the mountainous communes it was observed that many households that had built pour-flush latrines with project assistance later modified the design to facilitate easy access to excreta, usually compromising the quality of the original design.

Preference for traditional practices of defecation outdoors: This factor was stated to have hindered demand in 4 of the 12 communities. Interestingly, all these communities are located on sea beaches. The sand dunes on the beach serve as highly preferred defecation sites. There is even a local saying in these communities which reflects their preference, i.e. : *“First the dunes, second the fields.”* It is worth noting that the beach communities were also the ones with little cultivable land and over half the population dependent on fishing. Thus agriculture was not a major livelihood there and subsequently demand for night soil was low.

Box 1

On a visit to a fishing family in Thanh Hoa, the host, when asked why he did not build a latrine, answered that even if he did so, everyone would use it except him. He preferred to defecate on the beach because it was more spacious and convenient and he “was not interested in using a latrine”.

Table 3: Factors inhibiting demand for household latrines

Inhibiting factors	Frequency of identification of the factor in 12 focus groups in 12 communities
Economic constraints	9
Design does not facilitate access to night soil	9
Continuing preference for outdoor defecation (beach, dunes, fields)	4
Lack of awareness/promotion of alternative latrine designs	3

2. Demand, Coverage, Access: How it worked for the poor



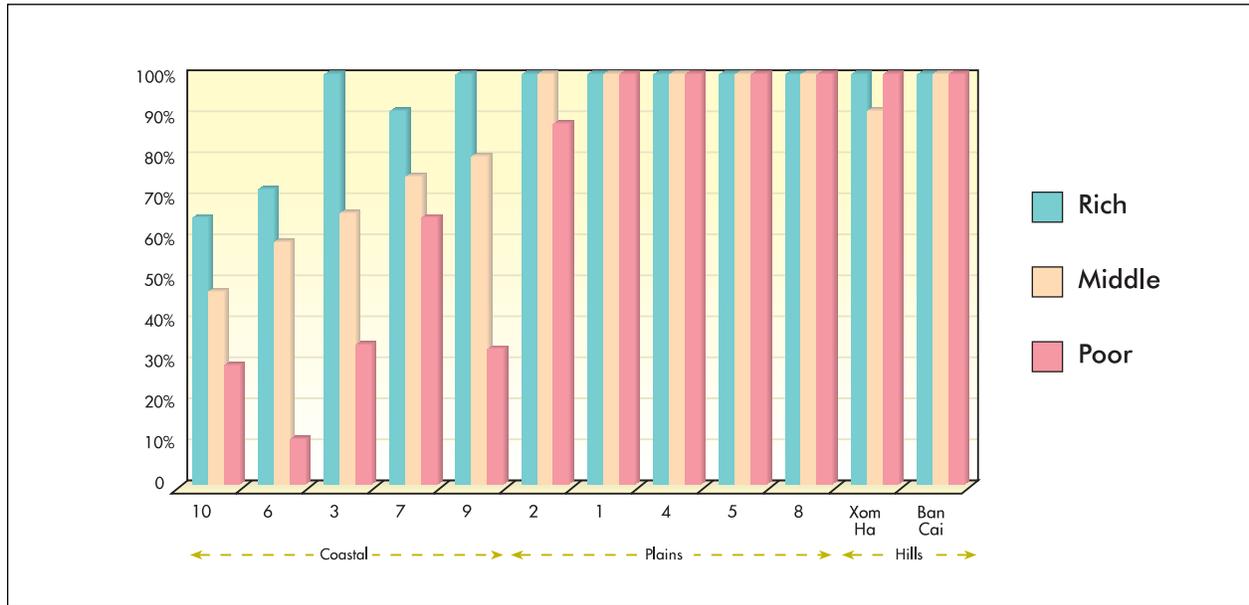
All communes were selected because of their success in increasing sanitation coverage to levels well above the estimated national average of 50 per cent⁶. To verify the coverage figures and people's access to latrines, *Social mapping* was used in each community. In this study a household is considered to have "coverage" when at least one latrine physically present in the household. A household has "access" to sanitation when members of the household' are able to use a latrine regularly, either through owning one or by sharing someone else's latrine.

The resulting access situation is illustrated in Figure 1, for households classified in three welfare categories as RICH or Better-off, AVERAGE or Middle-income and POOR. These categories do not represent standard definitions of well-being and may vary between communities. People used locally relevant criteria to define them. The validity of the definitions lies in the fact that only local residents of a community can know who are really the poor and why⁷.

⁶ The NRWSS offers only an estimate of cover. No national statistics on coverage or access and no definition of the terms are cited.

⁷ Although the criteria varied from one community to another, typically "Rich" households were defined as those whose income ensures that daily expenditure is easily met and there is enough leftover for substantial saving annually. They can thus construct durable dwellings such as two-story houses with kitchen, bathroom, wells and pour-flush toilets. Household assets include color TV, motorbike and other furniture. Middle-income households typically tend to have sufficient income for daily expenditure, but their annual savings are not substantial. They have access to smaller durable dwellings with bathroom, kitchen and well. Households assets include black and white TV and motorbike. Poor households generally have incomes, with no possibility to save money. They have no furniture, television or means of transportation.

Figure 1: Households having Access to Latrines



Figures for the middle-income group are used for sorting communities on the graph below, since it constituted the biggest sub-group in the sample of households.

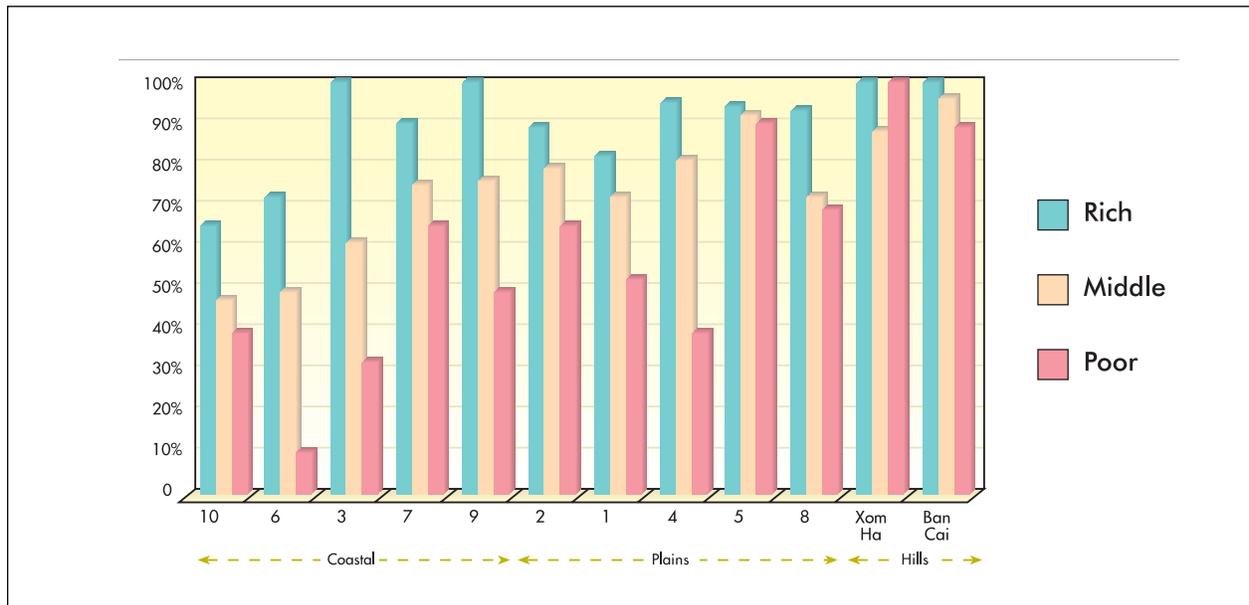
As Figure 1 shows, access to latrines was very high in Ninh Thang (plains) and Phu Luong (hills) for all household categories, whereas great variations in access characterized the coastal Quang Thai communities. There were large variations in poverty within the communities, which seems to be also reflected in their sanitation access rates (Figure 1). Welfare differentials were largest in coastal Quang Thai where 20 to 40 per cent were classified as poor. In Ninh Thang and Phu Luong poverty seemed less widespread and the bulk of the population fell in the middle-income category. Low access rates in Quang Thai as compared to elsewhere could also be related to these communities being located on beaches where sand dunes provide traditionally preferred defecation sites.

Coverage is not synonymous to access

After all latrines owned by individual households had been marked on the map prepared by community members, they were asked to place pieces of string around latrines that were regularly shared by more than one household, encircling all households together with the latrine they shared. All such encircled households were then counted to arrive at access figures.

Overall in the 12 communities, 87 per cent of the rich households owned a toilet, compared to 71 per cent of middle-income households and only 45 per cent of poor households. A comparison of access rates in Figure 1 with the coverage (ownership) of household latrines in Figure 2 reveals the pattern of sharing latrine usage among households, since access rates are consistently higher than ownership. Coverage monitoring tends to routinely miss this fact.

Figure 2: Households Owning Latrines



BOX 2

“**Hygienic latrines** are those that protect both users and other members of the public from infection from the feces in the latrine. The degree of protection provided is a combination of the basic type of latrine, its cleanliness and how the waste is reused. The term can only be applied to individual systems and not to types of technology (such as DVC latrine) since the hygiene of a particular latrine depends on the use/operation as much as on the technology”.

“**Unhygienic systems**, which are to be actively discouraged by Information, Education and Communication (IEC) are: *Traditional pit latrines* (a hole in the ground covered with logs), *Over-water latrines* (latrine placed directly over a surface water source where the water is used for other purposes) and *Single vault latrines* (a sealed vault where waste is stored and regularly removed)”.

“**Simple systems**, which are not promoted by the Strategy and will not attract grants or loans are: *Improved pit latrines* (pit latrines with some form of cement or ceramic flooring)”.

“**Improved systems** (high household service level) are *Sulabh latrines* (pour flush latrines with offset composting pits), *Double vault composting (DVC) latrines* (two sealed vaults usually at least partly above ground level. One vault is in operation while the other is full of composting waste); *Improved fishpond latrines* (a sanitation system located on a household fishpond, where the water is not used for other purposes and is not connected to other surface water sources);

“**Septic tanks** (sealed tanks) where solids settle and are partially treated. The partially treated liquid waste overflows and either soaks away into the ground, or more commonly in Vietnam, is used as fertilizer”.

“**Piped sewerage** (underground network of gravity sewers, may be combined with surface or grey water drainage) is not considered appropriate for rural areas at the present time”.

— Annex D- Technologies. National Rural Water Supply and Sanitation Strategy, The Socialist Republic of Vietnam, 1999

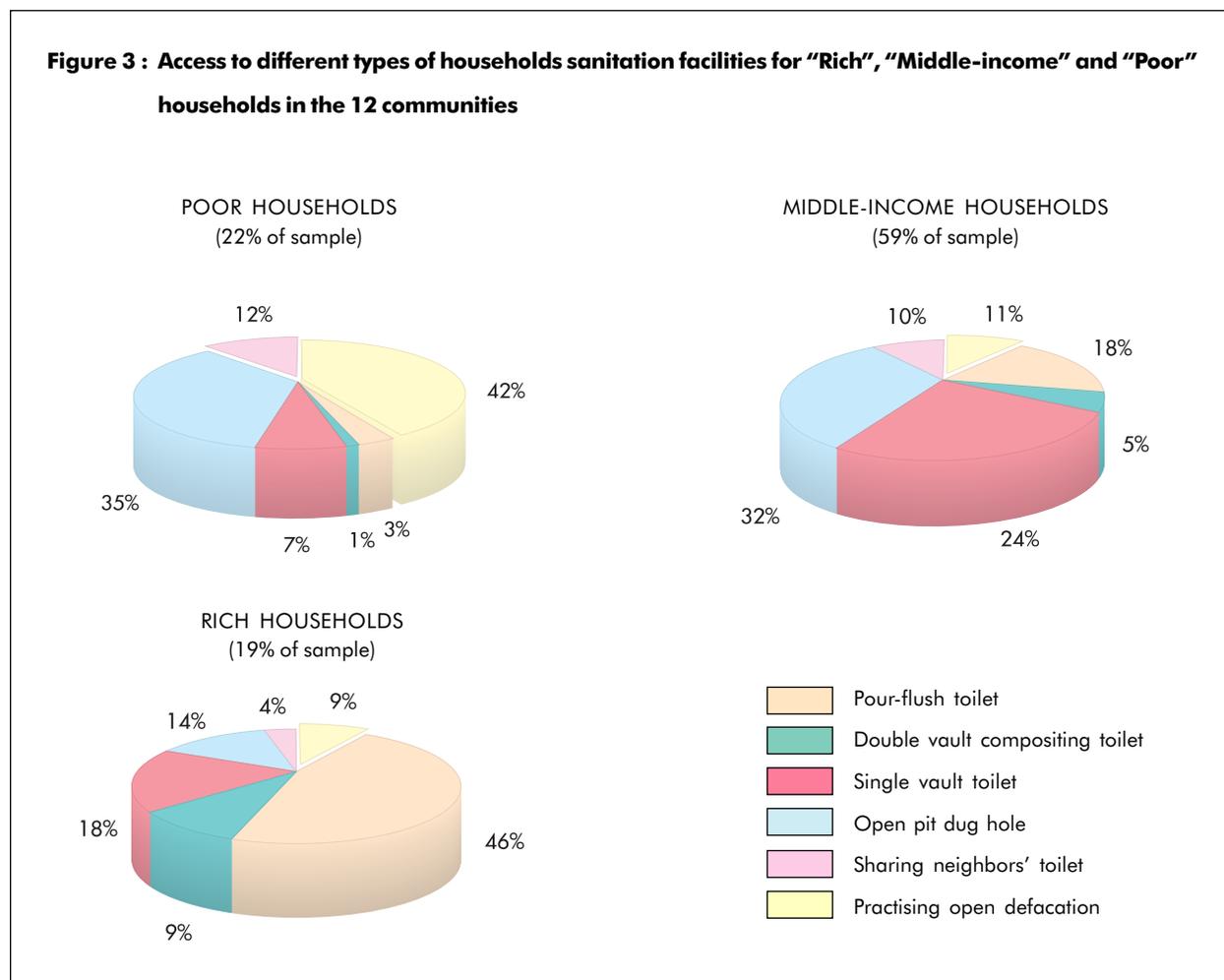
Sharing of latrines seems to be inversely related to coverage but is also influenced by social status, and local livelihoods. It is most common in the plains of Ninh Thang (hamlets 1,2,4,5,8), where household ownership of latrines is between 65 and 90 per cent, and the mainly agricultural population depends on the latrines for a regular supply of night soil. As many as 38 per cent of the poor households in Ninh Thang share latrines with neighbors, compared to 18 per cent of the middle-income group and only 8 per cent of the rich.

Latrines are rarely shared in the mountainous Phu Luong hamlets (Xom Ha and Ban cai), where household ownership of latrines is already nearly 100 per cent. In

coastal Quang Thai (hamlets 3, 6, 7, 9, 10) although coverage is lowest, the rich do not share latrines while only 4-5 per cent of the other groups do.

What kind of access have the poor gained?

In comparison to estimated national averages, the coverage and access rates of household latrines in these communities can be considered impressive. However, for community health impact concerns, it is important to also examine how hygienically the facilities are used and maintained. In view of the practices and conditions prevalent in rural Vietnam, the National Rural Water Supply and Sanitation Strategy (NRWSS) stresses the promotion



of sanitation facilities that are less open to the possibility of unhygienic usage. It provides the following definitions to clarify the task.

It is recognized that facilities in themselves are not “hygienic” or “unhygienic” and it is the way they are used and maintained that makes them so. The NRWSS argues that popular practices related to the reuse of human excreta in Vietnam make it relevant to thus categorize types of latrines for strategy and policy purposes. The study looked into the actual use of all types of latrines found in the sample communities and did actually find very high risk unhygienic practices associated with the use of pit latrines, both single and double vault latrines and also pour-flush latrines (see section 4 in this report: *Is sanitation coverage linked to hygiene awareness?*). Figure 3 shows the access to different types of latrines, by socioeconomic categories.

Over the past decade sanitation projects in all the communities tried to promote the use of pour-flush latrines, which seems to have mainly benefited the better-off households. In the study areas 46 per cent of the rich households and 18 per cent of the middle income households have them, but only 3 per cent of the poor do.

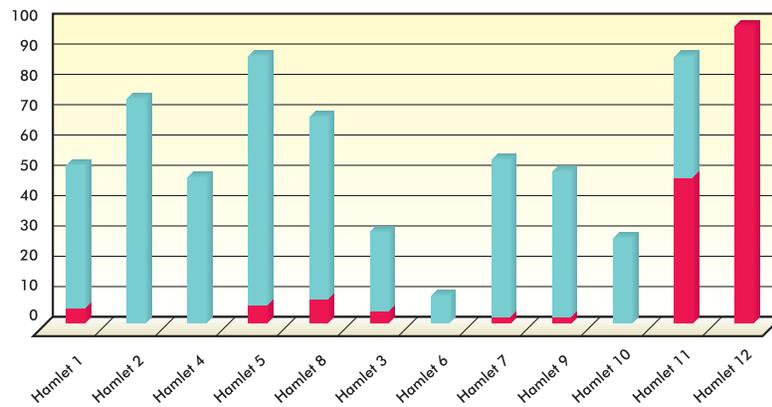
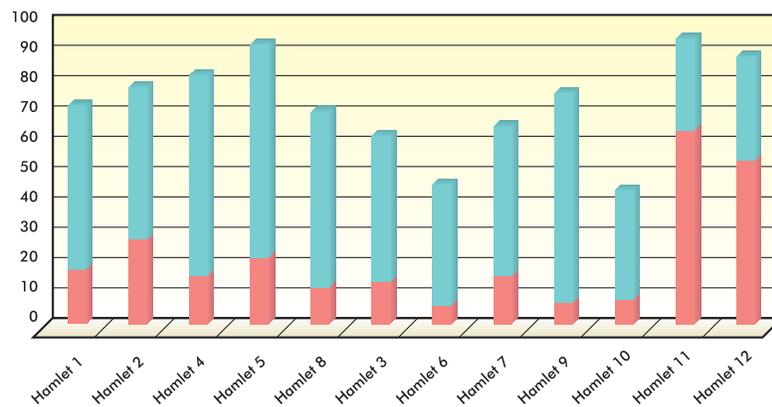
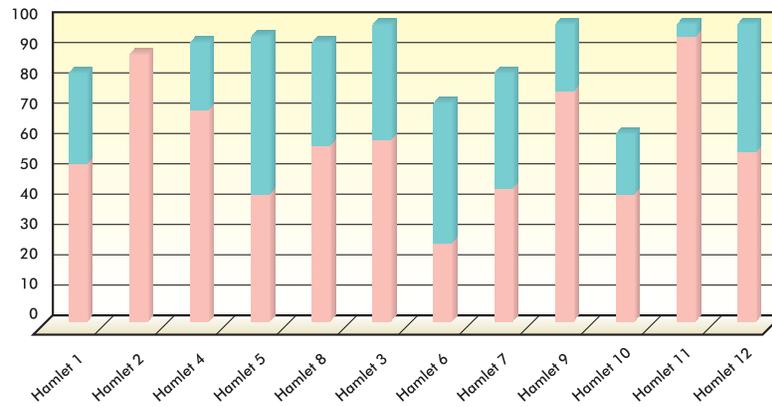
Ownership of, and access to “improved systems” such as pour flush and DVC latrines is evidently related to socioeconomic status. A little more than half of the rich households in the sample had access to them. Less than

a quarter of the middle-income group and only 4 per cent of the poor households did so. 42 per cent of the poor households still practice open air defecation. Their access to latrines mostly means using lower level facilities like open pit dug holes and single vault latrines. Although 12 per cent of the poor share the use of neighbors’ latrines, it is likely that their neighbors, also poor, own only systems classified as “unhygienic” or “simple” systems by the NRWSS. The middle income group, which constituted nearly 60 per cent of the sample households, also uses predominantly these very systems.

Examination of access to latrine types by communities shows that the access of the poor to improved systems like pour flush or double vault composting facilities was appreciably high only in 2 out of 12 communities (Figure 4). These were both in Phu Luong, where financial help had been made available from the sanitation project in the form of a credit scheme. No other hamlets in the study had financial assistance schemes. The CIDSE project provided each Phu Luong hamlet a fund of VND 12,000,000, if the community could raise VND 3,000,000 from its own resources. The total amount is managed by the development committee of the hamlet. Households may borrow funds to build latrines or other economic activities, at 1.5% per month interest. Very poor households may be further assisted with payment for their labor contributions to other community members. Repayments are scheduled so that people can pay after harvest or by selling offspring of livestock.

The experience from 12 communities suggests that a significant increase in the access of poor households to improved sanitation facilities may require special forms of financial assistance tailored to local livelihoods and targeted to the really poor within communities by the community’s own institutions. It raises the question whether sanitation projects should therefore routinely explore and test alternatives for targeting the poorest households within communities.

Figure 4 : Percentage of Ownership of different types of latrines by rich, middle-income and poor households in the 12 communities



- Single vault + open pit dug holes
- Rich households with pour flush/DVC latrines
- Middle Income households with pour flush/DVC latrines
- Poor households with pour flush/DVC latrines

Hamlets 1,2,4,5 & 8 in Ninh Thang Commune (on the plains)

Hamlets 3,6,7,9 & 10 in Quang Thai Commune (beach)

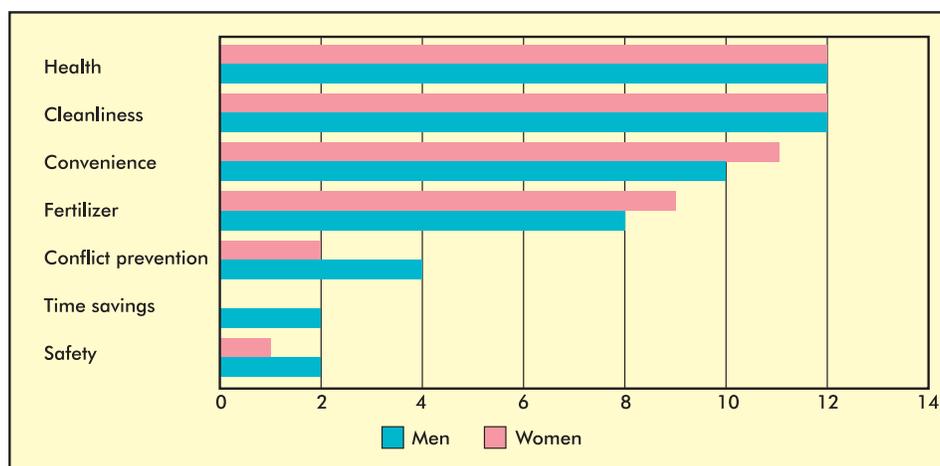
Hamlets 11 & 12 in Phu Luong District (mountains)

3. What benefits matter most to users?



Benefits from the use of household latrines were identified in discussions held separately with groups of men and women in the 12 communities. They were first asked whether they had experienced any changes in their lives after starting to use latrines. The ensuing discussion helped identify what those changes (benefits) were. An MPA tool (Ladder 1 – see Annex A) was then used to help them assess the extent to which their expectations of each benefit was being satisfied, as well as their perceptions of the value of each benefit compared to the costs incurred in constructing and using latrines. Group conclusions and scores from the 12 communities are summarized in Figure 5 and Table 4.

Figure 5: Frequency of mention of types of benefits in 24 focus groups of men and women



In general, women and men identified a similar set of benefits, but differed in the extent to which they perceived the value of some of those benefits to them. Women valued more than men the benefits of convenience and cleanliness of the home. Men valued more the economic benefits of night soil availability and avoidance of conflict with neighbors (Table 4).

Groups in all communities agreed that the most important advantages of having a household latrine are: a) its positive impact on health and related cost-savings and b) clean, smell-free homes. They said that using latrines had helped prevent intestinal worms and diarrhea and made it possible to avoid epidemics. This saved large sums of money that the family would otherwise have incurred on medical costs.

Cleanliness was an almost equally valued benefit, stated by both men and women in all 12 communities. They said that having latrines means a cleaner environment overall. Homes with latrines do not have excreta lying around and do not smell bad. A household without a latrine can be a source of unpleasant smells, which can lead to conflicts with neighbors. Peace with neighbors was a benefit perceived more often by men. On the other hand, the esthetic benefits of a clean, smell-free home environment appealed more to women than men, who gave it a higher *value for cost* score. Convenience was ranked as the second most important benefit. It is more convenient to have indoor latrines that one may use at any time of the day or night, avoiding the need to walk to a defecation site away from the home, and hence saving time, energy and effort. It also protects against inclement

Box 3

“By using manufactured, modern drugs human diseases may be treated quickly, but these drugs treat only the symptoms. Traditional medicines are more effective because they attack the root causes of diseases. When we use human excreta to fertilize tobacco or rice crops, it works more like traditional medicine. You can see that the plants look greener and have more flavor, than if we use chemical fertilizers”.

- men’s group in Quang Thai commune

Table 4: Perceived benefits of household latrines in the 12 communities

Perceived benefits of having one’s own household latrine	Total scores* from 12 communities			
	Men’s scores		Women’s scores	
	Benefit score	Value for cost score	Benefit score	Value for cost score
Overall health protection (prevention from intestinal worms, epidemics, drinking water pollution, medical service cost saving)	115	116	116	120
Cleanliness (clean houses, roads, fields; avoidance of unpleasant smells and flies)	108	103	114	117
Convenience (including privacy)	67	65	81	91
Night soil (freely available, fertilizer cost saving)	35	42	45	37
Avoidance of conflicts with neighbors	20	22	12	10
Safety (from illnesses, weather, accidents)	10	10	7	6
Time saving	6	8	N/A	

* In a group assessment session, the maximum possible Benefit score is 10. A benefit that was given the maximum score possible by men’s or women’s groups in all 12 communities would get a *Total Benefit score* of 120. A high *Total Benefit Score* means that the benefit is perceived by more community groups and that their expectations regarding the benefit are being met to a high extent. The same rule applies to *Value for Cost* scores. When the *Benefit score* and *Value for cost score* are equal in any community, or in the total, it means that the perceived benefit is considered fully worth the cost. A higher *Value for Cost* score implies that the perceived value of the benefit exceeds costs incurred for it, and vice versa. “N/A” means “not mentioned”.

weather - especially important for children and the elderly at night. Women's groups everywhere included privacy and security benefits while discussing "convenience". They cited many examples of the problems they used to encounter related to lack of privacy and insecurity before they got their latrines. This explained women's higher *value for cost* score for 'convenience'.

The fourth major benefit perceived by the groups was the supply of night soil from latrines. People equated the need of plants for night soil to people's need for medicines. In most discussion groups the value of human excreta for agriculture was strongly emphasized. Quang Thai peasants even claimed that night soil markedly improved the flavor of tobacco crops.

A comparison of Tables 2 and 4 shows that the forces that motivated people to acquire a latrine were not always similar to the benefits they perceived to be deriving from them after they owned and used them for some time. Despite the fact that in Vietnam latrines had been promoted primarily as a health-improving facility, health protection and cleanliness were not mentioned as initial motivators of demand to get a latrine. They were, however, perceived as major benefits once a household did get one and used it for some time. Possibly, messages about latrines improving health are only believed when such benefits are personally experienced. On the other hand, convenience, access to night soil, and to a lesser extent, prestige with neighbors were identified by groups both as important motivators to get a latrine, as well as valued benefits once people had acquired and started using their latrines. The implication for marketing latrines is that one needs to find out and take advantage of whatever motivates a community to acquire their own facilities.

The findings suggest that sanitation promotion could be made more effective by not focusing promotion exclusively on health benefits which only become evident to users after a period of use. Other motivating factors such as convenience, availability of night soil and social prestige or reputation with neighbors and guests may have greater appeal for first time buyers of latrines in Vietnam,

and could be better utilized in marketing strategies.

Similar findings have been reported from many countries. It is beginning to be recognized internationally that sanitation programs require less educational and more promotional approaches and that sanitation interventions are more successful when they first try to find out what motivating forces work for local populations in bringing about behavioral change. Such understanding however is not yet widespread in institutions that plan and implement sanitation projects. Country-specific studies such as this one can be used to gather indigenous evidence that can raise questions about conventional approaches which are exclusively 'health education-based'.

Cost-Benefit Perceptions

Projects that were active in each of the communities did require a substantial contribution of the households themselves. In Ninh Thang, project assistance was limited to the provision of hygiene awareness programs, a number of packages consisting of a cement pan, steel pipe and a bag of cement and the construction of one demonstration latrine per community. In Quang Thai, a small number of toilet pans were distributed within the community, which only benefited a small percentage of households, whereas in Phu Luong each household was provided with a toilet pan and cash assistance of VND 150,000 (US\$11), when the average price of a household latrine in Phu Luong at the time was US\$20. *Timeline* explorations with community groups in all the 12 cases revealed that coverage with "improved systems" was very low until the early 1990s. Before that people mostly used traditional pit latrines, defecated in piggeries or practiced open defecation. The minority that were better off had DVC latrines.

As explained earlier, the study used an MPA tool to measure how worthwhile latrine owners thought their investment had been for them. Women gave somewhat higher *value for cost* scores to their latrines, indicating that they thought the facility was more worth its cost than

the men did. The overall results showed that both men and women perceived the benefits from the use of sanitary latrines to have exceeded the cash and labor costs incurred in constructing them. In their experience, the cost of building a household latrines works out to be lower than the medical expenses incurred by an average family in 1-2 years, for treating illnesses resulting from lack of latrines and improper sanitation. They think it has been a good investment (Table 4).

While men and women reported discussing the matter together before deciding to acquire a household latrine, in accordance with Vietnamese family tradition, the husband in most cases was the final decision-maker.

User satisfaction

Visual rating scales drawn on the ground were used with groups of users of various types of latrines to assess their satisfaction with the facility (See Annex A for details). There was some debate and moving about of ratings on the scale until consensus was reached in groups of men and women in each community.

User satisfaction with household latrines varied with gender of the raters and types of latrines being rated⁸. Figure 6 shows how the ratings were distributed in the 12 communities.

Most users of pour-flush latrines were close to fully satisfied (75 - 100% satisfaction). Women were more satisfied than men. Pour-flush latrines are considered modern, smell-free and provide a feeling of cleanliness, provided water is available close by for flushing. If water is not readily available, the pour-flush latrine quickly falls from favor because: a) it gets as dirty and smelly as traditional pit designs and b) it prevents regular access to excreta for use as fertilizer. Due to both these reasons, users often responded by converting them to dry pit latrines, as in

Xom Ha. Dissatisfaction with pour-flush latrines in some communities was also due to poor quality of the latrine design resulting in blocked and therefore stinking toilets, and due to the construction materials used. Many women complained about the difficulty to keep cement pans of the toilet clean, specially in Xom Ha commune of Phu Luong where pour-flush was the only design promoted but water supply close to homes was not simultaneously assured.

People were only about 50% satisfied with their single and double vault latrines, which were common in the plains. Although they were not as convenient and smell-free as pour-flush latrines, they were still indoors, and they could be used to collect night soil.

Dug pits also provide night soil, but they were described as dirty, smelly and unsafe especially for children and the elderly. Users' satisfaction with this type of latrine is very low. People use them because they cannot yet afford to build other types of latrines. Their only advantage is that they provide ready access to excreta for fertilizing crop fields.

It is worth noting how frequently satisfaction ratings for vault and pit latrines were explained with reference to the availability of excreta from the latrines for use as fertilizer. The practice seems both widespread and embedded in local livelihoods. The NRWSS recommends a national ban on the practice, which may be impossible to put into effect in the absence of cheaply available alternative solutions for fertilizing crops. Even if such solutions may be available, deeply ingrained popular beliefs about the value of night soil for agriculture will have to be addressed in a convincing manner. The findings also raise the question whether such a practice can really be completely eradicated and whether the most realistic solution would be simply to aim hygiene promotion at more hygienic handling of the excreta by the population that depends on it.

⁸ User satisfaction was measured using an MPA tool, the 0-100% visual rating scale, with men and women's groups separately. Their choices of ratings on the scale were further probed to understand their reasons for high or low scores.

Ninh Thang		0 50 100			Reasons for rating
Village 1	①	[0]-----[80]-----[100]			Clean, free of bad smell. But ugly if water unavailable. Comfortable. Provides fertilizer for fields. Provides needed fertilizer.
	②	[0]-----[50]-----[100]			
	③	[0]-----[50]-----[100]			
Village 2	①	[0]-----[80]-----[100]			Clean, free of bad smell. Ugly if water unavailable. Dirty. Not safe. No money to build latrines.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			
Village 4	①	[0]-----[80]-----[100]			Clean, free of bad smell. Ugly if water unavailable. Dirty, but provides fertilizer. Clean, free of bad smell.
	②	[0]-----[50]-----[100]			
	③	[0]-----[50]-----[100]			
Village 5	①	[0]-----[80]-----[100]			Latrine is not built because house is not designed. Latrine is not built because house is not appropriately designed for latrines/water supply.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			
Village 6	①	[0]-----[80]-----[100]			Clean, nice looking. For fertilizer. For fertilizer.
	②	[0]-----[50]-----[100]			
	③	[0]-----[10]-----[100]			
Quang Thai		0 50 100			
Village 2	①	[0]-----[80]-----[100]			Clean, comfortable, free of bad smell. Need fertilizer. Need fertilizer.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			
Village 5	①	[0]-----[80]-----[100]			Clean, comfortable, free of bad smell. Need fertilizer.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			
Village 7	①	[0]-----[80]-----[100]			Clean, comfortable, free of bad odor. Need fertilizer. Need fertilizer.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			
Village 9	①	[0]-----[80]-----[100]			Clean, comfortable, free of bad odor. Need fertilizer. Need fertilizer.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			
Village 10	①	[0]-----[80]-----[100]			Clean, comfortable, free of bad odor. Need fertilizer. Need fertilizer.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			
Phu Luong		0 50 100			
Ban Cai	①	[0]-----[80]-----[100]			Clean, free of bad odor. Need fertilizer. No available water for flushing. Waiting for house design.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			
Xom Ha	①	[0]-----[80]-----[100]			Clean, No bad odor. Changed pour flush to dry latrine. Need fertilizer. Need fertilizer.
	②	[0]-----[10]-----[100]			
	③	[0]-----[10]-----[100]			

- ① Water pour-flush latrine
- ② Single/Double vault latrines
- ③ Dug pit
- Male
- Female

4. Is sanitation coverage linked to hygiene awareness?

As most latrines were acquired for reasons other than health protection, high coverage levels do not necessarily imply high levels of hygiene awareness and hygienic practices. Hygiene practices were studied using environmental hygiene transect walks across the communities, observation of households and 10 randomly selected household latrines in different parts of each hamlet, with the help of standard observation checklists. Hygiene awareness was explored through participatory diagramming methods from PHAST.

Some positive trends to build upon

- Family latrine use was common. Random observation of 10 latrines per community showed that they were used regularly. However, only the pour-flush type latrines were kept relatively clean, with no excreta visible on floors or walls around the pan.
- Half of the pour-flush latrines were equipped with water tanks for flushing. In villages that had no water supply close to home, household waste water or water from nearby ponds was being used for flushing. Dry latrine users used paper to clean themselves and buckets for used toilet paper were present in about half the observed latrines. Domestic waste was deposited in holes in gardens or public dumpsites before being periodically treated.

- In Phu Luong hamlets very little animal dung was observed on village paths and streets which was not the case in other communities. Reportedly, interventions by the CIDSE project had managed to convince the ethnic minority population in Phu Luong to move domestic animals away from their living quarters and keep them in pens.
- Indoor household environments were generally free of human excreta everywhere.

Some high risk unhygienic practices

- In the communities along the seacoast, many people still continue to defecate outdoors.
- Night soil is not handled safely in case of the majority of vault and pit latrines. Even in the case of DVC latrines, the vaults are often not kept separate and



vault contents are taken out as and when needed for agriculture, without allowing them to compost adequately. Women are exposed to frequent contact with excreta as they generally have to undertake the task of removing night soil from latrines and carrying it to crop fields, sometimes without the help of any implements. In discussion groups women complained that the task makes them feel quite sick, but they feel obliged to do it as it benefits the crops.

- The widespread use of unsanitary latrines and modification of latrine systems to unsafe designs continues in all communities because there is frequent demand for human excreta in agriculture. This leads to opening up of septic tanks and leaching pits of pour flush latrines and vault and pit latrines being maintained in a state that allows easy access to contents at any time. Covers are removed from pit and vault latrines, separation walls between vaults are demolished, night soil contaminates floors during removal and the latrines stay dirty and smelly all the time. Nevertheless, many households still consider such latrines to be sanitary.
- Hand washing after defecation is not a common practice, even with just water. In none of the communities visited, were people washing their hands with water and soap after defecation. In none of the latrines observed did the study team find the presence of soap besides water tanks or wells. The water in toilet tanks was reportedly used only for flushing.
- In some areas people use highly hazardous anal cleaning practices. In the mountainous communes the researchers observed sticks or pieces of cloth hung inside the latrine which were said to be used like toilet paper, but not discarded after single use and repeatedly used by different family members.

Hygiene awareness

The study team used a pictorial tool to assess people's awareness of the transmission routes of fecal contamination, and ways to block transmission. Results from 24 discussion groups in 12 communities showed

that there was a substantial gap between what people know and what they actually do (Table 5).

- Women tended to have marginally higher awareness of hygienic practices than men.
- All the groups of men and women correctly identified the three main fecal-oral transmission routes, i.e., through water, hands and foods.
- In every community, both men and women identified defecating in toilets instead of in the open as a preventive hygiene practice.
- Keeping food covered for protection from flies and boiling water for drinking were also identified everywhere as good hygiene practices.
- Cleaning hands with soap was identified as an effective way to block the transmission route of fecal contamination by only slightly over half the communities. Women mentioned it more often as a good hygiene practice than men did. However, both men and women thought it was necessary mainly after working in the fields. There was very low awareness all round of the critical times for hand washing such as before eating or feeding babies, after defecating and after cleaning up a child's feces.
- Women in most communities were aware of the need to dispose of babies' feces into latrines. Men were largely unaware.

The inconsistencies between awareness and practice are worth noting. While all men and women considered defecating in latrines necessary to prevent diseases, many households still practice open-air defecation. In all communities visited, people normally did not clean their hands with soap, even though hand washing with water and soap was identified by half the men's groups and two thirds of the women's discussions groups as proper hygiene behavior, and all groups knew about hands being one principal means of carrying fecal contamination to the mouth.

People seem to have selectively adopted good hygiene behaviors depending on whether it is convenient to do so. Although the government's hygiene education

campaigns seem to have spread awareness of good and bad hygiene behaviors, they have not yet succeeded in getting good hygiene behaviors internalized by people. It is possible that what is promoted may not be relevant according to local beliefs or not actually practicable under local circumstances.

For instance, students are taught about sanitation but schools are not provided with sufficient latrines. School latrines observed were generally dirty and without water or soap for children to clean their hands after defecation. Children are thus not able to put their health and hygiene education lessons into practice. Experience in some countries has shown that children who learn good hygiene behaviors and can practice them at school often motivate other family members to adopt those behaviors⁸.

While PHAST participatory diagramming methods are now being used in many countries for community-level planning of behavior-change interventions with community groups, the study experience suggests that it might be possible to raise the level of analysis to clusters of communities for planning area-specific IEC interventions and monitoring behavior change, as explained below.

An analysis such as above for data from 15 – 20 communities representative of a district or commune can identify and prioritize 1-2 key hygiene behaviors to promote locally for optimal health impact. Low-cost locally developed IEC materials based on such an analysis could target key behaviors more effectively than nationally produced standard hygiene education materials. For example, if the data above came from a sample representative of a district, an appropriate behavior-changing intervention for that district would be one that: a) focused on improving the effectiveness of hand washing by all family members, i.e. with soap, after defecation, after cleaning up babies and before eating or feeding, and b) linked hand washing promotional efforts to making soap and sufficient water more accessible to families and schools.

The policy recommendation implied is that capacities for participatory hygiene behavior analysis and planning for improvement need to be made available in agencies promoting sanitation or managing IEC interventions at the community level.

Table 5: Hygiene awareness assessed in the 12 communities

Awareness of :	Frequency of identification in 12 group sessions with men	Frequency of identification in 12 group sessions with women
The 3 main fecal-oral transmission routes: water, hands and food	12	12
Defecating in latrines as a good preventive practice	12	12
Covering foods with dish-covers as a good preventive practice	12	12
Drinking boiled water as a good preventive practice	12	12
Need to clean hands after agricultural work	6	10
Need to dispose of babies' excreta into latrine	5	10
Need to wash hands with soap	6	8
Need to wash hands before eating	5	6
Need to wash hands after cleaning up babies' feces	2	2
Need to clean hands before feeding babies	0	0

⁸ Kapadia-Kundu, Nandita and Dyalchand, Ashok. *The Bal Sevak Program in India* ; Mwash, S. Eben. *The HESAWA School Health and Sanitation Package, Tanzania*; in *Sanitation Promotion* , WHO 1998; Mukherjee, Nilanjana and Josodipoero, Ratna. *"Is it selling toilets? No, a lifestyle"*, Water and Sanitation Program – East Asia, 2000.

5. How long does it take to change behavior?

Timeline explorations with community groups show an uneven pattern of the progress of sanitation interventions. The time frames needed to change behavior can vary greatly depending on how behavior change options are chosen and promoted. The following examples illustrate why sanitation coverage can increase quickly in some communities and stagnate in others. However, unless coverage was near universal in a community and people's actual latrine use rates were verified, it would be inaccurate to infer that its sanitation behavior has changed.

In some of the 12 communities the first latrines were built in the early 1960s usually by health department staff to set a good example for the community to pursue. During the 1960s, agricultural cooperatives initiated promotional campaigns aimed at improving environmental sanitation in the northern countryside. Double vault composting latrines were the type promoted. But community groups as well as local government authorities met during the study reported that sanitation interventions did not really take off and spread until the early 1990s.

By the early 1990s, the Vietnamese economy began to prosper. Village development boards reportedly began

to forcefully promote sanitation programs in an environment where project assistance became increasingly more available.

These projects offered technical assistance, construction materials and in some cases even cash assistance. In many of these projects, pour-flush toilets were the only design promoted, which had the following types of influence on community behavior and demand for latrines:

- Although interventions had been going on since the 1960s, most of the expansion happened since the 1990s, particularly in communities where the promotion of pour-flush toilets coincided with improvements in the access to water supply.
- In areas away from water sources or without sufficient water, pour-flush toilets were not easy to use and therefore not popular.
- In Ninh Thang people said they wanted to wait for clean water service before building latrines. The ceramic latrine pans tended to quickly get stained and discolored when water from ponds or wells was used for flushing toilets.

- Ninh Thang was the only commune that experienced two project interventions. The first sanitation intervention was in 1985, when on a pilot basis, some households received a toilet pan, iron and cement to construct a pour-flush latrines. The program built some model latrines and expected that the community will replicate them. However, few of these latrines were considered as good models by the population, because the toilet pan was of poor quality and difficult to keep clean and the latrine design made it difficult to extract night soil for agriculture.
- The cost of pour-flush toilets was seen as a major impediment for many, especially poorer households, to acquire one.
- People abandoned the use of toilets that did not meet their expectations, or modified them to suit their needs, by cutting off water-seals and opening up septic tanks to extract human excreta for fertilizer.

Of the 12 communities sanitation coverage increased fastest in the 2 in Phu Luong district. Latrines were introduced only in 1993 and by 2000 sanitary toilet coverage had increased to 97 per cent. The community feels that this was possible because project assistance was

available in several forms which targeted local obstacles to demand. The project constructed demonstration latrines to train local people in construction, promoted a hygienic way of life, made available latrine parts as well as financial assistance as credit schemes for households needing to borrow cash.

Yet, as will be seen in the next section, fast growth of the demand for latrines has not necessarily resulted in sustainable investments being made, or sustained changes in sanitation behavior.



6. What interventions were effective in changing behavior?

Health education efforts were undertaken in all the communities to improve people's hygiene awareness. However, community focus group discussions and interviews with local government personnel brought up evidence that health education alone did not really change behavior. Whether people changed their hygiene and sanitation practices seemed to be a function of how far intervention strategies leveraged local influencers and how far they supported local livelihoods. Sustained behavioral changes however, were those that stemmed from the users' own decisions to change rather than due to external pressure to change, as illustrated below. The following points emerged from community group discussions and interviews with community leaders.

Use of local "influencers"

- Peer pressure and collective community responsibility has proved an important influencer of community behavior for acquiring sanitation facilities. Local government authorities have been very active in mobilizing rural communities to commit to targets for improved sanitation practices. This was done by getting households to formally agree to build toilets, water

wells and animal pens, by ensuring people's contributions to common funds for improving the local environment, and by organizing commune cleaning days in which the whole community participates. The agreed targets are monitored by local governments or Village Development Boards, and the results for each commune are made public.

- Village Development Boards in Ninh Binh province were found to be regularly inspecting households toilets. Those who do not use their toilets or leave them dirty have their names announced over the commune radio system. As a result, all households regularly use and do not change the original design of the toilets, as long as monitoring by the Boards continues.
- Villagers who have had some external exposure were said to have contributed to changes in local sanitation practices. Those who had gone out of the community seeking work had learned about these conveniences in urban areas and brought supplies back to build toilets for their own families and neighbors. Many pour-flush toilets in Ninh Thang and Quang Thai were

reportedly built this way before any project intervention. The research teams observed several fully user-financed latrines which were all functioning and well-maintained.

Links with local livelihoods

- When communities dependent on agricultural practices using fresh human excreta are persuaded to accept pour-flush latrine designs, they do not sustain the facilities as intended. Such designs prevent them from



using the feces for several years because the pits first have to fill up, then sealed off and left for pit contents to be oxidized to manure. When a project uses a supply-driven rather than a demand-responsive approach, people often comply with instructions to build these toilets, but then tend to change them into dry pit latrines or open up the septic tanks to access the pit contents regularly. Both modifications reduce the hygienic advantages of pour-flush latrines. In Xom Ha, for instance, already 30 per cent of the households that built pour-flush latrines 2 years ago have converted them into dry pit latrines. Similar dilemmas were reported by communities in Indonesia and Cambodia where local populations have traditionally used human excreta for breeding pigs and fish farming in ponds.

- In Phu Luong, hands-on construction training was reported to have helped to increase the supply of building materials and skills for sanitation in the community, which has resulted in faster growth of latrine construction. In Bai Can, for instance, in four years time, access to toilets has grown from 0 to 100 per cent. People in Xom Ha reported that since some community members learned to make concrete from local raw materials, households are able to build more latrines cheaply, without depending on external supplies and skills.

7. What helps sustain sanitation services?

Experiences from this study suggest that the failure to consult with user communities in making planning decisions represents a high risk to achieving sustained sanitation services. Projects need to find out and address local consumer preferences, market potential and constraints, and access to skills, materials and/or capital. The latter is especially important for reaching the poorer consumers. Without the right marketing strategy, project investments can be largely wasted. Some examples from the study follow.

- Local authorities and project staff in 7 out of the 12 communities aggressively promoted the use of pour-



flush latrines while people still needed night soil regularly for cultivation and lacked water supply close to homes for flushing toilets. In many cases, people did build pour-flush latrines promoted in their village, but after some time they either discarded the toilet or modified it into dry pit latrines to continue the collection of night soil. In Xom Ha, not a single household has built a pour-flush latrine since the completion of the project in 1999. More telling though is that almost one third of the pour-flush latrines that were built with project assistance have already been turned into dry latrines within 2 years of construction. During the participatory assessments, people mentioned that if they were asked to select the latrine design at the beginning, they would have opted for double-vault latrines instead of pour-flush latrines. The project promoted the pour-flush type because it was considered (by the project) as the most “hygienic” design.

- A similar experience was observed in Quang Thai, where few pour-flush latrines are actually being used. Of those in use, it was noted that one compartment of septic tanks often is left open so that sludge can be collected for irrigating vegetable gardens.

- In Ninh Thang, a first project intervention in 1985 provided households with a number of cement pans for building flush latrines which revealed many defects. Within short periods of use the water seal pipes (goose-neck bend) got blocked, the pans became sticky with excreta and were difficult to clean. They absorbed urine and developed a bad smell. Most of these latrines are no longer used. When the study team visited some households, they saw a number of pans thrown in the corners of gardens. The result was that no other households in Ninh Thang followed the example of their neighbors who had first built latrines, and experienced these problems. As with the introduction of any new product or service, sanitation projects should ensure that the experience of the early adopters is positive – by paying sufficient attention to the technical quality and social suitability of the service provided. If

not, the negative experiences of early adapters will ensure that the future demand for sanitation services is reduced significantly, if not completely decimated.

- A more positive example is the experience of Ban Cai and Xom Ha, where project assistance helped to build reliable capacity to construct latrines within the community. The development of this capacity to supply materials and skills for sanitation saw faster growth of latrine users than in any of the other 10 communities within a very short time span of 2-3 years. People were satisfied with the quality and design of the locally built latrines. Experience in Indonesia showed a similar trend, because in contrast to project approaches prescribing a single type of latrine, locally trained masons were responsive to demands from customers for latrine types and designs.

Learning and Recommendations

Demand-responsive approaches are essential for sustained sanitation.

Sanitation interventions are often seen only as public health measures. But as the study shows, health concerns are not an initial motivator for households to stimulate the demand for sanitation. Hence, there is a disparity between the type of service and the marketing approach that is followed. If sanitation services are to be demanded, used and sustained, it seems important that:

- All households in the community can make informed choices – regarding the technology, design of facilities, possible short and long-term benefits, cost and the modes of payment – so they can select the most suitable and affordable sanitation option for themselves.
- Agencies avoid the promotion of single-product based sanitation services. Such an approach does not offer choices appropriate for all segments of the community, nor does it fit variations in local lifestyles. The study shows that the promotion of a single option like the relatively most expensive pour-flush latrine has mainly benefited the richer households in the community.

Agriculture-dependent communities might insist on designs that allow access to excreta for fertilizer while coastal fishing communities may have no such preference.

- In their sanitation promotion strategies agencies take advantage of the desire for upgrading service levels so that households that are currently unable to afford the higher service level can do so over time. Offering a range of progressively improved options that can be upgraded when possible, at a range of prices, may help to stimulate demand over larger segments of the community, including the poor. The findings from *User satisfaction* ratings and the *Timeline* (waiting until water supply connection is affordable) support this recommendation.

Sanitation promotion strategies should start by identifying the factors that influence the demand for sanitation

Just as for any other product or service, market research is essential to understand what intervention strategies will be most successful to ensure that sanitation services are

sustained. The demand for sanitation is driven by numerous factors that vary between communities. Identifying essential factors that must be present to ensure that demand can arise is a first step. Some essential facilitating factors include the availability of land and water. It does not take research to show that introduction of pour-flush latrines where there is no nearby water source is a wasted investment. The type of latrine offered to a household has first to be compatible with its physical, economic and social reality. Promotional strategies can further utilize situation-specific motivating factors, such as higher potential demand in areas away from the sea or rivers (traditionally preferred defecation sites), the desire for convenience and privacy, the interest to store night soil, or reasons of social prestige.



Apart from promotional strategies, sustained sanitation services also seem to be linked to developing self-sustaining sanitation markets i.e. demand generation along with growing local supply capacity to feed the demand. Findings from the 12 communities on access, ownership, user satisfaction, variations in project approaches to community capacity building and time frames for coverage acceleration suggest that sanitation marketing strategies need include the developing of a) a series of technically feasible options at a range of costs; b) upgradability of technically feasible options to suit local consumer preferences; c) a range of financing arrangements enabling the poor to get access to a sanitation facility; and d) local capacity that will supply skills and materials needed for existing and future local markets.

Demand for sanitation facilities does not automatically result in hygiene behavior change.

The construction of latrines may not take much time as the experience in Can Bai shows. Yet, the construction of latrines does not necessarily translate into improved hygiene behavior. Changing behaviors like outdoor defecation toward consistent use of sanitary latrines can take a long time, as the value of the new behavior may not be immediately obvious to most people who have never used latrines.

Project interventions, especially health education to improve public sanitation perceptions, have obtained some results. However, improved hygiene awareness does not simultaneously translate into a change in sanitation behavior. Giving up long-standing habits such as outdoor defecation, not cleaning hands with water and soap after defecation, and keeping domestic animals underneath the home are only changed when people can evaluate the costs and benefits of the change required. Until

perceived benefits equal or exceed perceived costs, behavior change is unlikely .

It is also important to recognize that the “costs” of behavior change are not just monetary. Costs have to be counted in terms of all kinds of resources (money, effort, time, implications for social relationships and on other resources etc.). A significant example is the present dilemma that the households face of losing access to their supply of night soil when they build a sanitary pour-flush latrine, which has often been the only option they have been offered for sanitation improvement. Sanitation projects need to invest resources and attention into getting their “menu of options” right for their client populations, so that “costs” perceived by potential customers are minimized while “benefits” perceived by them are maximized.

Success of sanitation projects cannot be measured only by coverage rates

As the experience in the 12 communities shows, coverage rates only tell part of the story. In all these communities, sanitation coverage may be high, but these sanitation coverage data do not reveal the differentials in coverage within the community, with the poor having much less coverage than their better-off neighbors. It also does not take into account the difference between and within communities in terms of actual use of sanitary facilities.

As the benefits of sanitation are often measured in terms of community health impacts, the performance of sanitation interventions should not only measure the ownership to sanitary facilities, but also the access to and use of the facilities, and the changes in hygiene behavior. Indicators should also measure whether people use the

new latrine. Do they use it hygienically? Are they willing to repair and upgrade it? Do people build more latrines on their own initiative after a project concludes?

Projects that aim to provide sustained sanitation services should plan their interventions for longer time frames

Sanitation interventions are usually provided in combination with water supply projects, for which the usual time frame is 4 to 5 years. Although latrines can be constructed in this timeframe, it is important to recognize that much more time may be needed to ensure that the sanitation services created are also sustained. Sanitation interventions can only help to improve community health when hygiene behavior changes are made and sustained. Managing behavior change requires a definite process, which was not discernible in the 12 communities studied.

Sanitation projects need to first invest time and resources in gaining an understanding of the current community practices, preferences and the rationale underlying them. This understanding should form the basis for developing an appropriate marketing campaign that can generate local demand for sanitation facilities and local desire for improvements in current hygiene behavior patterns. When demand begins to emerge, projects should be able to offer and effectively explain possible options and costs to potential consumers and also simultaneously develop local capacities that can respond to the emerging and future demand for sanitation. For all these reasons, time frames of 7-8 years are recommended for demand-driven sanitation and hygiene interventions in Vietnam.

Annex A

Participatory Tools used for investigation

The following participatory tools supplemented open-ended focus group discussions. They did not necessitate literacy skills. Where illiteracy was a problem, symbols and visuals replaced writing. Locally available drawing and marking materials in the communities were used optimally.

Well Being Classification (MPA tool)– Discussion is initiated with a group of local community members about how they differentiate between households in their community. Names for different categories and criteria begin to emerge in the discussion. The facilitator guides discussion toward upper, lower and middle socio-economic categories, using the local terms emerging from the discussion. People are then asked to draw pictures of a typical person from each category and list the criteria characterizing each category. They are then asked to distribute a pre-counted pile of 100 seeds representing the total population of their community among the three categories, showing their approximation of the proportion of households falling in each category.

Social Mapping (PRA tool): A group of 8-10 community members are requested to draw a map of their community on the ground/large sheets of paper, showing natural or artificial boundaries, major landmarks, water sources, public water supply and sanitation facilities, paths and streets and houses. They are requested to mark each house with a color code to show its well being category according to criteria developed earlier, and mark the homes which have each different type of latrine. The completed map is used for assessing latrine coverage and access (who uses which facility), in discussion with a larger community gathering of about 30-40 people. The map is used for deciding the route for the environmental transect, selection of latrines to observe in different parts of the hamlet, and also used as a reference with other tools like Timeline.

Process History Timeline (PRA tool): A group of community members, most of whom are above 50 years old, are asked to identify when they had first seen or heard about latrines. A discussion is facilitated to help them trace events linked to their sanitation experience in the community since then, to the present day. As discussion proceeds, a co-facilitator visually documents it along a Timeline, writing on lengths of chart paper sheets the years/other time milestones mentioned and adding brief remarks about events associated with them. A completed Timeline is used together with the Social Map earlier prepared, to further probe why things proceeded the way they did and what led to the present situation. Can be done separately for men and women.

Ladder 1 (Cost – benefit perceptions, MPA tool): Groups of users of latrines (men and women separately) are asked whether using latrines has made any difference to their lives. Out of the ensuing discussion the benefits they perceive from latrines are identified. They are then asked to score each benefit on a scale of 0-10, according to the extent to which their expectation of it is being met (the Benefit perceived score). Seeds/stones are used to show the score for each benefit. They are then asked to think about the costs incurred in getting and using the latrine and re-score each benefit using a different type of seeds/tones on a scale of 0-10, to reflect the extent to which the value of the benefit justifies the cost, according to them (value for cost score). The results are verified by facilitators in discussion with the group and reasons for the scores given are explored.

Contamination Routes and Blocks (PHAST tool): Separate groups of men and women are presented with an assortment of 25 line drawings showing human feces, a human mouth and various possible routes by which feces may reach the mouth, e.g. hand, food, water in natural sources/storage containers/ drinking utensil/flies, people eating using hands, working in fields etc. A number of unrelated pictures are also included. The groups are asked to arrange the pictures to show how feces could be carried to the mouth. Then they are presented with pictures of various types of hygiene practices which may block the routes of such transmission and asked to select which blocks may be used where in their transmission diagram to prevent feces from entering the mouth. The resulting diagram reveals existing hygiene awareness of the group, and may be used to further plan behavior change strategies for their communities (which was not an objective of the present investigation).

Environmental transect walk (PRA tool adapted by MPA): The Social Map was used to identify areas that were relevant to observe in terms of the community sanitation situation and areas which had concentrations of poor, middle income and better off households. A route was then charted on the map so that the latrines chosen for observation and the neighborhoods observed would be properly representative of the hamlet's environmental hygiene status.

Observation checklist for Use & Maintenance of Household Latrines

Score (0=negative, 1=positive)	Transect points									
	1	2	3	4	5	6	7	8	9	10
1. Latrines functioning (usable)										
2. Latrines currently in use for defecation										
3. Pit built according to safety criteria (to be agreed during training)										
4. Closet construction according to technically sound criteria (3-4 tech. criteria – to be agreed during training)										
5. Septic tank/pit placed over 7 m's distance and downstream from water source										
6. External structure provides privacy to user (walls, door, woven bamboo/shutter)										
7. Lid present over pit OR water present in water seal.										
8. No feces visible on floor, walls or latrine surface										
9. Water and soap/substitute available near facility (examine those for evidence of hand washing activity)										
10. No human feces in yard/at garbage pile										
TOTAL SCORE										

**Water and Sanitation Program
East Asia and the Pacific**

**Jakarta Stock Exchange Building
Tower 2, 13th floor
Jl. Jend. Sudirman Kav. 52-53, SCBD
Jakarta 12190, Indonesia
Phone: (62-21) 5299-3003
Fax: (62-21) 5299-3004
Website: <http://www.wsp.org>**

The Water and Sanitation Program is an international partnership to help the poor gain sustained access to improved water supply and sanitation services. The program's funding partners are the Governments of Australia, Belgium, Canada, Denmark, Germany, Italy, Japan, Luxemburg, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom; the United Nations Development Programme and the World Bank