

NGO Water and Sanitation Working Group Meeting Minutes

Meeting called by: _____ **Type of meeting:** WatSan WG meeting
Chaired by: Rick McGowan - EMW **Note takers:** Rick and Ha EMW / NGORC
Date: January 18, 2007

----- Agenda Topics -----

-Delegate self-introduction -All
 -Improved Sanitation Design with Septic Tanks
 -Sanitary Latrine Financing Issues
 -Community Led Total Sanitation (CLTS) Approach
 -Capacity Strengthening
 -Water Quality Testing Parameters and Protocol
 -Other business:
 -Next meeting **Friday March 28 at 3:00 – 5:00**

Participant Affiliation and Contact Information

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Note: The presentation of these WatSan Working Group Meeting notes has been modified somewhat. Previous notes mentioned only a very brief summary of discussions about particular issues. From now on, as much as possible we will try to capture more details of these discussions. Of course, all participants may not necessarily agree with each other in all respects. Because the notes often represent more than one view, they may not be completely consistent. We hope that this is useful to readers to gain a broader perspective on these issues. Thanks to John Pinfold and John Collette for their respective contributions to these notes.

1. Improved Sanitary Latrine Options

As 2008 was designated as the International year of Sanitation, the main focus of this meeting was sanitation. There are three common types of improved latrines currently in use in rural communities in Vietnam. Illustrations and/or photos of these latrines are shown below.

<p>Pour Flush Water Seal Latrine</p> <p>Construction of underground component: 300.000-350.000 VND</p> <p>Total cost: 580.000 VND</p>	<p>Picture removed for size</p>
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<p>Double vault composting latrine</p> <p>Construction of underground component: 500.000 – 600.000 VND</p> <p>The superstructure is constructed using locally harvested materials, and family labor.</p>	<p>Picture removed for size (if any one would like to have minutes with full picture please contact haphan@ngocentre.org.vn)</p>
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<p>Pour-Flush Latrines septic tank with concrete rings or brick layers:</p> <p>Construction cost of the 2 compartments: 900.000 VND – 1.000.000 VND.</p> <p>The superstructure is constructed using locally harvested materials, and using family labor.</p>	<p>Picture removed for size</p>
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These are just three of the many kinds of latrines that are constructed by many different agencies and organizations in Vietnam, latrines which range in price from a very simple pit latrine (essentially just labor cost plus maybe VND 100,000 in materials), to a combined toilet and bathroom with tiled floor and walls for VND 4 million or more.

2. EcoSan Latrines

Ecological sanitation (ecosan) works on the principle that human excreta

(faeces and urine) is not a waste product but contains the nutrients required to fertilize land and that it should be used for this purpose. The ecological sanitation cycle begins with containment, where excreta are held in the sanitation installation. The waste is then sanitized through one or several processes which cause pathogens to die off, the resultant safe soil conditioner (from faeces) and fertilizer (from urine) is then recycled and used to assist crop production. We discussed the technical and cultural differences between EcoSan (composting latrines), and standard pour flush latrines with septic tanks. It was noted that although many international donor groups are very supportive of the dissemination of introducing EcoSan latrines (which at the simplest level is just a way of ensuring the safe disposal of feces) there are some important social issues that may complicate their dissemination in Vietnam. The group agreed that for cultural reasons (attitudes about hygiene and sanitation behavior), it might be difficult to convince substantial numbers of Vietnamese consumers in rural areas to adopt EcoSan latrines (see photo of an Eco-San latrine from Africa).



Some Eco-San latrines isolate liquid (urine) and solid waste (excrement). Eco-San latrines require collection, isolation, treatment and recycling of excrement. There are many kinds of “Eco-San” latrines, including single and double vault composting latrines¹, as well as a basic pit latrine that when it becomes full, the superstructure is simply moved to another spot, and a fruit tree is planted over the full pit. These kinds of latrines were introduced more than 30 years ago in Vietnam. A study was done on double vault composting latrines here, which concluded that while they were really popular at the time, that early popularity may have faded somewhat over time. This may have been in part because they were not always used properly.

There are several reasons for this. In 1975, the government promoted composting latrines in the south, in part as an alternative source of fertilizer. However, as people in the south do not have the custom of using human excreta for fertilizing the field, the project failed soon after its commencement. In the North of Vietnam, thanks to technical development in agriculture (seedling) farmers began to use short stalk rice, which simply doesn't provide enough ash to make composting possible. Also in the North, it was often too cold in winter for proper composting. While feces are generally properly collected, it is often not properly treated, because people removed the fertilizer for use in the fields before the proper six month composting period due to the need for fertilizer for intensive cultivation. In addition, composting latrines were not as effective from a hygiene perspective as people had hoped. Even in hamlets or communes where 100% coverage of DVC latrines, the rates of Intestinal Parasite Infection among children are still very high. The situation may be somewhat different in ethnic minority areas because in ethnic minorities area collect cow dung and resell it for fertilizer.

Some websites that focus on EcoSan latrines are:

- *Compost Toilets Practical Action Technical Brief*
- *Re-use of excreta and urine form Eco-san Practical Action Technical Brief*
- *Ecosanitation Special Waterlines Vol. 26 No 2 October 2007*
- [The main features of ecological sanitation](#). EcoSanRes Fact Sheet 2. EcoSanRes, Sweden.
- [Ecological Sanitation: Closing the loop](#). Esrey, Steven A. and Andersson, Ingvar (2001), UA Magazine 3, pg 35 – 37.

¹ The *Investigation of Remedial Action Plan for Nam Ha Program Unit's Double Vault Composting Latrine* is available if anyone is interested, written by Ben Cole and Pham Duc Phuc, on behalf of Plan in Vietnam.

- [Ecological sanitation and reuse of wastewater: A think piece on ecological sanitation.](#) Jenssen, Petter, D. et al (2004). The Agricultural University of Norway, Norway.
- [An ecological approach to sanitation in Africa: A compilation of experiences.](#) Morgan, P. (2004) Aquamore, Zimbabwe.
- [Guidelines for the safe use of urine and faeces in ecological sanitation systems.](#) Schönning, Caroline and Stenström, Thor Axel (2004). EcoSanRed Programme, Stockholm Environment Institute, Sweden.
- [Should ecological sanitation carry a health warning? Assessing the health risks of ecological latrines.](#) Scott, Rebecca (2006) WELL Briefing note 27. WELL, Loughborough University.
- [Ecological Sanitation.](#) WELL Factsheet. Smet, Jo and Sugden, Steven (2006), WELL, Loughborough University, UK.
- [Ecological sanitation – revised and enlarged edition.](#) Winblad, U. and Simpson-Hébert, M. (editors) (2004) SEI, Stockholm, Sweden.

3. Latrine Options and Promotion

Issues discussed included:

- It was mentioned that in some dry mountainous areas, it can sometimes be very difficult to find water that can be used to flush latrines, and alternatively in the South, fishpond latrines are quite common. While EcoSan toilets have certain technical advantages, are people going to operate them properly to achieve those advantages?
- How can we improve the quality and coverage of school latrines, which are often poorly constructed, maintained, and often simply not there.
- What other design options or technical issues need to be focused on and resolved?
- Research in Lao Cai about pour-flush latrines with septic tanks has started. It tries to assess the how best to support the national target program.
- Oxfam GB is doing now a Gravity Flow System in Ninh Thuan Province, co-funded by the Government of Vietnam.
- World Vision Vietnam is doing grassroots level latrines projects in 30 Districts, apparently with some success. It would be good to know more about this.
- A new project is being implemented in Ninh Binh Province by the German NGO – BORDA. It is called Decentralized Water Supply, and it focuses on the provision of basic needs and services to improve the livelihoods of poor communities in rural and mountainous areas.
- Another program being implemented by Child Fund Australia focuses on improving water and sanitation in communes of the two provinces of Hoa Binh and Bac Can over a five year period.
- Do rural people typically accept and use Improved Latrines? The answer to this question is not so simple. Clearly people in less isolated and generally higher income areas are more rapidly adopting improved sanitation and hygiene practices. How widespread this is remains to be determined.

- With regard to EcoSan latrines, we need to take into account three important steps: collection, isolation and treatment. If these are not properly carried out, the environmental and health benefits may not be fully realized.
- No comprehensive and detailed study of the level of adoption of sanitary latrines has yet been conducted by GOV. This would be a complex, long term and expensive study to carry out.
- Many questions/points were raised with regard to encouraging people to use improved sanitary latrines. Cultural behavior and preferences with regard to sanitation and hygiene behavior can vary considerably among the better off, isolated groups, ethnic minorities, and geographic location (e.g., between the North and the South). How can NGOs working in rural water supply and sanitation most effectively address these differences? For example, while ethnic minority people may well prefer to use latrines if they were available, they may be put off by what they perceive to be the high cost of an improved latrine (about \$100 or VND 1.6 million).
- Child Fund shared some information about their project, which provides support to villagers with a subsidy of two-thirds of the cost of EcoSan latrine. However, a limited number of people at the project site are not so enthusiastic about using these latrines, deeply rooted habits of using open air toilets. This issue could prove to be a significant barrier to the widespread adoption on EcoSan latrines in Vietnam, and trying to encourage family members who may resist using these kinds of latrines.
- UNICEF has done one research on the usage human excreta with the National Institute of Sociology , and findings on people's believe and behaviors are very interesting to read. And that the cost of building Eco-San latrines is significantly (~50%) lower compared to building pour-flush latrines with septic tanks.
- One difficult to resolve issue is how to raise the awareness of the health and other benefits of having access to improved water supply and sanitation in households. Who is most likely to be the person(s) who makes the decision about spending money on a proper family latrine? This is social marketing issue.
- Helvetas mentioned that they have recently completed the construction of 800 family toilets in Can Tho Province, with the provincial Vietnam Women's Union as their partner. They stressed the importance of targeted promotion of latrines at the household level, finding out what the people need, and basing the decision to upgrade household latrines on that information.
- How about the use of sanitary latrines in urban and peri-urban areas? The infrastructure, level of awareness, demand for services, and lack of alternative sanitation options means that the situation is quite different than in rural households.
- A project In Nghe An Province, showed that rural families use latrines not so much for the family health benefits, but mainly for having fertilizer.

4. Sanitary Latrine Pricing, Subsidies, Affordability

There is wide range of pricing and subsidy policies among the various NGOs and multilateral and bilateral donors financing sanitation projects in Vietnam. These policies range from:

- IDE's policy of zero subsidies;
- Plan Vietnam's policy is to reduce direct (i.e. hardware) subsidies for household sanitation to the maximum extent practicable, and ultimately to phase them out. Direct subsidies for

household sanitation are only used where absolutely necessary, and are limited to sub-surface or ground-level components needed for a 'basic level of service'. Subsidies are targeted towards those families most in need.

Note that Plan's Nam Ha Program Unit has supported over 7,500 households to build double vault composting latrines over the past 5 years

- EMW's partial subsidy of 25% of the \$100 total cost of the standard pour flush latrine, septic tanks, privacy walls, roof and door. About 500 latrines have been built so far.
- Habitat for Humanity (HFH) has also built about 500 unsubsidized latrines, at a unit cost of VND 2 million, through loans to participating households, repaid over a two-year period.
- CERWASS latrines follow a government policy of providing a loan (typically about VND 4 million) to households who repay the loan over time, typically after the next crop is sold.
- Government policies such as the revised circular 80 which includes a 75% subsidy to "demonstration latrines" for poor households implies that there is no general subsidy for latrines (even for the poor, it is only for demonstration purposes in some households). The Social Policy Bank (SPB) loans are not restricted to any specific type of latrine.
- It is not likely to be possible to subsidize latrines for everyone, as sufficient funds are simply not available, even if we just focus on poor households. For long-term sustainability, it is probably better to avoid subsidies as much as possible, although providing some limited subsidy certainly is a motivating factor for people to adopt improved sanitary latrines. It would be useful to compare the relative uptake of latrines using these various financing approaches, and to try and identify which approach(s) generate the most interest on the part of households to participate in the program.
- Two important issues that need further discussion are whether there should be:
 - a) GOV subsidies or no subsidies (IDE), or some other arrangement?
 - b) What about special financing arrangements for the very poor?
- Many poor people do not choose to purchase a sanitary latrine simply because they feel that they cannot afford it. The GOV / Women's Union standard demonstration model pour-flush latrine is subsidized through a loan program. Loans of up to VND 4 Million are available from the Social Policy Bank (this amount may have increased recently due to the significant inflation that is adversely affecting many people's lives these days, especially the poor). When families take these loans, they are usually very strict in paying them back on time, in part because if they have any outstanding loans for latrines (or anything else) they will not be able to get agricultural loans (for seed, fertilizer, herbicides, etc.), without which their agricultural livelihood would be in jeopardy.
- What about the working relationships (partnerships or collaboration) between sectoral donors and the provincial authorities? It would be worthwhile to learn more about these mechanisms, and find out who are RWSS sectoral NGO's most important development partners. These relationships vary depending upon the particular project / program and its financing source(s), what kinds of financial aid mechanisms are in place, and what particular kinds of sectoral support are being funded that year. Sectoral support targets change from time to time, and NGOs have to be responsive to these changes, otherwise they may be adversely affected by reduced operational funding. Donors modify their operational targets and financing priorities from time to time, to ensure that donor funding is available when and where priorities dictate.

- It can be difficult to ask donors to financially support sanitation by itself, so NGOs try to jointly implement marketing and awareness-raising activities with their respective donors (and beneficiaries) to help ensure a stable funding stream. In these days of the booming economy in Vietnam, NGOs should consider soliciting support from the local private sector as well.

5. Capacity Strengthening for Latrine Promotion and Development

- How can we most effectively strengthen latrine contractor/builder skills, for both construction and marketing? Do any of the WatSan WG members have recommendations for how to deal with this on a province-specific basis? If so, we would like to discuss your experience in this issue.
- Mostly we work directly with the provincial authorities, and they sign contracts directly with the construction company. If NGOs work primarily at the commune level, the NGO will sign the working agreement only with the local authority.
- It would be worthwhile if we develop an assessment of different approaches to sanitation promotion, to determine which approaches have been most promising so far, and why.

6. School Latrines

- Under the RWSS NTP-II program, school sanitation is one of the main priorities. There has been a significant increase in the budget allocation for school sanitation in the pilot provinces – this should be replicated nationwide in 2009/10 budgets. It is, however, important to ensure that we have approved sanitation technology options (including hand washing facilities), and that construction quality and O&M issues are properly addressed.
- What can we do to improve school latrines? Many schools have no latrines at all, even though funding is usually specifically included in the construction contract, that line item budget may be used to add another classroom instead.
- Many NGOs are involved in providing improved sanitary latrines to their beneficiaries. For example, Plan Vietnam has been quite successful with their school and household sanitation activities in 8 provinces in North and Central Vietnam. World Vision has built many school latrine facilities. EMWF has built about 300 school latrines as part of its construction and renovation of early childhood education centers, elementary schools, not to mention a series of large educational facilities at the university level. In addition, an initial 500 household latrines have been built as part of its nascent sanitary latrine program.
ChildFund have built child-friendly sanitation facility for about 30 pre and primary schools and satellite schools.
- Two years ago, the WatSan Working Group organized a workshop focused on sanitation at schools (A note of this meeting is on record at the NGO Resource Centre (original is available from Plan Vietnam). Many issues were discussed. Some models and designs were presented by UNICEF, ChildFund, WCS (Question: Were the results ever written up, and if so, where can we get copies?)
- The RWSSP (Rural Water Supply and Sanitation Partnership) said that they intend to cooperate with UNICEF to develop standards for school sanitation, and a workshop will be held in the second quarter of 2008. Invitations will be sent out later this year.
- MOET works with MOC to come up with designs of different latrines in schools and sanitation is linked to Hygiene. With the sanitation facility in school, MOET also has a 20%

budget spending for latrine construction cost, but in reality it's not implemented. How we can reactivate this?

- One part of the GOV 135 program is financing school construction, including two sanitation systems, and another new program from government on school construction, but neither of these program descriptions mentioned the sanitation issue. NGOs can work to fill this Gap in these programs.

7. Community Led Total Sanitation (CLTS)

Although this was supposed to have been one of the main discussion points in this meeting, we really did not have any time to spend on it. Perhaps we can focus more on this sanitation approach in the next meeting. Do any of you have significant experience with CLTS? If so, please contact us and let us know whether you would like to do a presentation on this at the next meeting. I understand from John Collette that he has received three videos on CLTS. Hopefully we will be able to show one or more of these at the next WatSan WG meeting.

8. Water Quality Testing and Long Term Monitoring

There are several different water quality standards used by different organizations under different conditions. For example, the Danang Environmental Protection Center typically measures 11 chemical parameters, including pH, Turbidity, Hardness (as CaCO₃), Salinity (NaCl), Iron, Phosphate, Oxidation (COD), Nitrite, Nitrate, Ammonia, Sulphate and two biological parameters (E.Coli and Total Fecal Coliforms). However, the primary reference for water quality testing for rural water supplies is the Decision of the Ministry of Health 09/2005/QD-BYT dated 11/3/2005 Regarding Issuing the Sector Standards: Hygiene Standards for Clean Water. This document lists 20 chemical parameters and two biological parameters. The chemical parameters are divided into Level I and Level II. There are 13 Level I chemical parameters and seven Level II chemical parameters. Level 1 parameters are measured in the initial raw water quality test before a water system is built, and then retested once every six months. The level II parameters include total dissolved solids (TDS), copper, cyanide, fluoride, lead, manganese, mercury and zinc, which generally fluctuate very little over time for a given source.

According to the regulations, the Level II parameters have to be tested once before the proposed raw water source is used, but not on any regular basis thereafter. The only situation in which Level II parameters need to be tested again is whenever some external event (for example, installation of a silk dying operation or an industrial factory) that may generate these kind of pollutants and discharge them into the water table. Where this does not happen, Level II parameters do not need to be tested regularly, as long as the natural conditions at the site do not change significantly. Talking to colleagues with experience in WQ testing suggests that Level II parameters may often not be routinely tested before the raw water source is developed, so:

- What do the other WatSan WG members do about water quality testing?
- What parameters are tested, by whom, and how often?
- How much does it cost?
- Some suggested that capacity and funding to meet these standards may not always be available in rural water systems, and more so in poorer and more remote communities.

Another water quality issue that was briefly discussed was testing for pesticides and herbicides. It is desirable to do this when proposed water source is located nearby intensively farmed areas is not such a simple thing to do. The reason is that a single test cannot be used to assess the level of pollution, pesticides and herbicides have very different chemical compositions. So that it would be necessary to test for each specific herbicides that were being used at that site. The same is true of pesticides. They are chemically very different from each other, and so individual tests

would have to be made each specific type of pesticide(s) that was being used in the area near the water source.

In part due to the complexity and steadily increasing cost of water quality testing, over the past few years there may have been a shift away from trying to promote traditional water quality monitoring and surveillance to promoting Water Safety Plans. WHO has published numerous documents on this matter (ref: http://www.who.int/water_sanitation_health/dwq/safetyplans/en/). Perhaps CERWASS and/or MOH has sponsored some training activities on this issue.

9. Next Meeting Topics

Topics tentatively proposed for next meeting on: **Friday March 28 at 3:00 – 5:00** include:

- IEC (Information, Education and Communication, Ref: Ben Cole's CERWASS comparative study on this topic);
- Monitoring and Evaluation practices (ref: the recent workshop in Hai Phong on this issue);
- Workshop: presentation from RWSSP; and/or
- Household level water treatment technologies and applications.

All participants agreed that the WatSan Working Group meeting should be held more often (Bi-monthly instead of quarterly based), so that there will be six meetings per year, rather than just four.