

**CENTER FOR HEALTH AND ENVIRONMENTAL STUDIES**

**DRAFT REPORT**



*A student from Thanh Son Primary School in Nghe An practices handwashing.*

**Assessment of School Sanitation and Hygiene  
Education pilot project supported by the  
Netherlands during 2000-2001**

Hanoi, January 2006

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*Hanoi, February 2006*

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## EXECUTIVE SUMMARY

The School Sanitation and Hygiene Education (SSHE) Project supported by the Netherlands has been conducted in 20 schools in Ha Nam and Nam Dinh in the year 2000 (through Water and Environmental Section – UNICEF) and 30 schools in 2001 in the year 2001 (through Education Section – UNICEF). Project activities included a national SSHE workshop, SSHE data collection, training of SSHE trainers, translation and printing of SSHE guidelines, clean water supply and hygienic latrine construction in 50 schools.

The study of “SSHE Participatory Assessments of pilot program in Vietnam supported by the Netherlands Government in the year 2000-2001” has been implemented in 54 schools of 13 provinces in Vietnam; 40 intervention schools<sup>1</sup> and 14 control schools. In each district, one school was randomly selected under the same natural, social and economical conditions as the Netherlands supported schools but non-UNICEF supported.

The study was conducted with the participation of students, members of School Principal Board, teachers, central, provincial and district education officers. Four methods of data collection have been used: observation, in-depth interview, interview with questionnaires and focus group discussion. For students, observation, group discussion, practicing, analyzing and application encouraging methods (application of personal hygiene practice in school latrines) were used. For members of School Principal Board, the method of observation, interview with set questionnaires and in-depth interviews were applied. Group discussion was done with teachers and in-depth interview was for educational officers at all levels. At each school, after accomplishing each content of the survey, the research team had a meeting with School Principal Boards, General Chiefs of Youth Pioneers Groups, representatives of communal Peoples’ Committee, educational officers.....In the meeting, the assessment team will brief all with initial results of the assessment with particular marking of constraints, proposing solutions and requesting the local authorities to provide further support to the schools.

The survey was implemented during a three month period from October to December 2005. The main findings are as follows:

- The pilot SSHE Project supported by the Netherlands is stepping stones for applying life skills education in hygienic and sanitation training in schools. This application is both inspiring students in active learning and providing them with basic skills to take righteous decisions for themselves, eliminate bad hygiene practices and build up healthy practices. Latrines and water facilities in schools are also used as “visual aids” in hygiene and sanitation education for students.
- *Regarding to water facilities:* most of surveyed schools have water sources at schools. Almost half of programmed schools have water facilities built from the Netherlands’ support in 2000-2001. 92.5% of programmed schools

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<sup>1</sup> *Intervention schools are the ones that received assistance from the SSHE Pilot Project whereas control schools did not and have been selected for compairon with intervention schools.*

have water facilities in good use; meet hygienic standards and child friendly (no moss, wells with safe lids...). 62.5% of intervention schools have the hand-washing areas for students - 28.6% higher than at control schools. Most of the hand-washing areas are near latrines which are very convenient for students. Most are taps which enables students to use easily. The height of basins is within students' reach.

- *Latrines*: most of surveyed schools have latrines, only 1/40 intervention school and 1/14 control school does not have. All of available latrines at programmed schools were supported by the Netherlands through UNICEF Viet Nam and most of them were built in 2000, 2001 or 2002 and all are hygienic and in good use now. Most of the intervention schools have safe paths to latrines. Few schools have regulation boards guiding the use of latrines.
- *Students' hygiene practice*: not all observed students did hygiene practice such as water flushing, hand washing. Only one school (Phu Dien 2 of Phu Vang, Thua Thien Hue) has soap for hand washing. Most of surveyed schools have clean ground floors and neat classrooms.
- *SSHE impact*: SSHE has quite a remarkable impact on students, students' families and community of the delta area. However, SSHE impacts in mountainous area where most students are ethnic minorities are still limited.

The SSHE Pilot Project supported by the Netherlands was effectively implemented. The Project is the first step for applying life-skills based education in hygiene and sanitation education in primary schools. Up to now this appliance is not only within 20 schools supported by the Netherlands in 2000-2002 but has been also extensively scaled up in all nation wide primary schools.

# 1. Introduction

## 1.1. OVERVIEW OF SCHOOL SANITATION AND HYGIENE EDUCATION PROJECTS IN VIETNAM

In Viet Nam, health education and environment education have received great attention from the Government and people from all walks of life. Thousands of schools have been provided with water supply and sanitation facilities. Programmes for hygiene and sanitation education have been taught as a school curricular subject.

In the period between 2000 and 2001, through UNICEF, Viet

COUNTRY PROFILE: Basic data (2003 unless otherwise stated)	
Child population:	30.6 million
Maternal mortality (per 100,000 live births):	165
Births attended by skilled personnel (%):	85
Infant mortality (deaths per 1,000 live births):	19
Under 5 mortality (deaths per 1,000 live births):	23
Underweight (%; 2004):	26.6
Low birth weight (%):	9
Access to safe water (% of population):	54
Access to adequate sanitation (% of population):	41
Clean water and hygiene in schools (%)	
• Kindergarten:	66
• Primary:	68
• Secondary:	72
Primary NER (% total/male/female, 2001-02):	96/98/92
Grade 5 completion (%; 2000-01):	89
Proportion of children registered at birth (%; 2004):	95
Iodised salt use (%):	83
Vitamin A supplementation coverage (%; 2002):	55
Children exclusively breastfed for 6 months (%):	15
Measles vaccination coverage at one year (%):	93
DPT3 vaccination coverage at one year (%):	99
Orphans (2004):	150,000
Children with disabilities (2004):	1.2 million
Street children (2004):	16,000
Child labourers (2004):	23,000
GDP per capita (US\$, 2003):	485

Nam and five other countries (Nepal, Zambia, Nicaragua, Colombia and Burkina Faso) began to implement the global School Sanitation and Hygiene Education (SSHE) project funded by the Netherlands. The project objectives were:

1. Child-centred teaching programmes utilising the life skills approach developed/improved
2. Capacity to utilise technical guidelines (Training programme, operation and maintenance) for school facilities developed.
3. Initiatives supported and sustained by the different stakeholders at community level

This project was implemented in 20 schools in the provinces of Ha Nam and Nam Dinh in 2000 (through the Water and Environmental Sanitation section of UNICEF) and in 30 schools in 2001 (through UNICEF Education Section). The project included the following main activities:

- Organized national workshops on School Sanitation and Hygiene Education during five days in Hanoi.
- Conducted a baseline survey on SSHE in 10 provinces in 4 provinces of Tuyen Quang, Yen Bai, Ha Tay and Ninh Binh
- Constructed WES facilities in 50 schools.

- Developed and revised curriculum/materials on SSHE with life skills teaching
- Translated, printed and disseminated SSHE manual
- Conducted training of teachers on life skills in SSHE

Since then, SSHE has been steadily developed in Vietnam. Since 2002, with the support by UNICEF, Child-Friendly Primary Education (CFPE) projects have been implemented in around 200 schools in 15 provinces each year. The Water, Environment and Sanitation (WES) programme of UNICEF continued supporting the construction of WES facilities in around 70 schools each year. Apart from that, every year UNICEF WES also helps to organize extra curricular activities (competition on WES knowledge/drawings) in around 70 schools. During 2004 and 2005, UNICEF WES provided package interventions of water supply and sanitation facility construction and hygiene education in 72 schools of six provinces. The National Rural Water Supply System (RWSS) Target Programme I during the 2001-2005 period also gave priority to the construction of WES facilities in schools, including separate funding for SSHE (7-9 provinces per year).

Following the pilot stage of the global SSHE in the six countries, it was agreed by UNICEF and the International Water and Sanitation Resource Center (IRC) of the Netherlands to conduct the evaluation of the overall results of the programme and draw lessons learned, thus putting forward recommendations to the other SSHE programmes and education/WES contexts. A workshop was held in Delft, the Netherlands in June 2005 to discuss methodology for in-country assessments.

## **1.2. RATIONALE OF THE EVALUATION**

In Viet Nam, about half of primary schools still lack basic WES facilities<sup>2</sup>. Special attention is being paid to the quality of the WES facilities, the child-friendliness, their operation and maintenance. The issue of clean water supply and environmental hygiene in schools is still one of the key components of the cooperation programme between UNICEF and the Government of Vietnam (Ministry of Education and Training). In addition to that, the attention from other donors is also increasing in this area. This participatory SSHE assessment will provide valuable lessons on some of the critical success factors of the past pilot project, on the basis of which a new project can be implemented country-wide. The Viet Nam country assessment would contribute to the global learning/lessons on SSHE in order to target effective support to schools.

## **1.3. THE ASSESSMENT OBJECTIVES**

This study, “Participatory Assessment of the Netherlands-Funded School Sanitation and Hygiene Education Pilot Project in Vietnam 2000-2001” is aimed to:

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<sup>2</sup> Source: *Primary Education for Disadvantaged Children Project, Ministry of Education and Training, 2004.*



- Identify whether the constructed WES facilities are in good use and working conditions.
- Identify whether the systems of sanitation facilities and the activities of life skills education are in place to support the promotion of awareness and behavioral changes among school children and the general community.
- Identify the strengths and challenges of SSHE projects and develop a sustainable management tool for SSHE.

## 2. METHODOLOGY

### 2.1. METHODOLOGY

The methodology of this assessment was adopted followed the workshop held in the Delft, Netherlands in June 2006. The assessment was carried out with participation of different groups of school children, school management boards, teachers, provincial/district/communal leaders and education officials at the central level. Data was collected from the 40 schools who received support from the project during the 2000-2001 period. In each district, one control school was selected for comparative analysis.

A combination of four tools was used, i.e. observations, structured interviews, in-depth interviews, and focus group discussions. For the pupils, focus group discussions were used together with observations, alongside with practices, analyzing and encouraging a number of behavioral application of school hygiene. As for school management boards, observation was used in conjunction with structured interviews and in-depth interviews. As for teachers, group discussions were applied. In-depth interviews were used with educational management officials at different levels. At each school, after completing the elements of assessment, the assessment team held a meeting with the participation of the school management boards, the school youth leaders, representatives from the communal people's committees, officials from the local educational department who had joined them in the assessment session. In the meeting the initial findings of the assessment were informed, and in particular, shortcomings were pointed out, recommendations were put forward, and suggestions were made to local administrations for supporting the schools. These tools were shared with IRC and refined before use.

The assessment tools include:

- Information collection form and checklist on environmental sanitation at schools (Q1) was conducted together with school management boards.
- Question frame of in-depth interview for a school leader (Q2) was conducted.
- Group discussions were conducted with teachers (4 – 5 teachers) following the Guideline for group discussion with teachers (Q6).
- Group discussions were conducted with school children (10 – 12 children from grade 1 to grade 5) following the Guideline for group discussion with pupils (Q7)

- In-depth interviews were conducted with educational expert responsible for school sanitation at provincial/district education departments, following the Question frame of in-depth interviews for provincial/district education staff involved in SSHE (Q3).
- In-depth interviews were conducted with leaders from provincial/district education departments, following the Question frame of in-depth interview for provincial/district education leaders (Q4).
- In-depth interviews were conducted with officials from the ministerial department for pupils and students and the ministerial department for primary schools, at the central level, following the Question frame of in-depth interview for education officials at central level (Q5).

At the end of the visit, the assessment team also had two other meetings respectively with officials from the district educational department and provincial educational service for the initial dissemination of findings and recommendations.

## **2.2. SAMPLE SIZE AND STUDY SITE**

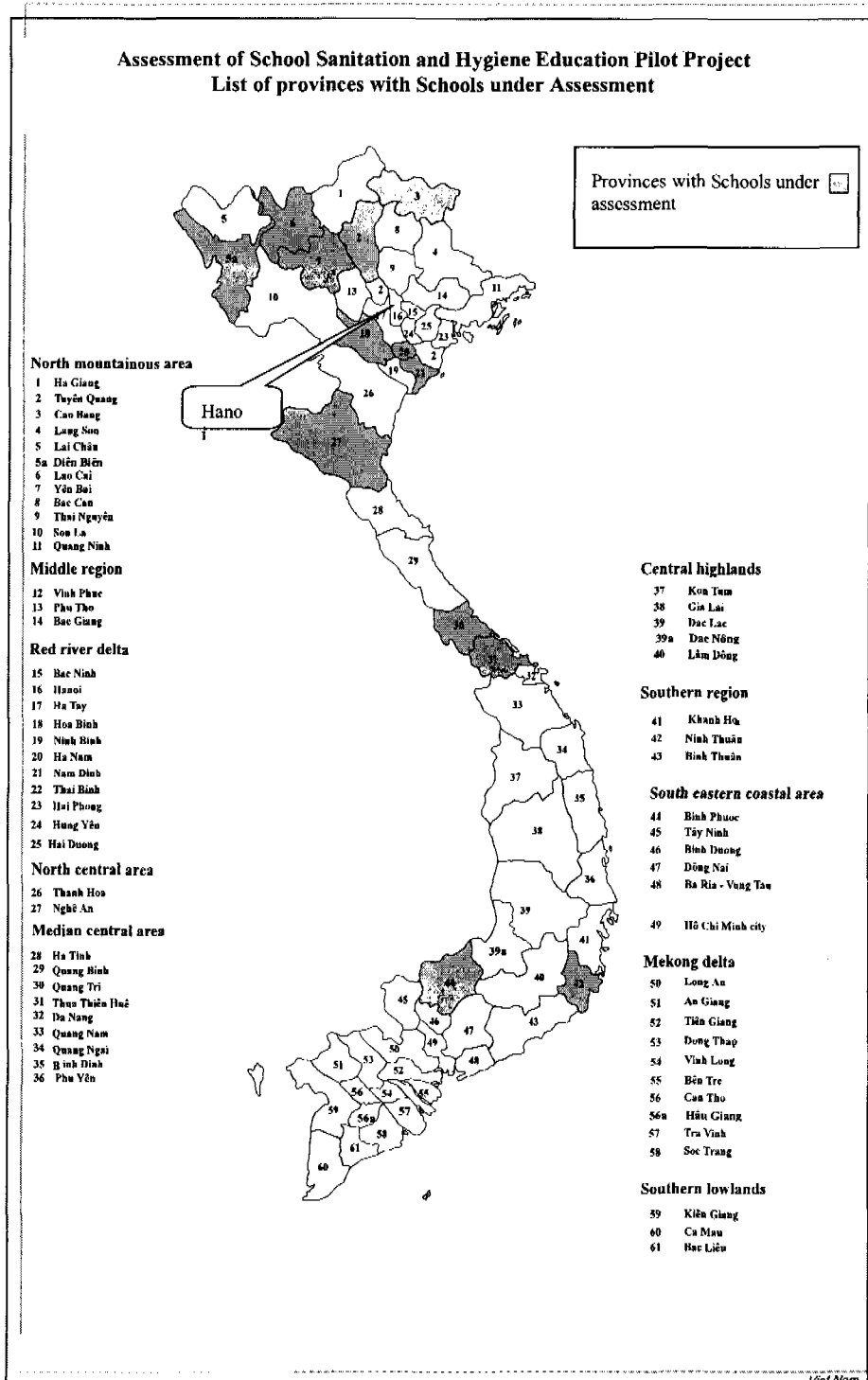
Among 50 school supported by the SSHE Pilot Project during 2000-2001, 40 primary and secondary schools in 14 districts of 13 provinces were selected for the assessment. These intervention schools represent different geographical areas of the country, from the northern mountainous, Red River delta, central coast to south eastern region. In each district, one school was randomly selected to be the control school that had similar geographical, economic and social conditions to those schools under the project of the Netherlands, but had never received any support from the UNICEF. The control schools are located close to the intervention schools. Totally 14 primary schools were selected from 14 districts under the project as control schools (Annex 1).

## **2.3. TRAINING OF INVESTIGATORS**

A 3-day training course for inspectors has been conducted:

- 1<sup>st</sup> day: Providing objectives, methods of doing the research
- 2<sup>nd</sup> day: Dividing into groups, assigning work for each group and practicing with available research tools given for each group.
- 3<sup>rd</sup> day: Piloting at one primary school in Lac Son district, Hoa Binh province

There were also participation of WES - UNICEF staff and MOET experts in the pilot test. A meeting was held right after the test to withdraw lessons learnt both on the content of the research tools and inspectors' skills. The research tool kit has been reviewed and adjusted after the test.



## 2.4. DATA COLLECTION AND ANALYSIS AT THE SPOT

The team was divided into three groups: one to assess schools in the Northern mountainous region, the second group to assess schools in the Red river delta and the third one to evaluate schools in the Middle and the East Southern region. Each group has three members: one group leader, one environmental sanitation expert and two

social experts. Each group visited two school a day. Participated in the team were also DOET experts. The following activities have been carried out at schools:

- School managers, some teachers and students and the inspection team walked around the school, observed and then gave comments on sanitation situation of the school ground floor, classrooms, water facilities and latrines. Both strong points and weak points were discussed and solutions were given for each weak point.
- Under the team's instruction, a group of 10-12 students representing students from grade 1 to grade 5 had focus group discussion on the hygienic and sanitation teaching method of their teachers and the application at home and at school. They provide comments on the current use and maintenance of the water facilities and latrines at school and also their wishes by writing in the VIPP cards. Finally the whole group paid a visit to school water facilities and latrines. Some students were selected to play some practices after going to urinal or to the stool and washing their hands. Others observed and commented.
- A group of 4-5 teachers, of which teachers who participated in the SSHE training course in 2000 were intentionally selected, had a discuss with the team to exchange their current sanitation teaching method and also to exchange their thinking of the meaning of safe water supply and hygienic latrines with students education, the current use and maintenance of those facilities, the impact of hygiene and sanitation education to the community and their proposals to improve the SSHE efficiency in schools.
- In parallel with group work, the team also assigned one inspector to secretly observe the students' use of school water facilities and latrines and also students' hygiene practices especially during break hours.
- Discussions with school managers were made to collect more information on SSHE, the use and maintenance of school water supply, latrines, the coordination between school and local authorities and social organizations.
- After the survey at schools, the team had a meeting with the school managers, Chief of Pioneer Group, some teachers and commune People's Committee, Department of Education and Training (DOET) experts. The survey team briefed all of strong points and weak points with focus on weak points and solutions and also requested local authorities to support schools.
- In addition to that, interviews with DOET managers and experts were done to collect more information on SSHE implementation at local schools, the use and maintenance of water facilities and latrines, lessons learnt on SSHE implementation, SSHE policies in the coming time, the education and construction investment strategy at primary schools. After the survey at schools, the delegation had meeting with DOET managers and related experts to give recommendations. Another similar meeting was held with DOET and provincial related experts.

## 2.5. DATA PROCESSING, ANALYSIS AND REPORT WRITING

Data obtained in the information forms and checklists (Q1) were entered and processed with Epi-info 6.04.

The content and information of the in-depth interviews and group discussions were processed with the qualitative method.

Data collected from 40 interventions schools that assistance from the SSHE pilot project were analysed and compared with the 14 control schools that have not received assistance from the SSHE project or other UNICEF-supported projects.

After compiling the report was presented at a meeting with participation of experts from UNICEF, Department of Student Affairs under Ministry of Education and Training, Administration of Preventive Medicine under Ministry of Health and Center for Rural Water Supply and Environmental Sanitation under Ministry of Agriculture and Rural Development. The report was revised following comments from this meeting.

## 2.6. TIME FRAME AND IMPLEMENTATION PLAN

The assessment was undertaken during the course of 12 weeks from 15 October 2005 to 15 January 2006 as shown in the following table:

*Table 1. Time frame and implementation plan*

Activity	October		November				December				Jan	
	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
Task 1: Designing of Assessment	■											
Task 2: Field visit				■								
Task 3: Data analysis and report writing								■				
Task 4: Presentation of findings and finalization of reports											■	

## 2.7. ASSESSMENT TEAM

The team consisted of experts on school health, environmental sanitation, sociology, epidemiology from the Center for Environmental and Health Studies, the Center for Applied Water and Sanitation, the Institute of Sociology, and the Center for Sociology of the Ho Chi Minh Political Academy (see annex 2).

province) use bamboo piped water for the reason that the connecting pipes were out of order and that the storage tanks had cracks. As a result, the water for use at the school had to be taken from a neighboring house.

The existing water source for use at the surveyed schools is mainly drilled well water (41%), while dug well water accounts for 28.2%, tap water (15.4%) and upstream water (12.8%). At the control schools, the most popular water source were as follows: dug well water (38.5%), drilled well water (30.8%) and upstream water (30.8%). Upon the investigators' observations, mostly the quality of the water from the survey schools meets the photoreceptive requirements (clear, colorless, smell-free, without strange tastes), while 10.3% of the intervention schools and 7.7% of the control schools use the water that does not meet the photoreceptive requirements.

46.2% of the intervention schools received financial support from the Netherlands to have their water supply systems constructed in the 2000-2001 period. The rest had their systems built with the funds from local administrations, other organizations, or contributions made by pupils' parents. According to the leaders responsible for the implementation of "the pilot project on school sanitation education with the life skills education approach", "the funds provided by the project for the construction of school sanitation facilities and water supply systems at school (about 9-10 million VND) could only meet half of the need. In fact, each facility costed about 12-20 million VND. Therefore, the local administrations had to give supplementary amount of 3-10 million VND for each facility in addition to the UNICEF funds." Among the surveyed schools, some had recently received funds for water supply systems, as primary schools of Trieu An 1 and Trieu Trach 2 (Trieu Phong district, Quang Tri province) by the World Vision for over 10 million, and the primary schools of Phu Dien 2 (Phu Vang district, Thua Thien Hue province) by UNICEF for further support for the construction of its water supply system in 2005.

According to the observations made by the investigators, most of the schools under survey met the requirement of safety and friendliness (without mosses, water wells had safe covers, convenient fetching water tools...), while the remaining 5.1% of the intervention schools and 15.4% of the control schools had their water systems that did not meet the requirement of safety and friendliness to the school children. Those were the schools that used dug water wells without covers, without water pumps, and children had to take water with buckets. At the meeting by the end of the assessment visit to each school, the assessment team pointed these shortcomings to the school leaders, and made suggestions that the local authorities should give them further supports to supplement those systems with covers, pipes, and electrical water pumps for better and safer use.

In the observations made by

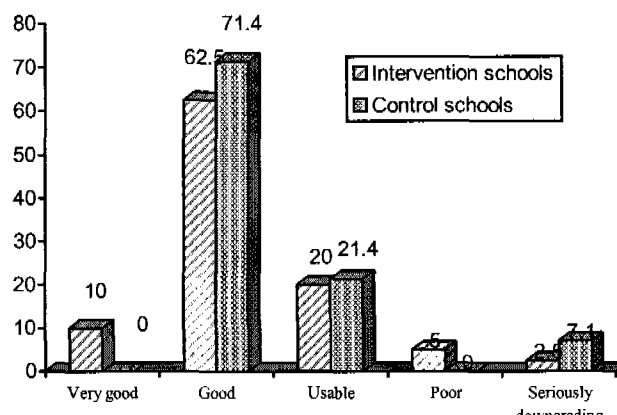


Figure 1: General results of water supply system quality

the investigators, more than two thirds of the schools under survey had their water supply systems assessed as very good and good, approximately one fifth of them were usable (about 50% of the equipment are unusable)<sup>3</sup>. Tan Viet Primary School (Thach An, Cao Bang), an intervention school, had no storage tank, the connection pipe was destroyed by animals and had not been repaired by the time of the assessment. One control school (Nam Mon primary school of Bac Ha, Lao Cai) has no water source.

A number of schools in Ha Nam province (Thuy Loi and Chau Son B) had their water storage tanks constructed without their own bottoms on top of the school toilet houses and as a result water leaks and wets the stool compartments. In addition, The water filter tank of Chau Son primary school was also built on top of the stool house, thus making it difficult to change the filtering materials of sand and soil or clean the tank, and as a result water is not clear and still contains a lot of iron, causing yellow stains on sanitation facilities.

Although there is no difference in the availability of water sources between intervention and control schools, the two schools without water facilities are in mountainous areas. Quality of water systems in the two groups are not significantly different, however, the percentage of water systems meeting the safety and child friendliness criteria is higher in the intervention group than in the control group.

Only 55% intervention schools and 42.9% control schools provided drinking water at school. At other schools, children had to take water for drinking from home.

During the survey period, it was found that in 1.25% intervention schools and 28.6% control schools, pupils still drink unboiled water, and that this happened in those schools that did not provide their pupils with drinking water. Therefore, these schools should organize to provide drinking water for their pupils so that they can give up the habit of drinking unboiled water.

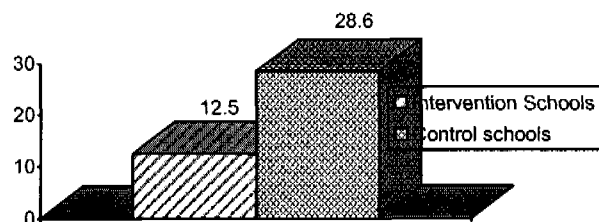


Figure 2: Percentage of schools with children drinking unboiled water

<sup>3</sup> *VERY GOOD* means all of devices are working well: 100%; *GOOD* means the water supply system is working but some taps are leaked: 75%; *USABLE* means some parts are not working: 50%; *POOR* means almost of taps are not working: 25%; *SERIOUSLY DOWNGRADING* means all of devices are broken: 0%)

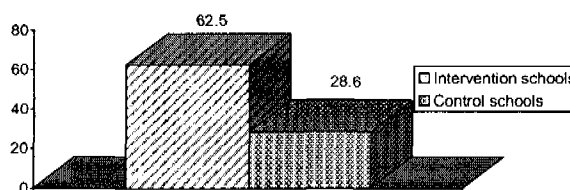
Most of the drinking water containers at those schools were buckets and jugs with taps and close covers. Instruments to take water were jars, pints, or glasses having handles. In a word, the existing drinking water containers and instruments at the schools under survey are up to the marks of hygiene.



*Drinking water for students in Le Ho A primary school in Kim Bang district, Ha Nam province*

In conclusion, percentage of intervention schools have drinking water is not much higher than control school. However, percentage of student drinking unboiled water in control schools is higher than in the intervention group. It should be noted that schools with students drinking unboiled water had no arrangement for boiling water for students to drink.

It was found that 62.5% of the intervention schools had areas for pupils to wash their hands, while the percentage in the control schools was as low as 28.6%. In general, the areas for hand washing was quite near the urination place and latrines, which is convenient for the school children.



**Figure 3: Hand washing areas at school**

However, there was one intervention school (the primary school of Le Ho A, Kim Bang district, Ha Nam province) where there was only a water tap close to the urination place but no exclusive area for hand washing.

The exclusive areas for hand washing are of utmost importance for hygiene education and giving instructions for pupils to practice washing their hands. Yet, there are still 37.5% of the intervention schools and 71.4% of the schools of the control group without such areas. About half of the schools did not have hand washing areas (the primary school of Trieu Trach 2, which received support from the World Vision to have its water supply system built, but without such an area), while the other half had hand washing area either without water taps or with cracked water pipes. Being interviewed, the local education leaders informed that *“as designed by MOET, there was an area for hand washing, but due to the lack of fund a number of schools did not have it built.”* This points out the necessity to have the area for hand washing in the design, together with measures to protect the water pipes and taps in this area. There is also a necessity to include the check of hand washing areas in the construction work and during the inspection done by the completion of the construction.



It is one of the utmost importance to have the behavior of hand washing after urination. Having no hand washing areas or having no water available in the area means a lack of conditions for hygiene education for school children.

In most schools there are taps for hand washing, which is convenient for pupils, and the height of the water ditch was suitable to them.

Soap is another important condition to promote the proper hand washing. However, there was only one school, the primary school of Phu Dien 2, Phu Vang district, Thua Thien Hue province, that had soap for hand washing. This school is one of the schools involved in the



Children practising handwashing after using toilet in Nguyen Uy primary school in Ha Nam province.

activities of a project on school personal hygiene education supported by UNICEF implemented by the Thua Thien Hue Provincial Center for Water Supply and Environmental Sanitation in conjunction with Provincial Education Department. This project supports both water and sanitation construction and hygiene education, promoting hygiene practices of proper use and maintenance of constructed system and hand washing with soap. The soap was bought using the contribution of the parents for construction of school and the guard was assign to take care of soap using. This is a good model that need to be replicated.

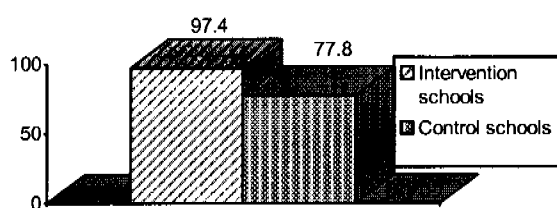


Figure 4: Flushing water in latrines

There was water available for flushing the latrines in most of the schools with septic tanks, water pour flush soak latrines and sliding latrines. At the time of the survey, there were three schools without water for flushing their latrines. They are the primary school of My Phuc A (My Loc district, Nam Dinh province) where dirty water was taken from an dug well without water pumped to the storage tank, My Thinh primary school (My Loc district, Nam Dinh province) where the drilled well was out of order and flushing water was unavailable in the tank but rather was dirty as taken from surrounding ponds, and Ngoc Son primary school (Kim Bang district, Ha Nam province) where there was no water available in the tank as the pump was out of order.

Table 2. Convenience when taking water to flush latrines

Flushing water	Intervention schools		Control schools	
	n	%	n	%
Available near the latrine	36	94.7	7	100.0
Within the reach of students	27	71.1	4	57.1
Water valves are easy to turn	12	31.6	0	0.0
Not convenient	7	18.4	1	14.3
Total	38		7	

At most of the schools under survey, the location of flushing water is convenient as the water storage tanks are situated near the latrine holes, and suitable to

the height of school children. At some schools, getting water for flushing is not convenient enough for the reason that the valves are made of plastic and rather hard to turn for smaller school children. In reality, while being accompanied by some pupils to the sanitary facilities we did ask a number of pupils from the 1<sup>st</sup> and 2<sup>nd</sup> grade to try and turn on the flushing valves at the latrines and they failed to do so. The accompanying school management and teachers also noticed the fact. This is possibly the reason why some school children were unable to flush water to keep the school latrines clean. This was also one of the lessons of experience that was exchanged during the meeting at the end of the school visits.

In conclusion, percentage of intervention schools with hand washing facilities and water for washing/latrine cleaning is higher than in control schools.

### 3.3. STATUS OF THE LATRINES AT THE SCHOOLS UNDER SURVEY

Most of the surveyed schools have latrines. Among the intervention schools, the primary school of Xa Ho, Tram Tau district, Yen Bai province, does not possess a latrine. According to the management board of Xa Ho school, the latrine which was built with the support by the Netherlands had been out of order and had collapsed due to the consequences of a big storm that damaged it in July 2005. It has not been rebuilt yet. The control primary school of Suoi Bu, Van Chan district, Yen Bai province does not have a latrine, either. Students in this school reported that they would use the latrine at home, otherwise, go to the bush.

The existing latrines of all the intervention schools were built with the financial support by the Netherlands through UNICEF Hanoi, and could have been constructed in 2000, 2001 or 2003. The financial resource for building latrines in the control schools mainly came from the local funds, while some schools got supported by other international organizations: the primary school of Trieu Bach 2, Trieu Phong district, Quang Tri province, was supported by a Norwegian sponsor to build water a pour flush soak latrine, and the primary school of Vu Lam, Lac Son district, Hoa Binh province received supports from World Bank. The latrine in Trieu Trach primary school has white enameled tiles, and bigger than latrines supported by UNICEF. However it was not properly used, as it was dirty and smelled badly. The latrine in Vu Lam primary school built in 1999 was the sliding bridge type, which is not hygienic. The support of the appropriate hygienic latrines together with hygiene education and guidance on the use and maintenance of the latrines as applied in the pilot project in Ha Nam and Nam Dinh in 2000 would be bring more effectiveness.

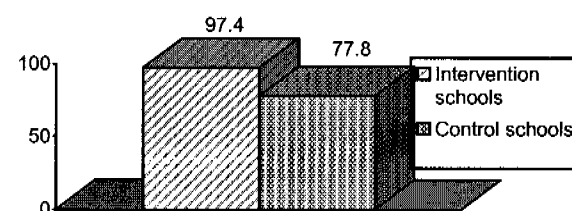


Figure 5: Percentage of schools with operational latrines

All the latrines at the intervention schools are put into use. Only 84,6% of the latrines in the control schools are put into use; 2 schools had the old-typed pit latrines which are mostly used by people resident at the teachers' living quarters of the schools, namely the primary school of Ban Luu, Tram Tau district, Yen Bai province, and the primary school of Nam Mon 2, Bac Ha district, Lao Cai province.

Most of teachers and students acknowledged that *"The Dutch-supported Project helped the school to have built the sanitation system, including septic latrines, urination places, and a water tank of 10m<sup>3</sup>. Currently these facilities are in good and effective use "* (a teacher from Thuong Linh primary school, Kim Bang district, Ha Nam province). *"apart from the sanitation facilities, there is also a large water tank with enough buckets. The path to them is good and easy to use. There is no bad smell in the latrines. They are clean. There is enough space for urination for every one, and we fell comfortable to use them. The pupils dispose the used paper properly into the waste paper bins. "* (a pupil from Nhat Tan B primary school, Kim Bang district, Ha Nam province).

According to the regulations of the physical and health education in schools<sup>4</sup>, the ratio should be "one latrine per average 100-200 school children for one school shift (separate for males, females, teachers, pupils)". It was revealed that 19,7% of the intervention

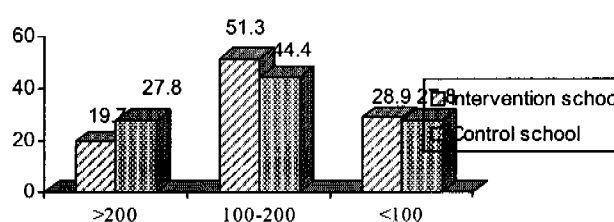


Figure 6: Percentage of schools by average number of pupils per one cubicle

schools and 27,8% of the control schools had the ratio of over 200 pupils per one latrine, too far beyond the MOET regulations. It can be said that around over 20% of schools are overloaded, and that there should be more latrines to be built at the service of school pupils.

Many teachers and pupils complained that the sanitation facilities are too small and that there is not enough space for all of them. Below are some of their ideas: *"the sanitation facilities at primary schools are too small, and there are too many pupils. As a result, the facilities become overloaded."* (a teacher from My Ha primary school, My Loc district, Ha Nam province). *"There is a shortcoming that the facilities cannot meet the demand of so many pupils as it is today. "* (the deputy director of My Tan primary school, My Loc district, Nam Dinh province). *"Even though there are sanitation facilities, they are not sufficient to meet the demand of the teachers and pupils of the schools"* (a teacher from the primary school of Dong Hoa, Kim Bang district, Ha Nam province). The director of the primary school of Tram Tau, Tram Tau district, Yen Bai province, added that *"those sanitation facilities which were constructed on the small scale of the past cannot satisfy the present needs of the schools"*.

Very few schools have sanitation facilities exclusively for teachers. The way of arrangement of the present facilities for both teachers and pupils is now a shortcoming and difficulty. *"An equally important thing is that it should not be arranged in the way that teachers and pupils share the sanitation facilities, as the pupils can feel reluctant to use them. "* (a teacher from Thanh Son primary school, Anh Son district, Nghe An province). Most of the interviewed teachers expressed their wish to have

<sup>4</sup> The regulations on physical and health education was issued on the basis of the Decision 14/2001/QĐ – BGD&ĐT on May 3<sup>rd</sup>, 2001, by MOET.

sanitation facilities built exclusively for them so that they can avoid sharing latrines with their pupils. This demand is appropriate to the MOET regulations.

According to the MOET regulations on school physical and health education “in each school shift, it should that 50 pupils be ensured to have one meter of the length of the urination places”. It was found that nearly 20% of the schools under survey that have more than 50 pupils sharing one urination place, which means that there are insufficient urination places at schools.

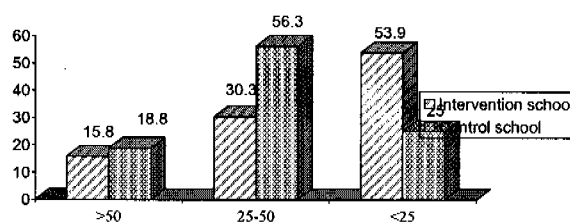


Figure 7: Percentage of schools by average number of pupils per one urination place

It is a simple task to put up an operation and maintenance regulation board for latrine use at the sanitary facility areas. Yet, very few schools have been able to do so. Even though the regulation notice seems too simple, it helps to remind pupils of compliance with it when using the facilities. Upon comments and recommendations made by the assessment team, the management boards of those schools without such regulation notices accepted them and promised to follow.

The majority of the intervention schools had signs and words written on the walls to indicate the exclusiveness for males and females. It is 4 – 5 years that have passed since the construction of the facilities, but it is found at the primary school of Binh Son, (Anh Son district, Nghe An province) that there were written words of exclusiveness on the outer walls, but that the separation wall between the male latrines and female ones has gone. It was found out with pupils’ responses that female pupils found themselves reluctant to use the urination facilities but did not dare to tell it to their teachers. In another primary school in Kim Bang district of Ha Nam province, the path leading to the male exclusive area finds its way across the area of sanitary area for female pupils (which is of common use for both teachers and pupils). When one goes by, one can glimpse the whole area of the latrine for females. It would be simple to install a door or a small wall to make female pupils feel comfortable to use the urination facility. The feedbacks have been made by the evaluation team to the teachers and management boards of those schools and to the local administrative representatives during the review meetings. To be more prudent, some girl pupils of the primary school of My Tan (Nam Dinh province) had made a suggestion that the school should provide a roof to cover the female urination area for fear that male pupils can possibly see them using it from the balcony and from the second floor classes.

According to the recommendations in the Sanitation Standards by MOH, there are only four types of latrines that can be classified as sanitary<sup>5</sup>, namely: septic latrines, water pour flush soak latrines, ecological double-vault latrines, and the underground ventilated pit latrines (or improved pit latrines).

<sup>5</sup> Hygienic standards for latrines following Decision #08/2005/QĐ-BYT issued on 11/3/2005 by the Minister of Health.

The survey findings show that 97.4% of the latrines at the intervention schools are of the types of septic latrines and water pour flush soak latrines. Only one sliding bridge latrine was found at the primary school of Bao Nhai (Bac ha

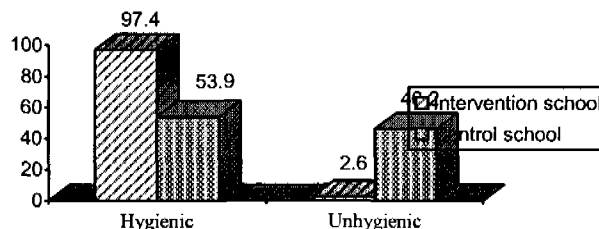


Figure 8: Percentage of hygienic/unhygienic latrines

district, Lao Cai province). At the control schools, it was found that 46,2% of the existing latrines are unsanitary. The three schools that have old-typed latrines are primary school of Tia Dinh (Dien Bien Dong district, Dien Bien province), Ban Luu primary school (Tram Tau district, Yen Bai province) and Nam Mon 2 primary school (Bac Ha district, Lao Cai province). The two schools that had sliding bridge-type latrines are the primary school of Vu Lam (Lac Son district, Hoa Binh province), Tan Thinh primary school (Chiem Hoa district, Tuyen Quang province). The one school that had single compartment latrines is the primary school of Thai Cuong (Thach An district, Cao Bang province).

The selection of type of latrines to be constructed at primary schools should be made appropriate to the local actual situation, but the selection must be made to one out of the four types of sanitary latrines stipulated by MOH. For example, in case of water scarcity, the school should select either the ecological double vault latrine or the underground ventilated pit latrine. Or if the soil at the school area does not soak water, septic tank latrines must be built.

Table 3. Construction quality of sanitary latrines

Construction quality	Intervention schools		Control schools	
	n	%	n	%
<b>Septic latrines</b>				
Sanitary	30	96.8	2	100.0
Unsanitary	1	3.2	0	0.0
Total	31	100.0	2	100.0
<b>Water pour flush soak pits</b>				
Sanitary	7	100.0	2	40.0
Unsanitary	0	0.0	3	60.0
Total	7	100.0	5	100.0

A sanitary septic latrine must meet the six standards of construction quality as provided, namely: the tank must have three compartments, the container tank should not have cracks or be sinking; the cover must be closely sealed, and should not have cracks; the floor of the latrine must be flat, without water stagnant pools on it; the platform must be water sealed; and there must be a ventilation hole to the storage tank. It was found by the investigators that 96,8% of the septic latrines at the intervention schools meet the sanitary norms. One latrine was found unsanitary as the connecting pipe had been broken and the water seal was absent. Two of the control schools had sanitary latrines as they were built during the 2004 –2005 period.

A water pour flush soak latrine is found to meet the construction quality must satisfy seven norms, namely the distance must be 10 meters or father away from the water resources; the container tank must not be sinking; the walls of the tank must be

20 centimeters above the ground surface; The cover of the container tank must be closely sealed and without cracks; the latrine floors must be flat, without water stagnant pools on it; the latrine platform must be water sealed; Water coming from container tank and conducting pipes must not flow on the ground; and the facility must not be built in low areas. According to the investigators, all the latrines at the seven intervention schools can satisfy the norms of construction quality. Out of the five control schools, three schools have unsanitary latrines in terms of construction quality norms.

For septic tank and pour flush soak latrines to be hygienic, eight criteria are required, including enough water, water storage does not have mosquito larva, no bad smell, grey water from the tank flows into the drainage system and not freely overflow to the surrounding area, latrine floor is clean, not slippery, no presence of waste paper/garbage; no flies or insects inside the latrine; latrine pan is clean, no faeces stains; latrine with walls and roof; waste paper flushed away or contained in a bucket with cover.

According to the investigators, 92.1% of septic tanks are pour flush soak latrines of control schools meet the above standards. Three latrines are not hygienic because of lack of water, unclean latrine pans, and bad smell. For control school, 57.1% of septic tank/pour flush soak latrines are used unhygienically.

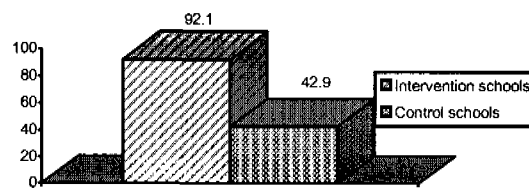


Figure 9: Percentage of schools with hygienic latrines

Latrines in 20 intervention schools in Ha Nam and Nam Dinh (supported with both latrine construction and hygiene education in 2001) are properly and hygienically used, while 20 schools supported in 2002 without hygiene education, apart from one latrine destroyed by a storm, two other latrines are not used properly. In two control schools in Ha Nam and Nam Dinh provinces, the latrine in Ha Nam province school is properly used, the other latrine in Nam Dinh province school is pour flush soak type and badly deteriorated. Therefore, construction of latrine combined with hygiene education would bring more effectiveness than construction alone.

Some of criteria to access the child-friendliness and safety of latrines are path to the latrines, ventilation and light inside the latrine.

The easy path to the latrine would be flat surface, large enough, built with brick or concrete, clear, no obstacle, clean.. to allow easy and convenient access to the latrine. The observation showed that 89.7% of intervention schools and 63.6% control schools have safe and convenient access to the latrines.

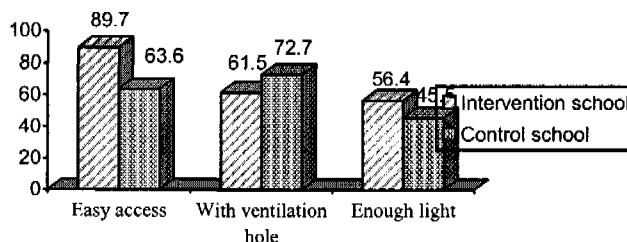


Figure 10: Percentage of schools with child-friendly and safe latrines

38.5% of latrines in intervention schools and 27.3% in control schools do not have windows or ventilation holes in the latrine. Therefore, around 50% of

surveyed latrines do not have enough light. The lack of windows/ventilation holes inside the latrine do not allow making use of natural lights, make the latrine unventilated and children do not like using it.

Therefore, the technical design of school latrines needs to include 1-2 ventilation holes on the wall of the latrine and the door should not be made with full length but with 20cm open on the upper part for ventilation and natural light.

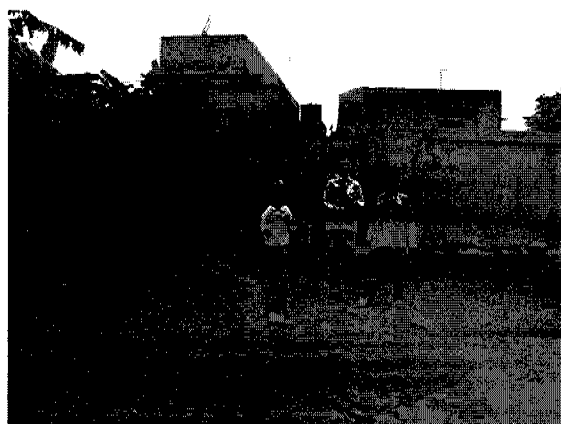
**Table 4. Cleaning of latrines**

Cleaning of latrine	Intervention schools		Control schools	
	n	%	n	%
<b>Frequency</b>				
Twice per day	7	17.9	1	7.7
Daily	28	71.8	9	69.2
Twice per week	0	0.0	1	7.7
Weekly	4	10.3	2	15.4
<b>Person in charge of cleaning</b>				
Janitors/others	24	61.5	6	46.2
Teachers	1	2.6	3	23.1
Assigned students	16	41.0	5	38.5
<b>Total</b>	<b>39</b>		<b>13</b>	

According to school leaders, 89.7% of intervention school and 76.9% control schools have their latrines cleaned daily. In the rest schools, latrines are cleaned once or twice per week.

Janitors are mostly in charge of cleaning (61.5% of intervention schools and 46.2% of control schools). Ranking later is students who are assigned to clean the latrines (41% intervention schools 38.5% of control schools). Assigning students at the high grade of primary education level to participate in latrine cleaning is also a way of educating hygiene behavior for students.

In general, although there was no difference between in availability of latrines in the two groups, the two schools without latrines are located in mountainous area. Percentage of latrines in use in intervention group is higher than in the control group. The latrines that are not hygienic types belong to schools in mountainous areas. Amongst the hygienic types, percentage of schools meeting criteria for construction and use in intervention group is also higher in control group. Most of latrines that are improperly used are of mountainous area with ethnic minority children. Percentage of intervention group with safe and child friendly path access is higher than in the control group as well.



*Students of Lien Son primary schools in Kim Bang district of Ha Nam province using their latrine.*

### 3.4. PUPILS' BEHAVIOURS AFTER URINATION AND STOOLS

The observations of the use of water systems and latrines and hygiene practices of students during urination and defecation and hand washing during the school break times showed that in 95% of intervention schools, students urinated at urination place. At the two intervention schools without separate urination places (5%), i.e. Xa Ho primary school (Tram Tau, Yen Bai province) and Pu Nhi (Dien Bien Dong, Dien Bien province), it was impossible to make these observations.

On average, 24,4% of the pupils present at 38 intervention schools and 20,8% of the pupils at 11 control schools did use the urination places during the school break times.

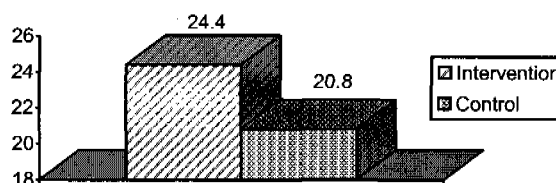


Figure 11: Average number of the observed pupils' using urination places

It was observed that only pupils of two intervention schools of Nhat Tan primary school (Kim Bang district, Ha Nam province) and Phu Dien 2 school (Phu Vang district, Thua Thien Hue province) did pour water after urination. Out of the users, 71,1% in the intervention schools and 36,4% in the control schools did pour water after urination. The reason why not all of the users practiced the behaviour of pouring water after urination is that, in part, many pupils used the urination place at a time, with one student pour water/turning the taps, water is sufficient to wash away the discharge from some other students. Up to 45.5% of the control schools and 18.4% of the intervention schools did not have any pupils pouring water at the urination places.

The assessment team asked two or three pupils to take the role of a person using the urination facility and the rest of the group to observe. It was found that not all the ones who took the role flushed water to clean their discharge and washed their hands after urination. Although all observers recognized the missing steps after using the latrines, it could be seen that the practice of hand washing and pouring water after urination had not become a habit of all pupils.



Investigator discussing with students in Thanh Son primary school, Anh son district, Nghe An province

The findings are presented in table below to illustrate the observation.



**Table 5. Hand washing after urination**

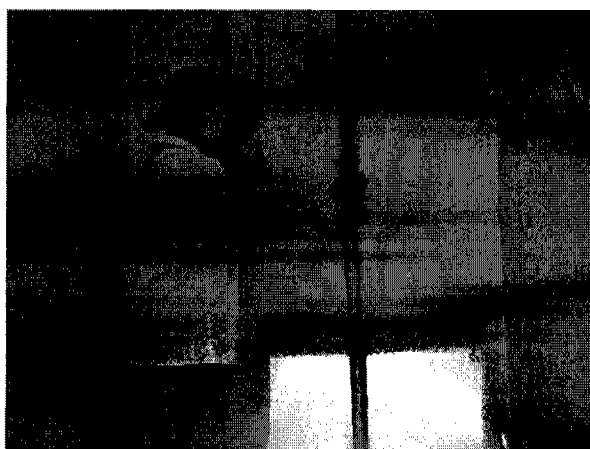
Hand washing after urination	Intervention schools		Control schools	
	N	%	n	%
All of pupils	4	10.5	0	0.0
Some pupils	21	55.3	4	36.4
None of them	8	21.1	5	45.5
Unavailability of water	5	13.2	2	18.2
Total	38	100.0	11	100.0

In four of the intervention schools, all the pupil users did wash their hands after urination, namely primary schools of Tan Son A and Nhat Tan B (Kim Bang district, Ha Nam province), My Hung (My Loc district, Nam Dinh province) and Phu Dien 2 (Phu Vang district, Thua Thien Hue province). There were 55.3% of the intervention schools and 36.4% of the control schools where some pupils did wash their hands after urination. The percentage of schools where none of the users washed their hands is lower in the intervention schools (21.1%) in comparison with that in the control schools (45.5%).

The only school that had soap available for hand washing was the primary school of Phu Dien 2 (Phu Vang district, Thua Thien Hue province), which received further support from UNICEF through the Provincial Center for Rural Water Supply and Environmental Sanitation. It was found that a number of pupils from the primary school of Phu Dien 2 did wash their hands in the right way.

There must be soap available for hand washing in the right way, which is as follows: to wet the hand and rub soap onto the inside and the back of the hand, rub the two hands against each other, then rub the inside of one hand with the back of the other, twist the fingers and the whole hand for several times, particular attention should be given to fingernails, before washing the hands under a running water tap.

During the evaluation time, the evaluation team saw that very few pupils used the latrines. The rate of observed schools where pupils used the latrines was 27.5% of the intervention schools and 7.1% of the control ones. The school where the most of the pupils were observed using the latrines was the primary school of Duc Phong (Bu Dang district, Binh Phuoc province), with 31 pupils, the



*A student in Thanh Son A primary school in Kim Bang, Ha Nam turning a water valve to clean the latrine after use.*

primary school of Lien Son (Kim Bang district, Ha Nam province) with seven pupils; while in the other schools it was observed with one or three pupils.

Out of the schools where pupils used the latrines, 9 out of 11 intervention schools had all the pupils used them, and 2 out of 11 intervention schools and 1 out of 1 control school had pupils not pouring water after using the latrine.

**Table 6. Washing hands after defeciation**

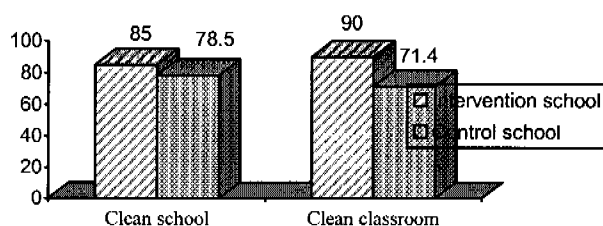
Hand wash after defeciation	Intervention schools		Control schools	
	n	%	n	%
All pupils	7	63.6	0	0.0
Some pupils	3	27.3	1	100.0
None of the pupils	1	9.1	0	0.0
Unavailability of water	0	0.0	0	0.0
Total	11	100.0	1	100.0

Out of the observed schools having pupils using the latrines, 63.6% of the intervention schools (7/11) had all pupils washed their hands after defeciation, 3/11 intervention schools had some pupils wash hands after defeciation, and 1/11 intervention schools (Ban Mu school, Tram Tau district, Yen Bai province) had none of the pupils wash their hands after defeciation.

None of the observed schools had soap available for pupils washing hands, and as a result, none of the pupils knew how to wash hands in the right way.

The evaluation team asked some pupils to take the role to stool and the others to observe them. It was found that the rate of pupils washing hands after defeciation is higher than that of those washing hands after urination. It was also high in the rate of pupils using soap to wash their hands, and that the rate of them washing properly is also high. Some pupils forgot to use soap (even though there was soap available), and some of them did the hand washing improperly. After observing, the other members of the group gave their comments and remarks on the manner of washing hands of the role play pupils. Finally, the leader of the group discussion pointed out the right procedure of hand washing.

It was also indicated in the group discussion with teachers and pupils that at the beginning of the 1<sup>st</sup> school year, in most of schools in Ha Nam and Nam Dinh provinces, pupils were taken by their teachers to the latrines and urination places for guidance on using them. In this connection, the purpose of the project sustained in a good way that the facilities did not only meet the practical sanitation needs but also serve as “visual teaching aids” on personal hygiene education. By contrast, in the other province under survey, this practice has not been implemented. Recommendations on hygienic behaviour education were put forward by the evaluation team at the end of the evaluation sessions and review meetings with local provincial and district education departments. The evaluation team also recommended that *“The results of education on latrine usage and hand wash after defeciation and urination can be better if pupils of classes apart from the 1<sup>st</sup> form are explained by their teachers on how to practice them on the spot of their school sanitation facilities”*.



**Figure 12: Percentage of schools with clean yards and classrooms**

The school yards and classrooms of most of the schools under survey were found to be clean. No schools had dirty yards. But a number

of classrooms of the control schools were found to be not

clean

The rate of intervention schools having rubbish bins in all of the classrooms (52,5%) is higher than that of the control schools (28,6%). The rate of schools without rubbish bins is lower in the intervention schools (12,5%) is lower than that of the control group (35,7%).

The majority of the schools under survey had rubbish containers available. These were pits that were dug in some schools; some schools had tanks built with bricks; but the majority of the tanks did not have fences to prevent children from getting access to them. Most of the schools treated the wastes by burning them at the containing pits.



*A garbage tank in Nhan Tan A primary school in Kim Bang district, Ha Nam province*

In conclusion, percentage of schools with children practicing cleaning/washing the latrine after use is higher than in control schools. Percentage of schools with clean classrooms and school yards is a little bit higher than in control schools.

### **3.5. IMPACT OF CLEAN WATER SYSTEMS, SANITATION FACILITIES, AND SCHOOL SANITATION EDUCATION ON PUPILS' FAMILIES AND COMMUNITY**

The reason for the difficulty in evaluating separately the impact of pilot project on school sanitation and hygiene education supported by the Netherlands in Vietnam is that the project was completed (in 2000-2001), 3 years before evaluation. Nevertheless, it was revealed through the interviews conducted with education officials, project officers at the central, provincial, district and local levels, school leaders, teachers and pupils, that the school sanitation and hygiene education had partial impacts on the community.

According to the Project Management officers at MOET, *“it was revealed that in the communes where the project was implemented, the community have been actively involved in a number of activities: all the communes have established school sanitation and clean water management boards that included representatives from communal people’s committees, communal people’s councils, pupils’ parents’ associations, related branches and sectors, and school management boards. These members participated in making decisions on selecting the construction sites, contributing ideas to the selection of types of water supply systems, latrines that should be suitable, and organization of the construction work. Apart from the project funds, communes mobilized additional funds of 3-10 million VND for constructing sanitation facilities and water supply systems for their schools. The money came from different sources such as communal additional budget, contributions by the community, or contributions in labour days. After the completion of school sanitation facilities, many communes organized competition movements for construction of*

latrines and water wells. As a result, many households in those areas have been able to have their septic latrines, water wells, and water filter tanks constructed during that time”.

Even now, a number of schools are pushing up the cooperation and collaboration between school management and pupils’ parents and the community in hygiene education: *“With the help and assistance by the Women’s union, the Youth League, and village heads, they can check whether pupils carry out environmental sanitation activities at home. The school management can also*



*get information about pupils by means of “the pupils’ mails to help friends”, and through workshops and conferences held by the communal health station”* (a teacher from Kim Binh primary school, Kim Bang district, Ha Nam province). *“The school management usually remind their pupils of coordinating and collaborating with other branches and sectors in the communes and with families so that pupils can get further education. Teachers should be examples for pupils to follow”* (a teacher from Thanh Son primary school, Kim Bang district, Ha Nam province). The director of Thanh Son primary school informed that *“Thanh Son school participated in the project in 2000, and the sanitation facilities, water tanks, and water wells ... contributed to improving the pupils’ sense of keeping the environment clean. The school has been able to get water jars to provide drinking water to their pupils, to motivate local administration and community to join in the programme activities. Together with the Youth League, the school management jointly check and supervise the sanitation behaviours of the pupils. Experience shows that when the cooperation between the school management and pupils’ families and community is close enough, the hygiene education can be more effective”*. The expert from the provincial education department of Thua Thien Hue province drew a lesson of experience that *“in order to improve the effectiveness of hygiene education, it is necessary to push up the coordination with the local administration so that better conditions can be created for pupils to practice. In recently years, those schools taking part in the Dutch-supported programme were involved in child-friendliness projects. Experience in the organization of school projects shows that there should be at least the project management board at the provincial level, and that the center for rural clean water supply should be involved”*.

It is clear that the project on school sanitation, hygiene, and clean water education has positive impacts on pupils’ families and the community in the delta areas. Following are some remarks and comments made by teachers and pupils of the schools under survey:

In My Loc district, Nam Dinh province, teachers and pupils from project schools remarked: *“When teachers motivate the pupils, they are motivating the pupils’ parents and the community as well, on sanitation and hygiene, thus minimizing risks of diseases related to poor environment and pollution. Together with motivation with*

*radio broadcasts, teachers and pupils make up the active motivators.*” (a teacher from My Phuc primary school, My Loc district, Nam Dinh province). *“It was for this movement that My ha commune became a locality with many households having built and modified their sanitation facilities”* (a teacher from My Ha commune, My Loc district, Nam Dinh province). The impact by the sanitation facilities and water systems on families and the community is also expressed by the fact that pupils apply what they learnt from school to the every-day life at home, such as *“Avoid drinking unboiled water, eating unripe fruits, eating unlearned vegetables, eating meals; wash hands with soap before eating and after defeciation; killing mosquitoes with spraying chemicals or mosquito killers; avoid littering the environment with rubbish; frequently cut fingernails; keep foods in dish covers, and avoid eating contaminated foods.. Pupils also talk to their parents about things they learnt at school, and remind people around them not to liter wastes on to the environment, to keep public places clean, and request their parents to build sanitary facilities at home.”* (a pupil from My Hung primary school, My Loc district, Nam Dinh province). *“Parents and local people feel assured when their children study at this primary school as they can work and play in a clean environment, especially the semi-boarding pupils. Many households have their latrines built like those at schools. In general, parents and local people are satisfied with the present school conditions.”* (a teacher from My Hung primary school, My Loc district, Nam Dinh province). Women teachers from My Ha primary school were happy to share the information that in their commune many families have had poor-flush or septic latrines.

The project schools in Ha Nam province highly appreciated the impact by the living skills education, that is the integration of teaching living skills into school sanitation and hygiene education. For example, at the primary school of Thi Son, *“the thing to be most proud of is that the school has trained its pupils to have a habit to an extent that they behave themselves well anywhere. It has a strong impact on families and the community. What is necessary now is that schools sanitation facilities should be technically designed, there should be some one responsible for checking them, and some one to clean them every day, and there should be fund available for maintenance in the long run.”* (director of Thi Son primary school, Kim Bang district, Ha Nam province). With good sanitation facilities and clean water supply system, pupils have *“overcome the habit of unsanitary defeciation, picked up such sanitary and hygienic knowledge as killing flies, mosquitoes, washing their hands before meals with soap, and cutting fingernails. From the health perspective, this has had clear impact as diseases decline.”* (a teacher from Thuy Loi primary school, Kim Bang district, Ha Nam province). Some communes consider the environmental sanitation and hygiene education as a component of building cultural villages. It was expressed that *“this kind of education can have impacts on the family and community hygienic and sanitary conditions. The sanitation facilities and water supply systems have great impacts on families and the whole community. The pupils came home and motivated their families to do the same things as at their school. The local administration, different branches and sectors expressed their optimal supports. The pupils also urged their parents to build septic latrines and not to use feces to fertilize vegetables ”* (a teacher from Nguyen Uy primary school, Kim Bang district, Ha Nam province). It could be that one of the expectations of the project was to create a habit of personal hygiene and keeping environmental sanitation, thus through pupils, knowledge can be transferred to parents, families, and the community. *“The pupils would create a better habit for*

*themselves when using septic sanitary facilities at school, and would apply it to their families. They have a sense of applying the theory they learnt to the practice of their families. They are conscious enough to keep the environment clean, such as collecting rubbish into bins, cleaning their classrooms, using the sanitary facilities properly, and carrying out the cleaning of schools on the weekly basis. The information on pupils' sanitation activities at home can be had through regular parents' meetings. In class, teachers and pupils often exchange opinions on sanitation behaviours.* ” (a teacher from Kha Phong A primary school, Kim Bang district, Ha Nam province). Sanitation facilities can be used as *“field demonstration of education of sanitation practices for pupils of a whole school. The local administration and people pay great attention to the issue of environmental sanitation, and regulate that on the 7<sup>th</sup> of every month, every one, including pupils, must take part in activities of environmental sanitation. The pupils do cross checking, and cross-monitoring of their sanitation practices both at home and in the community. There are rewards for good practices and punishments for poor ones. The pupils are very much interested in the school sanitary facilities as they are clean and convenient to use. They also wish to have similar things at home. Apart from the impact on the schools, sanitary facilities also have impacts on families and the community.”* (deputy director of Kha Phong primary school, Kim Bang district, Na Nam province). *“When pupils are familiar to the sanitary facilities at school, it is easier for them to pick up good habits to keep personal hygiene, environmental sanitation and to motivate their parents and the community to do the same. Our school management and local people highly appreciate this issue.* ” (a teacher from Le Ho A primary school, Kim Bang district, Ha Nam province). Another issue of interest that was expressed at Tan Son B primary school, Kim Bang district, Ha Nam province. It is here that school sanitary facilities and clean water system are considered to be not only the facilities for the purpose of teachers and pupils but also to be an impact on families and the whole community *“because when education combines both theory and specific activities, the competence will be firm, as the environmental sanitation is kept, and personal hygiene is ensured. And if the school sanitary facilities are always there to practice, the standards will be reached.”* (a teacher from Tan Son B primary school, Kim Bang district, Ha Nam province). Sanitary facilities and clean water systems have created a habit for pupils to keep personal hygiene when they contact relatively modern sanitary facilities. *“This has impact on parents and the community who can apply it to their own families.* ” (a teacher from Tan Son B primary school, Kim Bang district, Ha Nam province). The teacher from Dong Hoa primary school stated that *“The school sanitary facilities have great impacts on families and the community. For example, pupils hold the view that farmers should not use feces as fertilizers because it pollutes the environment. Pupils accumulate knowledge from practices and have a sense of environment protection”* (a teacher from Dong Hoa primary school, Kim Bang district, Ha Nam province). *“The best advantage is that with sanitary facilities and clean water systems, the awareness of teachers and pupils will greatly increase. They have good impacts on pupils' families and the community. When the local communal administration, people, and families pay attention to the environment, the pupils will be good to keep environmental sanitation and implement hygienic behaviours such as washing hands with soap after defecation, and taking deworming medicine at least twice a year.”* (a teacher from Thanh Son primary school, Kim Bang district, Ha Nam province).

In the opinions of the leaders of the provincial and district education departments in Bu Dang district and Binh Phuoc province, *“the sanitary facilities have had good impacts on pupils’ families and the community. The collecting and treatment of rubbish is carried out regularly”*. More specifically, *“the sanitary facilities and clean water systems catch the attention from pupils’ parents and the community. As a result, families and the community are involved in building the sanitary facilities at schools. These facilities help the pupils create a good habit and living skills, creates good environments, and help teachers to boost their teaching methods. Through this, the motivation of pupils’ parents and the community becomes easier”* (an education official from Bu dang district education department, Binh Phuoc province). The leaders of Bom Bo primary school expressed that *“the sanitary facilities have had good impacts on pupils’ families and the community. Following the sanitary facilities and clean water systems the school was able to renovate its lighting system”*. The lesson of success of the project on school sanitation was expressed by the leaders of the provincial education department that *“wherever the administrative and party leaders give active supports to and really consider that it is their duty to pay attention to the project, there is good implementation of the project.”* (the director of Binh Phuoc provincial education department).

As for mountainous areas where the majority of pupils are from the minority ethnic groups, there is a limitation to the impact of school sanitary facilities. Following are some of such remarks and comments:

The head master of Tram Tau primary school stated that *“the programmes had a great impact on schools, pupils’ families, and the community, and made the local administration active in coordinating with schools to build conducting pipes so that schools and pupils could get access to clean water for use”*. By contrast, it was revealed when at contacts with teachers from Van Chan district that *“With our observations, the impact by the sanitary facilities and clean water systems on pupils’ families and the community is not so high as expected, in that pupils’ parents and community have not been enthusiastic enough with clean water supply and school sanitation facilities, especially that they did not pay enough attention to their own children”* (a teacher from Suoi Giang primary school, Van Chan district, Yen Bai province).

At Bao Nhai primary school, Bac ha district, Lao Cai province, teachers shared their opinions on the impact of the clean water systems and school sanitary facilities that *“there is clean water available at school, and because of that minority parents send their children to semi-boarding schools in great numbers. Recently, local administration expressed their interest in schools, such as fitting the lighting system, providing water, and in conjunction with villages repairing the temporary sanitary facilities for pupils. There are many difficulties in school sanitation and hygiene education. For example, some pupils do not even wash their faces before going to school, and as a result, teachers have to wash the pupils’ faces; pupils go to stool improperly any where outside the latrines. For that reason, the impact of hygiene education on families and community is still limited. ”* (a teacher from Bao Nhai primary school, Bac Ha district, Lao Cai province). *“At present, up to 95% of the households do not have latrines as those at school. Therefore, if investment is made in education, it will be possible to involve households to build latrines as the schools. ”* (the director of Bao Nhai primary school, Bac Ha district, Lao Cai province). *“In*

*mountainous areas, pupils and their families do not have habits of sanitation and hygiene or tidy practices. School sanitation facilities are of great essential significance to the educational activities aimed at changing awareness of pupils and helping them to form and adopt habits of hygiene and sanitation"* (Leader of Lao Cai provincial education department).

Similar to Lao Cai, discussions with teachers and pupils of the schools under survey in Trach An of Cao Bang, Chiem Hoa of Tuyen Quang province and Dien Bien Dong district, Dien Bien province revealed that the impact by school sanitation facilities and clean water supply systems is little and limited.

## **4. SUMMARY OF FINDS AND RECOMMENDATIONS**

### **4.1. PROJECT SUCCESS**

#### **4.1.1. Hygiene education in primary school through life-skill based teaching has been improved**

The application of life skills education in hygienic and sanitation training in schools is both inspiring students in active learning and providing them with basic skills to outline right decisions for them, eliminate bad hygiene practices and build up healthy practices. The pilot program supported by the Netherlands are stepping stones for applying life skills education in hygienic and sanitation training in schools. The materials developed during the project implementation period of 200-2001 have been in use and further developed to be more comprehensive.

#### **4.1.2. With limited funding from the project (average VND 10 million per school for WES construction), most intervention schools have their latrines that are properly used.**

Among 40 schools under the project during 2000-2001, 92.5% school latrines meet the hygienic standards related to construction (excluding latrine walls and roof), 87.5% are properly used. 97.5% intervention schools have water systems, 70% of them are properly used.

The support for construction of latrines and water facilities at schools provided conditions for students to practice hygiene behaviours, contributing to the success of the approach on life skills teaching.

#### **4.1.3. Hygiene education and WES facilities construction have positive impacts on students, their families and communities**

Even though the project ended more than three years ago, the impact of hygiene education is clear. Latrines in intervention schools are more properly used than latrines in control schools. This was made possible thanks to the good attitude and practice of school children on the use and maintenance of WES facilities.



Percentage of students flushing water/cleaning the latrine and wash their hands after using the latrine is higher in the intervention group than in the control group.

The project mobilized active participation of local authorities, mass organization and community in contributing in cash and in kind for construction of WES facilities. Septic tanks and water pour flush soak latrines constructed at schools during the years 2000-2001 were new models that had not been known by various people in rural areas. Community people paid visits to schools to learn of these new models and constructed the same for their families.

Hygiene and sanitation education in schools through life-skill education and latrines, water facilities usage has motivated students to retell their parents and relatives which has scaled up hygiene practice among community.

#### **4.1. PROJECT WEAKNESS**

- Lack of comprehensive and detailed designs of water and sanitation systems (types of latrine, urinals, hand-washing place, types of water systems) for groups of schools with similar conditions.

- Funds for project implementation were limited. It was difficult to mobilize community's mobilization, especially mountainous areas with ethnic minorities. Therefore, the systems were built incomplete. Some places lacked water supply, others had no pumps or water storage tank or hand washing places...

- While the number of students are increasing, the latrines are not sufficient and deteriorating and could not meet the demands of students.

- Few schools had latrines for teachers. Teachers and students had to share common latrines, causing disturbances for all of them.

- Some schools do not have hand washing places, lack of clean water for hand washing. Most of schools do not have soap for hand washing.

- The cleaning and flushing of latrines in some schools are inconvenient with the water valves are plastic and too hard for small students to turn on and off.

- Very few schools have operation and maintenance regulation boards available at the latrines.

- 38.5% of intervention schools and 27.3% control schools do not have ventilation windows inside the latrines. Therefore around 50% of the surveyed schools do have enough light. Lack of ventilation windows results in unutilization of natural lights, making it unventilated and unattractive to the students.

- There are reasonable amount of students who do not have the habit of flushing water and wash their hands after using the latrines.

- In remote mountainous areas with most of students being ethnic minorities, the impact of school hygiene education on community is limited.

#### **4.3. CHALLENGES**

- Local authorities and school leaders, especially in mountainous areas with ethnic minority groups, gave more priorities to construction of school building and

less attention to construction of water and sanitation systems in schools. A lot of new schools are beautifully built but with no corresponding water and sanitation facilities.

- At primary education level, there are main schools and branches. In most of the branch schools, especially in mountainous areas, there are no water and sanitation facilities.

- The unhygienic habits of defecation/urination of many ethnic minority people in remote mountainous areas are hard to change within a short period of time. Besides, these people have low economic condition, and could not afford building hygienic latrines, hence difficult to practice hygienic behavior.

## **5. RECOMMENDATIONS**

### **5.1. TO UNICEF AND DONORS**

- To develop school water and sanitation projects that include hygiene education such as the projects being implemented in Thua Thien Hue province.

- Support should be provided for both water systems and latrines (urinals and cubicles). For mountainous and underprivileged areas, full support should be provided for construction of water and sanitation facilities, based on the actual costs of the locality.

- Investment should be focused in limited areas to enable promotion of competition movement and easy for supervision and monitoring by locality.

- Support for school building should include support for water and sanitation facilities.

### **5.2. TO MOET AND LOCAL EDUCATION MANAGEMENT ORGANIZATIONS**

- Ministry of Education and Training needs to have guidance on compulsory use of participatory skill-based teaching for hygiene education in primary schools. To apply this method, there should be more training for teachers, provision of sufficient training materials, and provision of facilities for students to practice hygiene behaviours.

- MOET needs to issue regulations that new construction or rehabilitation of schools must include construction of water and sanitation facilities.

- One research institute should be assigned to develop good models of water and sanitation systems that are fully complete, for different geographical areas (areas with water, and water-scarce area..).

- Priorities should be given to construction of school building and water and sanitation facilities for branch schools.

- Better coordination between education, health and water sector staff during the survey, selection of technical options appropriate actual condition of each school; selection of site for latrine, urinals. There should be separate latrines for boys and girls, focusing on child-friendliness, convenience and safety. Monitoring and inspection should be done strictly following approved designs.

- Strengthening maintenance and rehabilitation of water and sanitation system. Every year, health and education sector should jointly monitor school latrines and water systems in all schools, promoting the campaign to build “national benchmark schools” and “protecting green, clean and beautiful environment”.

### **5.3. TO SCHOOLS**

- Make the best use and maintenance of existing water and sanitation facilities, use them for educating hygiene behaviours for students.

- Water and hand-washing places are important element for hygiene education and practicing. Therefore, all schools need to have hand washing places with enough clean water and soap for students to practice hand-washing.

- Few schools have regulations on the use of latrine available at the latrine, which need to be corrected. The regulations will help students to correctly follow necessary steps to use latrine properly.

- To facilitate clean of latrines after use, water valves need to be easy to operate.

- There should be 1-2 ventilation holes on the wall of the latrine (near the roof) or having an open space of 20cm on the upper part of the latrine door to allow ventilation and natural lights shown in the latrine. These features need to be clearly indicated in the designs.

- Schools need to collaborate with mass organizations such as Youth Union, Women’s Union during the overall cleaning of the village, involving students in these activities, and participating in the intensive sanitation campaign, collecting of garbage, protecting water sources, personal hygiene, cultural and civilized living styles, keeping schools, health centers and public places clean, green and beautiful.

## Annex 1: List of Intervention Schools

40 primary and secondary schools selected for the assessments are:

- Primary school of Phu Dien 2 and Primary school of Phu Xuan 2, of Phu Vang district, Thua Thien Hue province.
- Primary school Ha Son of Ninh son district, Ninh Thuan province.
- Primary school Tram and Primary school Trieu An of Trieu Phong district, Quang Tri province.
- Primary school Binh Son and Primary school Thanh Son of Anh Son district, Nghe An province.
- Primary school Bao Nhai of Bac Ha district, Lao Cai province.
- Primary school Pu Nhi of Dien Bien Dong district, Dien Bien province.
- Primary school Thuong Coc, of Lac Son district, Hoa Binh province.
- Primary school Xuan Quang and Primary school Phu Binh 1 of Chiem Hoa district, Tyen Quang province.
- Primary school Tan Viet of Thach An district, Cao Bang province.
- Primary Bom Bo and Primary school Duc Phong, of Bu Dang district, Binh Phuoc province.
- Primary school Xa Ho, Primary school Ban Mu, Secondary school Tram Tau, of Tram Tau district; primary school Cat Thinh, primary school Suoi Giang of Van Chan district, Yen Bai province.
- Primary school My Hung, primary school My Tan, primary school My Ha, primary school My Phuc, primary school My Trung, of My Loc district, Nam Dinh province.
- Primary school Chau Son B, primary school Thi Son, primary school Lien Son, primary school Kha Phong A, primary school Kha Phong B, primary school Thuy Loi, primary school Tan Son A, primary school Tan Son B, primary school Nguyen Uy, primary school Thuong Linh, primary school Le Ho A, primary school Dong Hoa, primary school Nhat Tan, primary school Kim Binh, primary school Thanh Son A, of Kim Bang district, Ha Nam province.

## ANNEX 2: ASSESSMENT TEAM

1. Prof. Dr. Nguyen Ky Anh	Center for Health and Environmental Studies
2. Dr. Nguyen Duc Hong, PhD	CHES
3. Prof. Dr. Trinh Huu Vach	Water and Sanitation Reference center
4. Dr. Trinh Hoa Binh	Institute of Sociology
5. Ms. Tran Tu Hoa	Institute of Sociology
6. Mr. Pham Van Hoc	Center for Sociology, Ho Chi Minh Political Academy
7. Ms. Ngo Thi Nhu	Water and Sanitation Reference center
8. Mr. Nguyen Trong Mai	CHES
9. MD. Phan Van Le	CHES
10. Ms. Tran Thi Tham	CHES
11. Mr. Luong Anh Binh	CHES
12. Ms. Nguyen Thi Lan	CHES

### Responsibilities of members in a team:

- Environmental Sanitation Experts:
  - ✚ Being responsible for general organization
  - ✚ Responsible for the school WES information collection and checklist (Q1). Members of school management board and pupils are to join this part, who will be guided to make their own assessment on advantages and disadvantages of water supply facilities, latrines, school and classroom hygiene conditions, etc...
  - ✚ Taking photographs
  - ✚ Chairing a de-briefing workshop after completion the survey with participation of Commune People's Committee, discussing suggestions of improved methods of operation and maintenance of WES facilities. Minutes of the workshop should be taken, especially on the recommendations and solutions that the school will need to follow up.
  
- Sociologists:
  - ✚ Holding the focus group discussion for pupils (10 – 12 pupils children representing for all grades / levels), encouraging active participation of pupils
  - ✚ Holding the focus group discussion for teachers (at least 4-5 teachers), following participatory method
  - ✚ Interviewing school leaders
  - ✚ Interviewing provincial and district educational leaders

## Annex 3: Assessment Tools

Q1

### INFORMATION COLLECTION FORM AND CHECKLIST ON ENVIRONMENT SANITATION AT SCHOOL

No	Information	Answer
<b>A. General Information of School</b>		
A1.	Province:.....Province code:	<input type="checkbox"/>
A2.	District:.....District code:	<input type="checkbox"/> <input type="checkbox"/>
A3.	School name: .....Code:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A4.	When was school (central school) built?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A5.	Is there a separate accommodation area for its teachers?	1. Yes 2. No
A6.	Number of teachers in the school	<input type="checkbox"/> <input type="checkbox"/>
A7.	Number of pupils in the school	<input type="checkbox"/> <input type="checkbox"/>
A8.	Male pupils:..... Female pupils:.....	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>B. Water supply at the school</b>		
B1.	There is a drinking water source:	1. Yes 2. No → go to B3
B2.	If the school does not have a water source, where is it taken from:	1. Household 2. Public 3. River, pond, stream 4. Other (specify) .....
B3.	Main source of water supply for drinking (combined with observation-select one type):	1. Tap water 2. Drilled well water 3. Dug well water 4. Rain water 5. Riverhead, stream head 6. River, spring (not head), pond... 7. Other (specify) .....
B4.	Has the water even tested?:	1. Yes, pls note the test result 2. No
B5.	Quality of the drinking water source sensationally:	1. Sanitary (Colorless, odorless, tasteless) 2. Unsanitary
B6.	Current water source is built with support from:	1. The Netherlands project 2. Other (specify) .....
B7.	The water source is child-safe and friendly (observation)	1. Yes (not slippery, water well with cover, convenient water collection tools)

		2. No
B8.	General comments on quality of water supply facility ( <b>observation</b> )	1. Very good ( <i>all of devices are working well:100%</i> ) 2. Fairly good ( <i>the water supply system is working but some taps are leaked: 75%</i> ) 3. Can use ( <i>some parts are not working: 50%</i> ) 4. Bad ( <i>almost of taps are not working: 25%</i> ) 5. Very bad ( <i>all of devices are broken: 0%</i> )
<b>Drinking water</b>		
B9.	Does the school has drinking water:	1. Yes 2. No → <b>go to B13</b>
B10.	Types of drinking water containers:	1. Container with tap 2. Container with no tap
B11.	There are covers/lids on drinking water containers:	1. Yes 2. No
B12.	Tools to drink:	1. Glasses/cups with handle 2. Glasses/cups without handle 2. No glasses or cups
<b>Hand washing water</b>		
B13.	There is hand washing water source:	1. Yes 2. No → <b>go to B22</b>
B14.	Distance from the latrine to hand washing water source:	..... metres
B15.	Is it convenient place?	1. Yes 2. No
B16.	Is there water at the hand washing place?	1. Yes 2. No → <b>go to B22</b>
B17.	Is there hand washing water tank:	1. Yes 2. No → <b>go to B19</b>
B18.	Water level in the tanks:	1. Full 2. More than a half 3. Less than a half 4. Empty
B19.	Water collection tools:	1. Water tap 2. Water bucket 3. Water ladle 4. Other (specify):.....
B20.	Is there soap for hand washing?	1. Yes 2. No
B21.	Good drainage at the hand washing place:	1. Yes

		2. No
<b>Cleaning water</b>		
B22.	Is there water for cleaning the cubicles	1. Yes 2. No → go to C1
B23.	Is water storage place convenient for the pupils to take for cleaning the cubicles after use?	1. Close to the cubicles 2. The height of the storage tank is just right with pupils 3. Valves could be turned on/off easily 4. Not convenient
<b>General comments on water supply</b>		
<b>C. Latrines</b>		
C1.	Latrines exist (ask and observation)	1. Yes → go to C6 2. No
C2.	If no, has there ever been a latrine before?	1. Yes → go to C6 2. No
C3.	When was it built?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C4.	This latrine was:	1. Funded totally by UNICEF 2. Funded by other (specify):.....
C5.	Why does this latrine no long exist?	1. The school moves 2. The place for latrine construction was reclaimed 3. The latrine was broken and demolished 4. Other (specify) .....
C6.	The latrine currently in use was:	1. Funded totally by UNICEF 2. Funded by other (specify):.....
C7.	When was the current latrine constructed?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C8.	How often is latrine cleaned?	1. Twice day 2. Daily 3. Twice weekly 4. Weekly 5. Monthly
C9.	Who is in charge of cleaning latrine?	1. Janitor/other staff 2. Teachers 3. Pupils
<b>Check list for the latrine (priority should be given to the latrine built with assistance from the Netherlands or other INGOs)</b>		
C10.	The latrine is in use (observation)	1. Yes → go to C12 2. No
C11.	Why is it not in use? (specify)	.....
C12.	The way to latrine area:	1. Safe and easy to walk 2. Unsafe and not easy to walk



C13.	Have the operational regulations:	1. Yes 2. No
C14.	Are there any sign boards to distinguish female and male toilets?	1. Yes 2. No
C15.	The number of cubicles:- For both boys and girls: - For boys: - For girls:	<input type="checkbox"/> <input type="checkbox"/> → Ratio pupils/cubicle..... <input type="checkbox"/> <input type="checkbox"/> → Ratio pupils/cubicle..... <input type="checkbox"/> <input type="checkbox"/> → Ratio pupils/cubicle.....
C16.	Types of latrine:	1. Septic tank 2. Poor-flush latrine → <i>Go to C19</i> 4. Double-vault → <i>Go to C25</i> 5. Ventilated pit latrine → <i>Go to C29</i> 6. Single-vault → <i>Go to C33</i> 7. Bucket latrine, old pit latrine → <i>Go to C33</i>
C17.	Quality of septic tank and biogas tank? <i>(observation)</i>	1. Having a three-chamber tank 2. Stools collection chamber is not sunk 3. The door for emptying the compost is closed, not broken 4. The floor is flat, not slippery, water is not stagnant 5. Having water – seal pan 6. Having ventilation pipe
C18.	Assessment of the septic tank by interviewer	1. Sanitary 2. Not sanitary → <i>Go to C23</i>
C19.	Quality of the <b>POOR-FLUSH LATRINE</b> <i>(observation)</i>	1. At least 10 m far from wells 2. Stools collection chamber is not sunk, higher than the ground at least 20cm 3. The door for emptying compost is closed, not broken 4. The floor is flat, not slippery, water is not stagnant 5. Having water-seal pan 6. Water not run out of chamber and overflow to the surrounding ground 7. Not built in low land area, water submersive ground or water impenetratable area
C20.	Assessment of the poor-flush latrine by interviewer	1. Sanitary 2. Not sanitary
C21.	How about the operation and maintenance status of the poor-flush latrine? <i>(observation)</i>	1. Enough water, water storage does not have mosquito larva 2. No bad smell 3. Grey water from the tank flows into the drainage system and not freely overflow to the surrounding area 4. Latrine floor is clean, not slippery, no presence of waste paper/garbage

		<ul style="list-style-type: none"> <li>5. No flies or insects inside the latrine</li> <li>6. Latrine pan is clean, no faeces stains</li> <li>7. Latrine with walls and roof</li> <li>8. Waste paper flushed away or contained in a bucket with cover</li> </ul>
C22.	Assessment of the operation status of septic tank and poor-flush latrine by interviewer	<ul style="list-style-type: none"> <li>1. Sanitary</li> <li>2. Not sanitary</li> </ul>
C23.	Has the faeces been taken out to be used for the field?	<ul style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ul>
C24.	What do you do when the compost tank is full?	<ul style="list-style-type: none"> <li>1. Hire specialized vehicle to empty the tank</li> <li>2. Farmers empty the tank for the field</li> <li>3. The tank has not been full yet</li> <li>4. Other (specify)</li> </ul>
C25.	Quality of the <b>DOUBLE-VAULT LATRINE?</b> <i>(observe)</i>	<ul style="list-style-type: none"> <li>1. Pit wall does not leak water</li> <li>2. Door for emptying compost is closed</li> <li>3. Urine draining canal is separate</li> <li>4. Floor and urine draining canal is flat, not stagnant</li> <li>5. 2 seats have cover, composting chamber is closed</li> <li>6. Latrine with wall and roof</li> <li>7. Vent pipe <math>\Phi</math> 9 cm, 40cm higher than the roof</li> </ul>
C26.	Assessment of the quality of the double-vault latrine by interviewer	<ul style="list-style-type: none"> <li>1. Sanitary</li> <li>2. Not sanitary</li> </ul>
C27.	How about the operation of the double-vault latrine? <i>(observation)</i>	<ul style="list-style-type: none"> <li>1. Chamber were used in turn</li> <li>2. Seat holes have cover</li> <li>3. Door for emptying compost is closed</li> <li>4. Enough ash and used regularly</li> <li>5. Toilet paper is collected in a bin</li> <li>6. Always clean</li> <li>7. No bad smell</li> <li>8. No flies</li> <li>9. Compost time is at least 6 months</li> <li>10. Other.....</li> </ul>
C28.	Assessment of the operation of the double-vault latrine by interviewer	<ul style="list-style-type: none"> <li>1. Sanitary</li> <li>2. Not sanitary</li> </ul>
C29.	Quality of <b>VENTILATED PIT LATRINE WITH VENT PIPE?</b> <i>(observation)</i>	<ul style="list-style-type: none"> <li>1. Located in high place</li> <li>2. Far from well at least 10cm</li> <li>3. Floor is flat, not stagnant</li> <li>4. Bottom is higher than the ground 20cm</li> <li>5. Seat holes have cover</li> <li>6. Latrine with wall and roof</li> <li>7. Vent pipe <math>\Phi</math> 9 cm, 40cm higher than the roof</li> </ul>

		8. Having pipe to drain urine out												
C30.	Assessment of the quality of the ventilated pit latrine with vent pipe by interviewer	1. Sanitary 2. Not sanitary												
C31.	How about the operation of the ventilated pit latrine with vent pipe? <i>(observation)</i>	1. Enough ash and used regularly 2. Seat holes have cover 3. Urine drained out 4. Toilet paper is collected in a bin 5. Few or no flies 6. No bad smell 7. Ohter.....												
C32.	Assessment of the status of the ventilated pit latrine with vent pipe by interviewer	1. Sanitary 2. Not sanitary												
C33.	Are there electric bulbs in the latrine?	1. Yes 2. No → <i>Go to C35</i>												
C34.	Are the bulbs working?	1. Yes 2. No												
C35.	Are there windows/air-panes in the latrine?	1. Yes 2. No												
C36.	Latrine with adequate light:	1. Adequate 2. Inadequate												
C37.	Is the size of foot rest suitable for pupils?	1. Yes 2. No												
C38.	The size of the hole	1. Suitable 2. Too large 3. Too small												
C39.	Are there footsteps in the latrine:	1. Yes 2. No → <i>Go to C41</i> 3. Unnecessary → <i>Go to C41</i>												
C40.	The height of steps is suitable to pupils?	1. Suitable 2. Unsuitable												
C41.	Does the latrine have urinals?	1. Yes 2. No → <i>Go to D1</i>												
C42.	If yes, are there separate urinals for boys and girls?	1. Yes 2. No												
C43.	The number of urinals: - For both boys and girls: - For boys: - For girls:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table> → Ratio pupils/urinal..... <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table> → Ratio pupils/urinal..... <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td> </td><td> </td></tr> </table> → Ratio pupils/urinal.....												
C44.	Urinals walls are tiled enameled brick?	1. Yes 2. No												
C45.	Urinals floor is tiled with enameled brick?	1. Yes 2. No												
<b>D. Observation of practice of pupils at surveyed time</b>														
D1.	Ratio of pupils urinating in the latrine ( <i>number of pupils urinating divided by total number of students at the time of observation</i> )	1. Ratio ... (.../....) 2. No pupil → <i>Go to D6</i>												
D2	Flush the water after urinating (among those who have urinated):	1. All of pupil 2. Some pupils 3. No pupil 4. No water												

D3.	Wash hands after urinating (among those who have urinated):	1. All of pupil 2. Some pupils 3. No pupil → <i>Go to D6</i> 4. No water → <i>Go to D6</i>
D4.	Wash hands with soap after urinating (among those who wash hands):	1. All of pupils 2. Some pupils 3. No pupil → <i>Go to D6</i>
D5.	Number of pupils washing hands properly ( <i>wet hands with water, apply soap on the back and front of hands, lather the fronts of the two hands together, then use the front of this hand lathering the back of the other hand three times, use fingers and the front of one hand to clean every finger, particularly finger nails and finger tips of the other hand, rinse hands under running water</i> )	1. All of pupils 2. Some pupils 3. No pupil washes hands properly
D6.	Ratio of pupils defecating ( <i>number of pupils defecating divided by total number of students at the time of observation</i> )	1. Ratio ... (.../....) 2. No pupil → <i>Go to D13</i>
D7.	For water flush latrines, flush the water after defecating (among those who have defecated):	1. All of pupil 2. Some pupils 3. No pupil 4. No water <i>Go to D10</i>
D8.	For dry latrines, pour ash into the hole after defecating (among those who have defecated):	1. All of pupil 2. Some pupils 3. No pupil 4. No ash
D9.	For dry latrines, cover the hole after defecating (among those who have defecated):	1. All of pupil 2. Some pupils 3. No pupil 4. No cover
D10.	Wash hands after defecating (among those who have defecated):	1. All of pupil 2. Some pupils 3. No pupil → <i>Go to D13</i> 4. No water → <i>Go to D13</i>
D11.	Wash hands with soap after defecating (among those who have defecated):	1. All of pupil 2. Some pupils 3. No pupil
D12.	Number of pupils washing hands properly ( <i>wet hands with water, apply soap on the back and front of hands, lather the fronts of the two hands together, then use the front of this hand lathering the back of the other hand three times, use fingers and the front of one hand to clean every finger, particularly finger nails and finger tips of the other hand, rinse hands under running water</i> )	1. All of pupils 2. Some pupils 3. No pupil washes hands properly
D13.	Drinking unboiled water:	1. Yes 2. No
<b>E. Environmental surroundings of the school</b>		
E1.	School yard is clean	1. Yes 2. Normal

		3. No
E2.	Classrooms are clean	1. Yes 2. Normal 3. No
E3.	Waste bins are available:	1. At all classrooms 2. At some classrooms 3. None
E4.	Waste pit/burning area is available:	1. Yes 2. No
E5.	Waste pit/burning area is fenced to prevent children entering	1. Yes 2. No
E6.	Waste management:	1. Burn 2. Bury 3. Remove to other places 4. Do nothing

**COMMENTS OF INVESTIGATOR**

- Location of the sanitary facilities: .....
- .....
- .....
- .....
- Design and construction work: .....
- .....
- .....
- .....
- Maintenance work: .....
- .....
- .....
- .....
- Usage: .....
- .....
- .....
- .....
- Child-friendly and safe design for children: .....
- .....
- .....
- Regulations of the sanitary facilities: .....
- .....
- .....

**Investigator**  
(Signature)

**Supervisor**  
(Signature)

### FRAME OF IN-DEPTH INTERVIEW FOR SCHOOL LEADERS

- Name of interviewee.....
- Age:.....Sex:.....
- Position: .....
- Address: .....
- Time of interview: .....
- Interviewer: .....

### INTERVIEW CONTENT

No.	Question	Answer
1	<p>How about education activities on environmental sanitation, clean water, disease prevention in the schools?</p> <ul style="list-style-type: none"> <li>- frequency</li> <li>- content</li> <li>- methodology</li> <li>- people in charge</li> </ul>	
2	<p>Participation in the Dutch funded SSHE pilot project?</p> <ul style="list-style-type: none"> <li>- Did your school participate in this SSHE project?</li> <li>- If yes, which activities were undertaken and their impacts?</li> <li>- Which activities are still being carried out?</li> </ul>	
3	<p>Participation in other hygiene education projects supported by UNICEF?</p> <ul style="list-style-type: none"> <li>- What are these projects?</li> <li>- Which activities have been undertaken and their impacts?</li> <li>- What needs to be done to improve the project effectiveness?</li> </ul>	
2	<p>What advantages and disadvantages had affects on education and</p>	

No.	Question	Answer
	<p>practices of environmental sanitation, clean water, and disease prevention in the schools?</p> <ul style="list-style-type: none"> <li>- advantages (supervision, investment, community support)</li> <li>- disadvantages (local condition, funding)</li> </ul>	
3	How do teachers integrate knowledge transfer with skills development in the schools?	
4	How about the hygiene practices by pupils at schools?	
5	How to find out if pupils practice hygiene behaviour at home and in the community?	
6	What are experiences in conducting environmental sanitation activities and clean water in the primary schools?	
7	What are recommendations for better implementation of water supply and environmental sanitation?	

**Interviewer**  
(Signature and full name)

**FRAME OF IN-DEPTH INTERVIEW FOR EDUCATIONAL DISTRICT AND  
PROVINCIAL STAFF**

- Name of interviewee: .....
- Age: ..... Sex: .....
- Position: .....
- Address: .....
- Time of interview: .....
- Interviewer: .....

**INTERVIEW CONTENT**

No.	Question	Answer
1	How about education activities on environmental sanitation, clean water, disease prevention in the schools?	
2	What advantages and disadvantages had affects on education and practices of environmental sanitation, clean water, and disease prevention in the schools?	
3	How do teachers integrate knowledge transfer with skills development in the schools?	
4	Participation in the Dutch funded SSHE pilot project? - Did your school participate in this SSHE project? - If yes, which activities were undertaken and their impacts?	



No.	Question	Answer
	<ul style="list-style-type: none"> <li>- Which activities are still being carried out?</li> </ul>	
5	<p>Participation in other hygiene education projects supported by UNICEF?</p> <ul style="list-style-type: none"> <li>- What are these projects?</li> <li>- Which activities have been undertaken and their impacts?</li> <li>- What needs to be done to improve the project effectiveness?</li> </ul>	
4	How about the hygiene practices by pupils at schools?	
5	How to find out if pupils practice hygiene behaviour at home and in the community?	
6	What are experiences in conducting environmental sanitation activities and clean water in the primary schools?	
7	What are policies for better implementation of water supply and environmental sanitation (orientation – achievement)?	

**Interviewer**  
*(Signature and full name)*

**FRAME OF IN-DEPTH INTERVIEW FOR EDUCATIONAL DISTRICT AND  
PROVINCIAL LEADERS**

- Name of interviewee:.....
- Age:.....Sex:.....
- Position: .....
- Address: .....
- Time of interview: .....
- Interviewer: .....

**INTERVIEW CONTENT**

Question	Answer
<p><b><i>1. Evaluation of the school education, training, and propaganda</i></b></p> <ul style="list-style-type: none"> <li>- What are the documents that decreed teaching environmental sanitation subject in primary schools?</li> <li>- What is the course syllabus? Lesson plan, other documents?</li> <li>- What are the funds for that course?</li> <li>- How do the water supply and sanitary facilities benefit education and environmental protection in the schools?</li> <li>- Have the sanitary facilities and water supply in the schools affected pupil's family and community positively? If yes, specify?</li> <li>- Is there any cooperation with other ministries on SSHE at primary schools?</li> <li>-What is the pupil's knowledge of personal hygiene and of environmental sanitation in general?</li> </ul>	
<p><b><i>2. Current status of water supply, sanitary facilities, environmental protection and hygiene practice</i></b></p> <ul style="list-style-type: none"> <li>- How many water supply and sanitation facilities in primary schools have been built?</li> <li>- What are the funds of facilities construction? Which one is most effective?</li> </ul>	

Question	Answer
<ul style="list-style-type: none"> <li>- How about the quality of sanitation facilities?</li> <li>- What is the status of operation and maintenance of sanitation facilities? It is suitable with local conditions, is not it?</li> <li>- How about the status of environmental sanitation in primary schools such as playing yard, trees, shadows?</li> </ul>	
<p><b>3. Advantages and difficulties</b></p> <ul style="list-style-type: none"> <li>- Are there any advantages of and difficulties in O&amp;M water supply and sanitary facilities at primary schools?</li> <li>- Are there any difficulties in teaching the pupils doing the regulations of O&amp;M the sanitary facilities and water supply, as well as hygiene practice (flush the water, wash their hands, ...)?</li> </ul>	
<p><b>4. Lessons learnt</b></p> <ul style="list-style-type: none"> <li>- From implementation of Dutch funded SSHE project?</li> <li>- From implementation of other hygiene education projects supported by UNICEF?</li> </ul>	
<p><b>5. National Strategy of Sanitation Education and Construction of Sanitary facilities at primary schools:</b></p> <ul style="list-style-type: none"> <li>- Education strategy?</li> <li>- Investment plan?</li> <li>- Solution to reach National target (75% schools having WES facilities by 2010)?</li> </ul>	

**Interviewer**  
(Signature and full name)

**FRAME OF IN-DEPTH INTERVIEW FOR EDUCATION OFFICIALS AT CENTRAL  
LEVEL (Student Affairs, Primary Education Departments)**

- Name of interviewee:.....
- Age:.....Sex:.....
- Position: .....
- Address: .....
- Time of interview: .....
- Interviewer: .....

**INTERVIEW CONTENT**

Question	Answer
<p><b><i>1. Evaluation of the school education, training, and propaganda</i></b></p> <ul style="list-style-type: none"> <li>- What are the documents that decreed teaching environmental sanitation subject in primary schools?</li> <li>- What is the course syllabus? Lesson plan, other documents?</li> <li>- What are the funds for that course?</li> <li>- How do the water supply and sanitary facilities benefit education and environmental protection in the schools?</li> <li>- Have the sanitary facilities and water supply in the schools affected pupil's family and community positively? If yes, specify?</li> <li>- Is there any cooperation with other ministries on SSHE at primary schools?</li> <li>-What is the pupil's knowledge of personal hygiene and of environmental sanitation in general?</li> </ul>	
<p><b><i>2. Current status of water supply, sanitary facilities, environmental protection and hygiene practice</i></b></p> <ul style="list-style-type: none"> <li>- How many water supply and sanitation facilities in primary schools have been built?</li> <li>- What are the funds of facilities construction?</li> </ul>	

Question	Answer
<p>Which one is most effective?</p> <ul style="list-style-type: none"> <li>- How about the quality of sanitation facilities?</li> <li>- What is the status of operation and maintenance of sanitation facilities? It is suitable with local conditions, is not it?</li> <li>- How about the status of environmental sanitation in primary schools such as playing yard, trees, shadows?</li> </ul>	
<p><b>3. Advantages and difficulties</b></p> <ul style="list-style-type: none"> <li>- Are there any advantages of and difficulties in O&amp;M water supply and sanitary facilities at primary schools?</li> <li>- Are there any difficulties in teaching the pupils doing the regulations of O&amp;M the sanitary facilities and water supply, as well as hygiene practice (flush the water, wash their hands, ...)?</li> </ul>	
<p><b>4. Lessons learnt</b></p> <ul style="list-style-type: none"> <li>- From implementation of Dutch funded SSHE project?</li> <li>- From implementation of other hygiene education projects supported by UNICEF?</li> </ul>	
<p><b>5. National Strategy of Sanitation Education and Construction of Sanitary facilities at primary schools:</b></p> <ul style="list-style-type: none"> <li>- Education strategy?</li> <li>- Investment plan?</li> <li>- Solution to reach National target (75% schools having WES facilities by 2010)?</li> </ul>	

**Interviewer**  
(Signature and full name)

### GUIDELINE FOR GROUP DISCUSSION WITH PUPILS

- Time of conducting discussion: .....

- Guide: .....

- Participants:

1. ....

2. ....

No	Problem	Question	Suggestion
1	<b>Health education in school</b>	- Tell how teacher teach the Nature and Society/ Health Education subject?	- Similar to other subjects: teacher talk and pupil listen - Similar to a game/comedy - Teacher asks and pupil answers
		- What teaching method do you like?	
		- Who teach you to use WES facilities?	- At the water source - At the hand washing place - At the latrine - In the class
2	<b>Status of water facilities</b>	- How do you assess status of water facilities that is being used in school?	- Dirty or clean - Easy or difficult for using - Can you take water by yourself? - How clean is the water?
3	<b>Status of sanitation facilities</b>	- How do you assess status of sanitation facilities that being used in school? - Convenient?	- Used or not used? - Dirty or clean - Easy or difficult for using - Are there sites enough for pupils - Are you comfortable when using the latrine?
4	<b>Behaviors of hygiene</b>	- What should we do to keep sanitation and protect stomachache, diarrhea disease?	- Wash hand before and after going to stool/ urinate - Use clean water and latrine - Eat and drink boiled materials - Etc,
		- What should we do to properly use and maintain water facility?	- How do you use water? + economically + don't contaminate water source - How do you maintain water facility? + don't play, damage tap/pump + Remind friends maintaining sanitation facility

No	Problem	Question	Suggestion
		<ul style="list-style-type: none"> <li>- What should we do to use and maintain sanitation facility?</li> </ul>	<ul style="list-style-type: none"> <li>- How do you use latrine?</li> <li>+ going to stool in pit</li> <li>+ going to urinate in place</li> <li>+ flushing after going to stool</li> <li>+ throw paper in basket</li> <li>+ remind friends maintaining sanitation facility</li> <li>- How do you maintain latrine?</li> <li>+ do not write/draw dirtily</li> <li>+ do not damage door</li> <li>+ remind friends maintaining sanitation facility</li> </ul>
5	<b>Impacts on family and public</b>	<ul style="list-style-type: none"> <li>- How do you apply what you have learnt from schools in activities daily?</li> <li>- Do you tell/ remind your parents and around people about hygienic behaviors that you have learned from school?</li> </ul>	<ul style="list-style-type: none"> <li>- Use sanitary latrine</li> <li>- Do not eat raw vegetable, unboiled water</li> <li>- Kill flies, prevent flies approaching food</li> <li>- Wash hands with soap before eating and after going to stool</li> <li>- Use worm killer periodically</li> <li>- Etc</li> <li>- Build, improve sanitary latrine</li> <li>- Do not use un-composted stools as fertilizer</li> <li>- Do not eat raw vegetable, unboiled water</li> <li>- Prevent flies approaching food</li> <li>- Wash hands with soap before eating and after going to stool</li> <li>- Use worm killer periodically</li> <li>- Etc</li> </ul>
6	<b>Your desires</b>	<ul style="list-style-type: none"> <li>- About water and sanitation facility</li> <li>- About health education</li> </ul>	

## GUIDELINE FOR GROUP DISCUSSION WITH TEACHERS

- Time of conducting discussion: .....

- Guide: .....

- Participants:

1. ....

2. ....

No	Problem	Suggestion
1	<i>school education, training, and propaganda</i>	<ul style="list-style-type: none"> <li>- What has your school done to educate and propagandize pupils to improve pupil's knowledge of water and environmental sanitation?</li> <li>- Do the sanitary facilities and water supply affect positively to the children's families and to the community?</li> <li>- Are there any solutions to improve the pupils' aware of O&amp;M the sanitary facilities and water supply?</li> <li>- Are the local administration, organizations, and parents interested in hygiene education, environment and water protection? Any concerns of maintenance and repair work for water supply and sanitary facilities? Or keep school clean?</li> </ul>
2	<i>Current status of water supply, sanitary facilities, environmental protection and hygiene practice</i>	<ul style="list-style-type: none"> <li>- Quality and effectiveness of sanitary facilities in your school (O&amp;M, appropriate to local conditions? _</li> <li>- Facilities for hand washing (water, soap)</li> <li>- Are there enough toilets for use? Are they convenient and safe for use?</li> <li>- Use of latrine, hygiene practices, including hand washing</li> </ul>
3	<i>Health education teaching methodology</i>	<p>Methods applied to deliver knowledge on hygiene to pupils</p> <p>For teachers in Ha Nam and Nam Dinh provinces</p> <ul style="list-style-type: none"> <li>- What do you think the most favorite point in training course on approaching educational methods in life skills (2000-2001)?</li> <li>- How were application results of this method in health education for pupil?</li> <li>- Are being educational methods in life skills (2000-2001) applied in teaching on health education today? Which skills (among skills trained in 2000-2001) do you still apply on teaching subject of health education.</li> </ul>
4	<i>Advantages and difficulties</i>	<ul style="list-style-type: none"> <li>- Are there any advantages and difficulties in O&amp;M water supply and sanitary facilities at your school?</li> </ul>



No	Problem	Suggestion
		<ul style="list-style-type: none"> <li>- Are there any difficulties in instructing the pupils to implement the regulations of O&amp;M the sanitary facilities and water supply, and hygiene practices (flushing water, washing hands after done, ...)?</li> <li>- Do local people and other schools visit your school to learn the model of sanitary facilities?</li> </ul>
5	<b>Recommendations:</b>	<ul style="list-style-type: none"> <li>- Recommendations or proposals to the local leaders, organizations,</li> <li>- Recommendations to Provincial/district Education Departments and Ministry of Education and Training</li> </ul>

**Interviewer**  
(Signature and full name)