



Regional Workshop on
Developing Teaching and
Learning Materials for
Integrating Human Values
in Water, Sanitation and
Hygiene Education in
Southeast Asian Schools

Organized jointly by

United Nations Human Settlements
Programme (UN-HABITAT) and Southeast
Asian Ministers of Education Organization
Regional Centre for Educational
Innovation and Technology (SEAMEO
INNOTECH)

In cooperation with

Asian Development Bank (ADB)

29 November – 01 December 2006
SEAMEO INNOTECH
Quezon City, Philippines

Workshop Proceedings

Day 1, 29 November 2006

I. Opening Formalities

Morning Session

The workshop formally opened with the entrance of colors of the SEAMEO member countries. The Philippine National Anthem was played afterwards.

- **Welcome Remarks**

MR. PHILIP PURNELL
Director for Programs
SEAMEO INNOTECH, Philippines

Mr. Purnell welcomed everybody to the Center. He said the project has a long history, with the SEAMEO team first coming into contact with UN-HABITAT in 2002 to discuss values-based water education. The project has been the result of cooperation among three organizations—SEAMEO, UN-HABITAT, and ADB. After a gestation period, their collaborative efforts culminated in a Ministerial declaration on values-based water and sanitation education during the SEAMEO Council Meeting in Brunei Darussalam.

Mr. Purnell said that the workshop is timely. He talked about the water situation in Metro Manila that is on the headline of Philippine newspapers. About 1.3 million people in the metropolis are currently without water, which makes water scarcity an important emerging development issue. Even in Australia, his home country, water has become a serious concern. He shared how he was surprised when he came home to visit his family in 2002, and found out that there was water rationing in their community in Sydney. He also learned that there were certain hours of the day when water does not come out of the taps. Everybody in their neighborhood started to look for ways to conserve water, while the Australian government started monitoring water use in the city.

He expressed that the Center is proud to take part in the project and pleased to be working with other SEAMEO Centers. He acknowledged the preparation of the participants' lesson guides for their respective countries. He hoped that the participants would have a pleasant stay at the Center, and would get to enjoy its facilities. On this note, he welcomed the participants once more on behalf of the Center Director, Dr. Erlinda C. Pefianco, who was on an official business in Davao City at that time. He also wished everyone a productive and successful workshop.

- **Opening Remarks**

DR. CHIN HENG YEAP

Programme Officer (Evaluation)

SEAMEO Secretariat, Bangkok, Thailand

Dr. Yeap conveyed the SEAMES Director's apology for not being able to attend the meeting because of an overseas mission. He said, however, that their director, Dr. Edilberto de Jesus, is a strong supporter of the program.

Dr. Yeap said that the conduct of the workshop was not a coincidence but was made possible through the hard work of many people and the generous contributions of many organizations. On behalf of the SEAMES Director, he thanked the INNOTECH Director and the staff for putting together the workshop. He also thanked UN-HABITAT and the Asian Development Bank (ADB) for sponsoring the HVWHSE project and for providing guidance to the running of the workshop. He also thanked the resource persons and the participants.

He stressed that while the participants' attendance was only for three days, they have enormous tasks ahead of them. The outputs of the workshop would be circulated and used by their home countries. Its potential impact is vast as it would prepare a generation of young people to develop habits and values on good water use. It would also instill positive attitudes and good wisdom in the use of resources in their respective countries. The workshop would thus prepare generations of young children to be forward-looking in dealing with water shortage.

He expressed confidence that a good start now would go a long way in determining the success of the project since this activity would lay the groundwork for the next SEAMEO workshop.. If they would "unselfishly" share their knowledge and experiences, he was sure that they would come a long way in producing the teaching-learning materials on HVBWSHE. In closing, he wished everyone success in all the workshop activities.

- **Opening Speech**

MR. AVI SARKAR

Chief Technical Advisor

Regional Mekong Water and Sanitation Initiative and

Focal Point, Asia for Human Values-Based Water, Sanitation

and Hygiene Education, UN-HABITAT

On behalf of the UN-HABITAT, Mr. Sarvi first welcomed everyone to the regional workshop. Then he shared with the group his observations when he visited Dr. Art-Ong Jumsai's school in Thailand. He said he was truly moved and emotionally charged with what he saw and experienced there. He referred to the institute as an abode where human values-based education was truly practiced—a perfect example of loving all and serving all.

He explained that rapid urbanization and industrialization in Southeast Asia made it a compelling case to develop a new water use ethic for the future citizens of the region. It is necessary, he said, that the youth be encouraged to use water resources sustainably, and to develop among them desirable attitudes and behavior to address the current dilemma in water.

He disclosed that this was the underlying reason for the partnership between the UN-HABITAT and SEAMEO. The partnership/cooperation seeks to (1) develop an assessment protocol on water and sanitation facilities in schools, and (2) to integrate human values in water sanitation and hygiene education (HVWSHE) in Southeast Asian schools.

The HVWSHE project builds on strategies identified in the SEAMEO Declaration on Values-Based Water and Sanitation Education, and on the experiences of the UN-HABITAT in introducing human values-based water education in Africa. He said the project is expected to serve as a model project for effective HVBWSHE in the Southeast Asian region.

All over the world, a lot has been done already to address the concern for human values-based water sanitation and hygiene education, but Mr. Sarvi stressed that a lot still needs to be done. In closing, he reiterated his gratitude for everyone's participation in the workshop, and expressed hope that it would be fruitful and all the objectives would be met.

II. Discussion Sessions

▪ Overview of the Project/Review of Project Activities

MR. BENITO E. BENOZA
Programme Officer (Development)
SEAMEO Secretariat, Bangkok, Thailand

Mr. Benozza expressed first his appreciation to the staff of SEAMEO INNOTECH who were "doing a great job" in organizing the regional workshop. Then he took note of the presence of his mentors from the Philippine Normal University who came to observe the workshop.

His presentation covered the background and rationale for the cooperation between SEAMEO and UN-HABITAT to promote human values-based water, sanitation and hygiene education (HBVWSHE) in Southeast Asian schools. He also talked about the over-all framework of the project, what has been done so far, and provided an outline of future activities.

SEAMEO, he said, has been asked several times on why it had taken on the promotion of HBVWSHE, formerly known as values-based water and sanitation education (VBWSE). Among the many urgent education concerns, many argue that the issue on water and sanitation should have to take a backseat in favor of the more urgent education needs throughout the Southeast Asian region. It is also an issue that should have been in the hands of the local governments and not of the education sector. However, HBVWSHE has resonance in a number of critical and urgent concerns that similarly affect the education situation in the region.

The headlines in the newspapers in the Philippines and Thailand, for instance, in the past couple of weeks strengthen the need to evolve a new and sustainable water use ethic among the people in the region. In Metro Manila, there is the issue of probable water rationing because of the critical level in the reservoir supplying water to greater parts of the metropolis. In Central Thailand, recent flooding has caused significant damage to farms in the area.

Rapid industrialization and urbanization throughout the region suggest disturbing trends that require long-term solutions and change in current attitudes and water use behavior among people. These things need to be addressed as they affect the lives of future decision-makers—the children of today. The seeds need to be planted now for their future, he stressed.

The cooperation between SEAMEO and UN-HABITAT was formally established in 2004. Under its framework of cooperation, several small but significant activities have been undertaken. One of these was the adoption of the SEAMEO Declaration on Values-Based Water Education in March 2004. Then there were a study visit and a forum in May 2004 that provided an opportunity for African educationist to interact with their counterparts in Southeast Asia.

The project directly addresses two Millennium Development Goals—MDG 5, which seeks to provide Education for All, and MDG 7, which seeks to promote universal access to safe water and sanitation. Likewise, the project seeks to develop a new water use ethic among Southeast Asian children through the promotion of HVBWSHE. In line with this, the project seeks to develop, among other things, a set of prototype teaching/learning materials, lesson plans, activity guides and assessment rubrics on HBVWSHE.

Mr. Benoza said that activities lined up for the project is a collaborative effort among all SEAMEO Centers, with the SEAMEO Secretariat taking the overall management. The workshop on the development of teaching-learning materials is principally organized by INNOTECH. SEAMOLEC would handle the revision and production phase of the materials to be developed, and SEAMEO RECSAM would facilitate the training of teachers and the pilot testing of the developed teaching-learning materials on HVBWSHE. SEAMEO TROPMED is leading the development of an assessment protocol for WATSAN facilities.

In November 2005, the Regional Planning Workshop on Promoting HVBWSHE was convened in Cha-Am, mainly to brief MOE representatives on the concept and operations of HVWSHE. One group worked on the creation of the assessment protocol, and another group addressed the instruction/curriculum-oriented interventions. There was a consensus to underline the integration of water and human values in the existing curricula. In connection with this, the learning areas where integration of human values could have the greatest effect were also identified. Similarly, to enhance the effectiveness of delivering the integrated lessons, the desired teacher competencies were lined up.

Mr. Benoza concluded his presentation with a reminder for everyone that the real test of what they are doing would happen in the future, when the child they help today would make real-life decisions and make his own effort to ensure a better future for his children.

- **UN-HABITAT's Water for African and Asian Cities Programmes: Experiences with Human Values-Based Water and Sanitation Education**
- MR. AVI SARKAR

Mr. Sarkar started by talking about environmental sustainability, social equity and economic efficiency. According to him, the rising population is creating a big problem for the water and sanitation situations in urban and rural areas. It increases consumerism that erodes the values commonly held by the society. To demonstrate his point, a picture was shown that depicts the growing imbalance in water supply in the communities. One side of the picture shows a well-to-do family with a swimming pool at the back of their house and their car being washed. The rest of the picture shows a depressed community. The picture details a huge number of people without an adequate supply of water—some people lining up to a faucet with only a drop of water coming out; a person selling gallons of water; and other people acting on the problem by digging a water well.

Mr. Sarkar said that there is a need to change the people's behavior to generate awareness about water and sanitation problems among the youth. HVBWSHE, he said, is a process by which individuals become aware of the environment they live in and gain knowledge, skills, values and experiences that should enable people to respond in a very ethical manner to solve the problems. In Southeast Asia, he said, there is not much water crisis, especially in the Mekong Region; but what the project is concentrating on are the children, the knowledge, skills and values. There must be a close linkage between what the education and the water and sanitation sector do. Both have the ultimate goal of developing a values-based water sanitation and hygiene education.

Lack of safe water and basic sanitation facilities could be life threatening to the poor and the rich alike. That makes it a social issue. The dilemma lies in how to make water and sanitation available to and affordable for the poor? Another social issue is how to deal with corruption in the daily lives which affects the sustainability of services to the people. Mr. Sarkar declared that each one of us must be responsible and serve as good models to the children. Water and sanitation also pose conservation issue in terms of dealing with profligate water wastage. People should realize that they have the right to use water but not to abuse it.

He said developing water human values is not something new that the UN-HABITAT came up with. It is embedded in the traditional values of solidarity, respect for nature and shared responsibility in most societies around the world.

At this point, he showed a comic strip that shows the journey of a water droplet that is being wasted. He said values could be integrated through this medium. The children could appreciate it more and the values being imparted by the comic strips would be surely impressed upon them. Mr. Sarkar said it is important to engage the interest of policy-makers, the education sector, and the communities. There should be investment made on the water and sanitation utilities within schools, which are the focal point of the project.

Briefly, he ran through the project on HVWSHE in Africa, which was conceived in May 2001. Phase I of the project involved seven countries in the African region, from 2001 to 2003. An external group conducted an evaluation of the project in 2004. Then from 2004 onwards, 14 countries got involved in Phase II of the Project. In Asia,

HVWSHE was formalized in November 2003 during the Regional Consultations on VBWSE held in Manila, Philippines. In March 2004, ten ASEAN Ministers adopted the Declaration and Action Plan on VBWSE. Countries involved in the project also included Mekong region, India, China, Nepal and Kazakhstan.

In closing, Mr. Avi Sarkar showed an art work done by a Grade 5 student that says, "Respect water—don't waste it; it keeps you alive so keep it alive."

- **Human Values in WSHE: Experiences in Thailand**

DR. ART-ONG JUMSAI

Chief Executive Officer, Sathya Sai School, and
Director, Society for Preservation of Water (SPW)
Thailand

Dr. Jumsai opened his presentation with a remark that Thailand is lucky to have a king who is the supreme example of human values. Thus he is considered as the father of the nation and is also called as the working monarch. In 1986, the King expressed that they must realize the value of water because where there is water there is life. Thus, the King also embarked on projects that involved water such as on irrigation and the development of water resources such as preservation of water sources, electricity generation, water drainage from low-lying areas, and flood relief.

Thailand's education policy has recently placed importance on the teaching of human values, also in line with the King's thrust of building a society that is happy and full of peace. Through pictures, Dr. Jumsai further shared his experience at the Sathya Sai School in Thailand that integrates water conservation, management, and treatment in their school curriculum. The school, which was established 15 years ago, imparts the relationship of human values and water through learning from the qualities of water. Science and math experimentation also uses water and studies the impact of water pollution. In social studies and the art subjects, the school teaches the integral part of water in Thai culture and tradition. The speaker also gave other examples on the use of water in physical education and the teaching of the English language.

- **Values Integration for Developing Young Adults**

DR. LAKSHMI SEETHARAM

Resource Person
UN-HABITAT

Dr. Seetharam introduced to the participants a book on the teaching of human values that is a product of years of training and the application of time-tested techniques. The workshops in particular were held on five-day workshops or a six-week diploma course. The book was developed to show sample lesson plans on values education.

Dr. Seetharam stressed that only three persons can give child a good value system, those are the mother, the father, and the primary school teacher. Hence, there is a need to educate teachers to become examples of the values that they teach. She added that human values are within everyone, all people are born with it. Love is the basis of all values and educators need to nurture that love in children. She also emphasized that for every successful child there is one dedicated teacher. If teachers give students the enabling environment every child can blossom to become their best.

The book discusses methodologies on values education as well as a brief introduction on child psychology and child development. Dr. Seetharam also talked about her experience in teaching, particularly in rephrasing negative language (i.e. adopting an “I can” attitude). The child psychology section of the book guides teachers on tuning lessons according to the level of the child. Referring to the handouts, she introduced the participants to the sample lesson plans on values education that have been integrated in mainstream subjects. Dr. Seetharam closed her presentation by reiterating that human values have to be elicited in the classroom. Silent sitting is a helpful method, so as story telling, signing, and other activities to bring out human values. What is important is that in the teaching of human values, the lessons have to be maintained lively and interactive.

Afternoon Session

- **Human Values in Water, Sanitation, and Hygiene Education:
Exploring the Core Human Values and Integration of the Core
Values in Education**
- DR. ART-ONG JUMSAI

Dr. Jumsai introduced his presentation as that which would discuss something important in the field of education, referring in particular to how to educate good children. Specifically, the presentation seeks to discuss how to make children understand the value of managing water, hygiene, and sanitation. He introduced that the school that he manages in Thailand aims to raise good children. The school screens the parents of children; and it seeks parents that have the same view as that of the school because it is important that parents understand what the school is doing. The school has been able to produce successful children and 100 percent of them go to good universities. These children are also popular in the universities because they have a sense of self-sacrifice and are good leaders.

Dr. Jumsai noted that one of the most serious problems in the world today is that of global warming. Increasing carbon monoxide emissions has caused rising temperatures and is already creating a number of big problems. Sea level for instance is increasing by 2 millimeters per year. Ice is also breaking from the Antarctic. If all polar caps melt the sea level would increase by 20 feet. Hence, by talking about water education, the school has to talk about the environment as well. This is thus the best time to educate children about averting the crisis. For one, the school could make them understand the inherent value of water because water is life. A human body is 80% made up of water. People, animals, and plants are mostly made up of water. Two thirds of the earth’s surface is also made up of water. Hence, we need to protect the world’s water resources.

Dr. Jumsai emphasized that in teaching human values the objectives have to be clear. First, teachers should understand the learner and treat them with love and care. Teachers also need to teach students how to think and learn for themselves; the teachers’ role is simply to facilitate the learning process. Moreover, the teacher should be a role model - teachers have to live the values they teach. Also, teachers have to elicit the values inherent in every child. He likewise talked about collaborative learning and the concept of multiple intelligences, hence the importance of allowing children to work and help each other. In terms of the process of integrated values education the children have to start with self-reflection through a quiet moment. It is also important to create an atmosphere of peace to children. Children should also be

encouraged to ask questions to bring out the human values from within. Other methods that can be applied include observing nature, direct experience, experiments, the use of similes, arts, discussion, and brainstorming. He gave a specific example of integrating values in a problem-solving task that was given in a Math subject.

Dr. Jumsai invited Ms. Suma Parahakaran to discuss the teaching of human values in academic contexts.

- **Teaching Human Values in Academic Contexts**

MS. SUMA PARAHAKARAN

Resource Person

Society for the Preservation of Water

She started by saying that some of the primary lessons they impart in the school is to learn to serve the society, to love one another, to learn to be cooperative, to learn to bind, and to respect, preserve, and nurture life. These are the same values that children need to understand about water. Ms. Suma emphasized that educators need to understand children as human beings. To be effective in values education she presented the human values integrated instructional model.

She asserted that in the teaching of academic subjects, teachers are more particular about grammar and numbers more than the teaching of values. Primarily, the teacher should be able to impart that there is interconnectedness in nature, that all living things are one, hence the need to respect nature. In values education, water has its inherent values that can be connected with the arts, music, and the humanities. Therefore, it is effective as well if teachers would bring feelings into academic contents because human values is about feelings as well. In giving a particular example, she said that in scientific enquiry, teachers can establish the relationship between relative values (values in academic contents) and absolute values (values inherent in the environment and within people). While science is a diverse subject, it has unifying qualities as well. Science can also emphasize cause-and-effect in teaching about pollution and how things are generally interrelated. Also, the teaching of science can impart to children that there are things that cannot be measured. In sum, science can teach about interconnectedness, about developing in children their concept of social equity, ethical behavior, and thinking of the whole picture. Evaluations on the effectiveness of teaching integrated values education can come in the forms of questionnaires, checklists, and direct observations.

To conclude, Ms. Parahakaran drew attention to the significance of teaching human values in academic subjects. Foremost among the methods is to bring out the feelings of children and relate the topics to the experiences of the students.

- **School Visit**

The last activity for the day was a visit to the Project 6 Elementary School in Quezon City. The participants had an opportunity to observe a science class and how values are integrated in a science lesson focused on water. They also had an opportunity to interact with both the children and some school officials regarding the lesson demonstrated.

Day 2, 30 November 2006

III. Discussion Sessions (Continuation)

Morning Session

Mr. Benito Benozza facilitated the day's sessions. He welcomed the participants to the second day of the workshop. He reminded them that on Day One there was a lot of sharing on the focus and locus of the project from the perspective of the UN-HABITAT and SEAMEO. There was also a sharing of the experiences in various regions on their implementation of human values in water, hygiene, and sanitation education.

Then, Mr. Benozza gave an overview of the speakers for the day who would share their experiences, concepts, and models of values education. He called to the floor Dr. Estrellita Y. Evangelista, the first resource person of the day.

- **Integrating Values in Lessons: A Review of Concepts and Practices**

DR. ESTRELLITA Y. EVANGELISTA

Deputy Director

Bureau of Secondary Education, Department of Education,
Philippines

Dr. Evangelista noted at the start of her presentation that every intervention had its noble intentions and the choice of water education as the entry point of UN-HABITAT's campaign for good urban governance is laudable. The Bureau of Secondary Education is encouraged by UN-HABITAT's adoption of a "values-based" approach in water education. The presentation addressed the philosophy and pedagogy of values education. Dr. Evangelista emphasized that the systematic development of values requires a methodological support that cannot be neutral. Education in values education demands discussion, processing, reflection, and action.

Values integration is a channel of values development through the teaching-learning activities in the different subject areas. Teachers first identify the concept to be developed in the lesson and the values inherent in the subject as the basis for the planning and delivery of lessons. As such, values integration does not mean quoting value and discussing it. It is leading the students to see a personal meaning in whatever teachers teach in the classroom. For the purpose of the SEAMEO-UN-HABITAT project on Value-based Water Education (VBWE), the five basic human values were identified: truth, love, peace, right conduct, and non-violence.

Dr. Evangelista presented a number of examples on the learning areas that are potential entry points of VBWE and the values inherent in each area. The learning areas cited were Math, Science, English, Social Studies, and Home Economics. To naturally use the content of these subject areas in VBWE, the teachers should effectively encourage questions and use other strategies to achieve integration.

The classroom environment and the teaching-learning process can set the context and build the process of values integration. On the teaching-learning process, this may be incidental (through the use of values-laden statements, reinforcements, or affirmations) or purposeful, which is reflected in the lesson plan. Ideally, values

education should be purposeful to achieve the desired outcomes. Of the three levels of teaching - facts level, concepts level, valuing level - it is at the valuing level when the data and ideas are learned in the two prior levels gains personal meaning to the student. Teachers should thus focus on the affective personal experiences and feelings of the students when meaningful resolutions for a change in attitude are realized.

Dr. Evangelista concluded that sensitivity in and alertness to those valuing moments in the classroom, competence in the use of questions that invite learners to journey into the self towards making a dent in their communities and country will hopefully make learning water education in the classroom personally meaningful and relevant.

- **Assessment Methods in Teaching Human Values**
- DR. CHIN HENG YEAP

Mr. Yeap said there are two levels of assessment—the teaching and learning assessment, and the project assessment. His presentation, however, focused on the first level of assessment.

Assessment, he said, is a “process of gathering and collecting information from multiple and diverse sources in order to develop a deep understanding of what students know, and can do with their knowledge as a result of their education experiences. The process culminates when assessment results are used to improve subsequent learning.”

The teaching-learning (TL) assessment is used to determine the extent to which the objectives of TL have been attained; to monitor students’ progress; to provide feedback information for improving TL and to provide feedback data for the project assessment.

According to Mr. Yeap, there are difficulties faced when conducting assessment. For one, the nature of values that a person holds are abstract, and cannot be seen, touched, smelled nor tasted until these are expressed verbally or put into action. However, the way a person talks and acts on situations vary. The values must be assessed based on a person’s verbal expressions and actions towards authentic situations.

It must be understood, as well, that the development of human values takes a long time. One may not immediately see significant changes even after attending a course about it. The values that a person manifests are inconsistent, depending on the situation presented. The process of assessing similarly depends on the person conducting the assessment. The teachers, for instance, have their own set of values, and these could affect their judgment and interpretation of their students’ behavior. Aside from this, the process of assessment also consumes time, and may not always be done in the right time, or at the place. Nonetheless, there are various strategies by which assessment can be done. Among which is by asking students to write down their feelings or by asking them to act out certain situations.

Assessment should always be geared towards the objectives of a lesson. It has four components: knowledge, skills, attitudes, and values and behavior. Having multiple perspectives—teachers, parents, students themselves and their peers; and multiple ways of assessment—paper-and-pencil, observation, interview, reflection,

and others—in a variety of situations compensate for the difficulties and challenges of assessment.

Mr. Yeap went on to discuss the general indicators that a student has absorbed the values being imparted in the lessons. On the cognitive level, at first, a student is able to recall a fact or a concept; then the student is able to predict future events, and, eventually use knowledge gained to solve problems. The second indicator is the thinking skills of a student. First, a student reasons out or rationalizes an action. Then the student eventually learns to relate one event to another, like deforestation and floods. Lastly, the student is able to create something useful like campaign posters to depict, for instance, the drastic conditions when there is a water shortage. The third indicator is the values where at first a student is simply aware of certain values but has not really put them into practice. Then a student becomes enabled to perform some activities with guidance, before finally being able to express willingness to put into practice certain values.

Mr. Yeap also discussed the strategies and methods of assessment. One of these is through observation. The purpose of observation is to get data, which cannot be had through other forms of assessment. There are two types of observations: the participant observation, which means that the observer personally takes part in the activities being observed; and the non-participant observation, where the observer merely stands by and observes. Observation, like the other methods of assessment, does have its advantages and disadvantages. One advantage is that it provides a holistic picture of what is being assessed. On the other hand, it might be difficult to isolate specific behaviors. In conducting observations, one needs a checklist, a rating scale, a narrative description and anecdotal records.

Regarding interviews, Mr. Yeap said these are structured conversations where there is a systematic analysis of data. This method may be used to probe for deeper information; however, it can also be time consuming. Another method would be moral reasoning. In this method, students are given a moral dilemma situation where two or more values may contradict the effect of the other. An example would be the development of a water reservoir versus the preservation of nature. Here, students would be compelled to choose a course of action that the students would take. Then they would evaluate their decisions.

- **Assessment Method: Journal Writing**

MS. NG KHAR THOE

Specialist

Science Education, SEAMEO RECSAM, Malaysia

Ms. Ng shared her experience in assessing values-based water education in a school in Malaysia. She cited that she uses a reflective journal or diary, which is a useful tool and strategy of “self-reporting” for students. Reflection allows them to undergo rethinking, deeper thinking, or recalling. They are also more free to express their ideas, feelings, and emotions that may not be allowed or encouraged in the classroom setting. In the case study that Ms. Ng conducted, it is clear that the teachers have a better understanding of the students’ problems through journal writing. The reflective journal or diary may have a loose structure but guided questions may also be provided to help students better explain their ideas in a calm and quiet environment.

The speaker showed the workshop participants a series of pictures of experiential learning and examples of student reflective journals from the field study. This was supplemented with a study of Dr. Koh Chee Kiat who also did a similar examination. The journals have entries recalling what students observed in the field trips to water treatment plants, for instance. The students find these activities very useful and enjoyable, and they also learned good knowledge from them. Ms. Ng emphasized that the students always express that they are happy in these excursions. She also showed a sample of students' portfolio, which is a collection of their work samples and can also serve as evidence of learning. It also consists of written work, drawing, photographs recalling or relating to their knowledge on water issues such as pollution. This can serve to indicate the progress of the students' learning. The speaker showed samples of portfolios and encouraged the participants to take a look at them. She also suggested using surveys and questionnaires for a large number of people. Different formats yield different types of data. She also expounded on the advantages and disadvantages of such methods.

After the tea break, Mr. Benozza said that participants would take a diversion before moving on to the workshop proper. He asked the participants to take time to listen to the message of Dr. K.E. Seetharam from the ADB who would share his thoughts and experiences in advocating values-based water education.

- **Seven Value-based Lessons Learned: Impact Evaluation Study (IES) of Water Supply and Sanitation Projects**

DR. K.E. SEETHARAM

Principal Water and Urban Development Specialist

Energy, Transport, and Water Division, Regional and

Sustainable Development Department, Asian Development Bank

At the start of his presentation, Mr. Seetharam introduced the participants to the Water for Asian Cities Program of the ADB, which the participants can access in the agency's website. He said that one of the goals of evaluating programs or projects is to come up with lessons; however people are not willing to listen to these lessons and they tend to disagree on an evaluation if negative things are said about the project. Thus, in 2003, he started to look at different sets of projects that people claim to have done well. He wanted to find out how these projects succeeded. The Impact Evaluation Study (IES) of water supply and sanitation projects covered six case studies in five countries. In addition to working with the ADB and UN-HABITAT for the Water for Asian Cities Program, he was interested in values-based water education as well. So far, the ADB has appropriated US\$500 million in loan assistance to the program. He noted that the advocacy that starts in schools produces the largest benefit for the community and the country as a whole.

Mr. Seetharam shared the seven value-based lessons learned from the program, which served as the central theme of his presentation. The first lesson, he said, is that taps are not the only way to distribute water. Everyone needs safer water and people are willing to pay for drinking water even up to 700 times the cost of piped water. Hence, companies are successfully distributing bottled water. In China, parents of schoolchildren are also demanding that all classrooms have water drinking stations, which shows the premium given on safe drinking water across communities. The second lesson, he said, is that promoting good quality water is not enough, good sanitation and hygiene practices must also be encouraged. In most rapidly urbanizing cities in Asia and around the world, their sewerage system is not functioning and there

is a need for such systems to be effectively managed. There are however good examples among NGOs that have shown new ways to provide sanitation, and lessons should be derived from these instances.

The third lesson is that there is a need to reduce non-revenue water (NRW) by checking leaks, which could bring down NRW by 25 to 30 percent. He emphasized that it is cheaper to fix the leaks than to create new sources of supply. The fourth lesson is that there is a need to practice demand-side management, which is a viable alternative to supply expansion. This can be done by teaching people to care for water and would require massive attitudinal changes. Investing on the education of children in water management is one way to successfully do this. The fifth lesson is to implement socially-oriented water projects with the involvement of local government units, NGOs, and communities which can quickly implement projects. Traditionally, it takes five to seven years for public institutions to finish a water project but NGOs would only need 18 months to implement similar ones. Hence, the civil society has to be tapped as it saves money and bring in a lot of ownership. The sixth lesson is to involve the beneficiaries at all project stages. It is important to share commitment with a group of people to success. Values are composite as well. It would also help if institutional players participate. The last lesson is that full cost recovery is not impossible. He pointed out that the public utility provider should treat the end-users as clients and the former has to give value to the latter. Hence, they should operate like the private sector.

The speaker noted that with the ADB's work with UN-HABITAT they also launched the World Water Program. The next phase would be water financing program at an average of 2 billion dollars a year for the next five years. What is important, he said, in the course of this project is to see changes in attitude and behavior, hence he is anticipating the tangible benefits of the project in this regard.

Mr. Benozza thanked the speaker from the ADB and noted that he could sense the passion for water and values issues of the ADB. He added that the ADB would continue to work with UN-HABITAT on water-related projects, among others. Its partnership with SEAMEO is moving towards another sphere of the project. Hence, it is time to focus on producing the materials to move the idea of water management to the schools and the communities.

The rest of the afternoon was devoted to developing the lesson plans. Dr. Pannen reminded that each country should have no less than four outputs focused on the four strands of learning they have identified.

Day 3, 01 December 2006

Morning Session

Mr. Benozza introduced Dr. B.G. Pitre, resource person of UN-HABITAT, who shared his experiences on the implementation of HVBWSHE in India.

- **Experiences in Values-based Water, Sanitation, and Hygiene Education in India**
DR. B.G. PITRE
Resource Person
UN-HABITAT

Dr. Pitre started off with an introduction on his background, which is generally in curriculum development, particularly in science and math. He had worked in various international and local institutions in the said field. In his experience, curriculum development has always been about determining what subjects to teach in schools. He stated that there are three foundations of curriculum development, namely, philosophy, psychology, and sociology. The main part of the curriculum is pedagogy, which has various levels; it has to take into consideration the different approaches as well. The diffusion of the curriculum had to be undertaken through the teacher preparation program. Further, an evaluation process checks if the curriculum is doing what it intends to do.

He expounded as well that there are two types of learning. One is short-term learning, which may mean that the students did not understand the lessons. The other is to be able to carry the lessons through life, which is called long-term learning. Through this, the message of what students learned would be spread across the communities and their families as well. In teaching, first the awareness of the students have to be developed; lessons should also be relevant by developing their curiosity and their affinity towards to the topic. Learners should also know how to test what they learned through involvement and participation in experimentation. Asking questions and facilitating their understanding of cause-and-effect relationships can be used to evaluate student learning. Lastly, what was learned should be adopted.

At the Sathya Sai School, they employ an experiential learning approach in WSH education to instill appreciation and sense of value of water among students. The essential characteristic of this approach is intra-integration and inductive approach to learning, which is a way to view the world in a holistic manner. Experiential learning helps the child to understand the truth and relate it to his or her life and absorb it, hence, the child learns through his or her own experience. Through this, social skills are developed, as well as their sense of responsibility, initiative, adjustment, cooperation, coordination, and self-confidence. They also remember better and their learning is long lasting. One of the methods the school uses is radiant thinking, such as mind mapping, which aids in systematic thinking and helps in problem solving. Dr. Pitre illustrated a number of examples on mind mapping.

The presentation concluded with a reminder from the speaker that any academic subject has inherent values in it. While the curriculum is important, as it serves as the skeleton of teaching, it has no use if it has no flesh and blood in it. The lesson plans that the participants are preparing serve as that flesh and blood. He noted as well that values education is a chain that is taught in the classroom and would last a lifetime.

Mr. Benozza asked Dr. Pitre how experiential learning could be reconciled with the Asian ethics, which is largely Confucian in nature. He asked Dr. Pitre on his experience in such a shift. Dr. Pitre replied that indeed it is a slow process that can only be done if students and teachers are exposed to new ways of doing things.

IV. Presentation/Review of Workshop Outputs

Before the group paused for lunch break, Dr. Pannen asked each country to pick from the slips of paper she had in her hand. This determined the four country presenters when the session resumed in the afternoon. The countries of Brunei Darussalam, Cambodia, the Philippines, and Singapore each presented their lesson plans integrated with HVBWSHE.

Afternoon Session

Brunei Darussalam

- **Lesson Plan on Lower Secondary Science Form 1**
Topic 2: Matter
Sub-topic: The Earth's Resources
Framework: Water and environmentally sustainable development

- **Lesson Plan on Lower Secondary Science Form 2**
Topic 2: Water and Solutions
Sub-topic: Water Purification
Second Framework: water for health sanitation and recreation

All the lesson plans are based on Brunei Darussalam's education curriculum. The first lesson on Matter addresses water and environmentally sustainable development. It aims to promote the value of understanding the importance of clean water and reducing wastage. The lesson also demonstrates the value of care towards the environment to protect and conserve earth's resources. The lesson makes use of pamphlets about water conservation and its resources. There is also a PowerPoint presentation that shows the Earth's limited water supply.

The second lesson on Water Purification promotes water for health sanitation and recreation. It aims to make the students understand the value of treating raw water to ensure clean drinking water. It also expects to make the students realize the benefit of treating water to human health for hygiene and sanitation purposes. Prior to the conduct of the lesson, there is a suggested study visit to a water treatment plant.

Critiquing of the Lesson Plans

It is good the lessons make use of ICT. Mr. Benozza said the significant learning from the presentation is that it lays on Brunei Darussalam's curriculum. It plays on the strengths of what they already have, and it makes good use of technology. However, for other countries that do not have the technology that the lessons require, they would have to resort to alternatives in delivering the lessons. As to values integration, it can be underlined that in spite of Brunei Darussalam's riches, just like the other

countries in the region, it also has to conserve water. They maybe rich in oil supply, but they too suffer from limited water resources.

According to Mr. Jumsai, the evaluation of the lesson plans based on the human values integrated into these should be emphasized. They must be able to determine if the students can become better persons after each lesson. He suggested that they also include story telling and role-playing as strategies in delivering the lessons to better capture the interests of the students. Simply showing video clips on water would not be enough, he said.

Ms. Lakshmi Seetharam seconded that the lessons should emphasize experiential learning in order for the children to really absorb the values that they should get from the lessons.

Ms. Suma noted that most of the questions laid down for the class discussions were focused on attaining the objectives of the lessons, and these were not so much on emphasizing or extracting human values.

Mr. Yeap for his part commented on stressing the use of authentic task for the class activities and the use of learning communities. He suggested that they revise the lesson plans and include these approaches.

Cambodia

- **Lesson Plan on Home Economics for Grade 7**
Topic: Food and Nutrition

The lesson is on Food and Nutrition, under the subject Home Economics for Grade 7 students. After the lesson, students are expected to tell the importance of physical nutrition. They should also know how to take care of their health by proper selection of food and drinking clean water.

Critiquing of the Lesson Plan

Dr. Pitre gave a comment that was also meant for the other countries. He reminded them to emphasize on human values. He observed that all learnings—referring to the lesson plans—were focused on the mental level. He advised them to let the children go through the lessons so they can experience these on the cognitive level and the values level. The question to be addressed is how the students should be molded so they can absorb the values based on the lessons. Both of the presentations, he said, were informative but they need transformative information. For instance, prayers can be used as a method.

Dr. Lakshmi Seetharam spoke of food as not just something taken in through the mouth alone. Food could be anything that is absorbed by the senses—sense of sight, sense of taste, sense of hearing, sense of smell, and sense of touch. She also mentioned about the use of acronyms as an effective means of integrating human values.

Ms. Ng Khar Thoe commented she would rather that the lesson plans are simple, clear and direct. These should also be striking, and something that can really be useful for her as a teacher. She also suggested that a summary table of each

country's education level (for example, Form 1 in Brunei is Grade 7 or Level 7 in other countries) should be created for easier understanding.

Mr. Benito Benozza reacted that the lesson plans are understandably on their initial stages. He assured Ms. Ng Khar Thoe, with reference to her comment that the lesson plans should be useful, that the final version of these would definitely be useful for all teachers. He also seconded her suggestion that a table be created where teachers could easily understand for which grade level are the lessons created. An example cited is to indicate the number of years in school of that particular level so that countries can have a common knowledge of the school level to which the subject is applicable.

Mr. Yeap admitted that there were indeed constraints in the development of lesson plans integrated with human values.

The Filipino participant, Mrs. Violeta Tupas, gave her suggestion on the strategy for delivering the lesson on food and nutrition. One best strategy, she said, is to challenge the children to create a balanced meal for themselves, indicating what food they should take for breakfast, lunch and dinner to achieve a healthy and balanced diet. Then it should be emphasized to them that a healthy and balanced diet would only be achieved in combination with drinking the right amount of water.

Philippines

- **Lesson Plan in Science and Health for Grade V**
Topic: Physical Change
Sub-Topic: Distillation
Values: Maturity

The Philippine representative chose to present a lesson plan in Science and Health for Grade 5 students, with focus on the topic Demonstrating Physical Change through Distillation. The lesson intends to connect the distillation process in the real-life purification process that people undergo in life in order to achieve maturity.

Critiquing of the Lesson Plan

Dr. Pannen asked the presenter to write down clearly in the lesson plan how she intends to integrate human values in the lesson. She also reminded her to attach the materials that are needed in the lesson plan such as the picture of the simple distillation apparatus, which is contained in the textbook being used in her school. She must remember that teachers from the Philippines may not have the same classroom setup and textbook materials as the teachers in other countries.

Mr. Benozza reiterated a suggestion previously raised by Dr. Art-Ong Jumsai about using a common list of human values that may be used in identifying the kind or type of value that she wishes to integrate in her lesson. He said the term "maturity" might be replaced with a better terminology for the human value that is being addressed in her lesson. In this sense, the modules can settle on the same terminologies that most other countries could easily understand.

Ms. Ng Khar Thoe noticed that the human values portion was repeated twice in the lesson plan. These were also not identified or mentioned in the objectives of the

lesson plan. As regards the objectives per se, these were not reflective of the three levels of knowledge that the lesson proper addresses.

The objectives of the lesson were cognitive, said Dr. Pitre. He wanted to know how the lesson intends to achieve the affective objectives that would show or bring out the human values integrated in the lesson.

There was also a suggestion on how to introduce the topic on water purification.

Mr. Benozza told the presenter to take note of all the recommendations and comments and to consider these when she revises her lesson plan.

Singapore

- **Lesson Plan for Secondary Two on Geography**
Topic: Case Study of Water Supply in Singapore
Specific Concepts: Scarce resource, water constraint, technology, conservation
Human Values: Social responsibility, resourcefulness

The lesson plan includes a learning journey to a water reservoir. The lesson describes the constraints of water supply confronting Singapore. It also offers some solutions to the water shortage problem. The students will be given worksheets to do in groups for a certain period of time. It will be impressed upon them that water in Singapore is precious and is limited in supply, in spite of the presence of water reservoirs and storm water collection centers.

Critiquing of the Lesson Plan

Everybody was impressed with her presentation and the efficiency of the lesson plan. Mr. Yeap just reminded her, and everyone else to keep in mind that the purpose of the workshop is to integrate human values into water, sanitation and hygiene education. He urged them to put into their objectives additional human values that they want to integrate in the lessons. Throughout the lesson proper, he said, it is important that human values are always integrated, such that the children would always be conscious of the values. These would help them eventually to become better human beings. In addition, the assessment should indicate if the students were able to get the values inherent to the subject being taught.

Dr. Pitre reminded the group that the objective of the workshop is to create learning materials that would bring about internal change in the behavior and attitude of students towards HVBWSHE. Regarding the evaluation of the lesson plan, simply asking the students what they have learned cannot constitute assessment. They would only demonstrate the knowledge part of their learning, and not about the human values that they should have learned. Values must be brought out from within the students.

General Statements on the Presentations

Mr. Ramli Abu Itam of Malaysia expressed that he gained so much knowledge from the workshop. He understood that the lesson plans should be purposeful and clear on how it should be implemented. The incidental aspect of the lesson plans on

the other hand could be the avenue for values education and this is the job of the teacher. Another lesson he learned was that children have to be given time to play through the use of traditional games. They should also be given time to relax through silent sitting, which he said he would adopt in his school. Likewise children should be exposed to hands-on learning and encouraged to work in groups to learn more about leadership, respect, and helping each other. Evaluation should also be conducted continuously to identify areas in which the lessons could be improved.

For his part, Mr. Sarkar said that when UN-HABITAT talks about HVWSHE, it is talking about bringing behavioral change among the pupils and thereby seeking social transformation. Indeed the workshop is progressing in the right direction; however, it takes more time and reflection. He said the lesson plans would be completed through further interaction and sharing of expertise among the resource persons. The participants can also share their outputs in the course of developing the materials. The workshop, moreover, allowed the participants to agree on fundamental human values and discovered sub-human values as well. The guidebook would be a good reference for the standardization of the values in discussion. Thus, he suggested to the participants that they maximize the guidebook. He also encouraged the participants to highlight urban issues in relation to the lesson plans as well.

Dr. Pannen presented a video clip of a documentary about a right of passage in a fishing village in Indonesia. The participants were challenged to identify the main values in the clip. The film elicited strong reactions among the participants. A discussion followed among the participants on the values shown in the film. Dr. Lakshmi Seetharam and Dr. Jumsai acted as judges and three prizes were awarded to the participants who identified the underlying values in the film.

V. Taking the Next Steps

After looking at the lesson plans, Dr. Chin Heng Yeap commented that the integration of human values has become a second priority when it should have been the first. He urged them to review their lesson plans once more and evaluate these to determine if they have indeed incorporated human values. If they find that these did not meet the required integration, he told them to find alternative ways to integrate it. He also expressed hope that they could put some kind of indicators in their lesson plans to determine the level of values integration.

Dr. Paulina Pannen, on the other hand, discussed the expected output per country. She told the group that their outputs should not be less than four (4) lesson plans based on the identified learning strands for various grade levels. The strands include: (1) water and environmentally sustainable development; (2) water for health, sanitation, and recreation; (3) water, human dignity and social equity; and (4) water in culture, traditions and religious practices.

Regarding the components of the lesson plans, Dr. Pannen reminded the workshop participants not to forget the attachments. She told them to be mindful of copyright laws. They should make sure that the materials are for public use. For songs and poems, the authors or sources should be cited for reference.

Country representatives to the workshop would be given until January 2007 to work on revising and finalizing the lesson plans, and preparing the collateral materials. These materials should be sufficient enough for use by teachers from other countries.

On the second week of January 2007, a second workshop in Jakarta, Indonesia would be held to check their progress on materials development. By the end of January 2007, all the lesson plans should have been submitted. The publishing of the learning materials would take place in February 2007. The publishing process would include validation of the content, illustrations, layout, and clarification of copyright issues, if any. By the end of February, materials should be ready for reproduction. Dummies of the learning materials would have been published in March 2007. Actual reproduction would start in April 2007. Afterwards, the materials would be distributed to SEAMES and SEAMEO RECSAM. The teachers' training, which is to be facilitated by SEAMEO RECSAM, would follow.

In the meantime, to ensure that all the writers of the teaching-learning materials are kept on track, each of them would have a partner from SEAMEO SEAMOLEC. The partners would communicate with them regularly through email to remind them of deadlines to be met and all the other concerns they need to keep in mind.

VI. Transition Ceremonies

Ms. Carolyn Rodriguez, head of Information and Communications Technology Services of INNOTECH, hosted the transition ceremony. She recognized the efforts of those involved in making the workshop possible. She stressed that the final part of the gathering was called a transition ceremony because more than marking the end of the workshop, the ceremony signals the beginning of more meaningful work towards a common goal. Through the workshop, she appreciated the fact that while the participants may differ in many ways, they are the same in their concern for the more fundamental things in life like water, human values, and children. She noted that educators in the region are working towards a common goal and are taking further steps to make the program stronger. Ms. Rodriguez called each representative of the key organizations that supported the workshop for their closing messages.

To represent the SEAMEO Secretariat, Mr. Benoza thanked everyone who contributed their efforts in putting together the workshop. He was confident that the desired outcomes of the program were achieved. He thanked all the people behind the scenes. He also mentioned the people all over Southeast Asia with whom he coordinated for the conduct of the workshop.

Mr. Sarkar, on the other hand, thanked everybody in the gathering for participating in the workshop. He stressed that it was only the start of the process and eventually quality materials would come out. Dr. Seetharam declared that he was happy to see the efforts of the participants. He was happy to report that in relation to the MDG on water, Southeast Asia would be able to achieve the goal completely by 2015. He also relayed that the ADB has just launched a development program on water and sanitation in the Mekong region. Hence, the output of the workshop significantly contributes to such initiatives. He thanked the participants for working beyond themselves to make better generations of children, through the partnership of SEAMEO and UN-HABITAT. He expressed that the ADB would support the program.

Ms. Tan of the Malaysia delegation represented the participants in the transition ceremony. She congratulated the participants for a good job. She thanked the organizers, working committees, sponsors, and facilitators. She hoped that they were able to start the ball rolling for more productive work. She reminded the

participants of their responsibility to impart the outputs of the workshop to their fellow teachers when they go back to their countries. She also encouraged them to achieve many more things beyond the timetable, such as developing relevant modules in the core curriculum and other such activities. On behalf of the participants, she presented a token of appreciation to SEAMEO INNOTECH, which Ms. Rodriguez received.

After this, the certificates of attendance (along with a CD of the presentations, photos, and other materials) were awarded to the participants while certificates of recognition were presented to the resource persons.