

# Obtaining Consensus on How Ecological Sanitation can be used to Address the MDGs in Sri Lanka: Planning the Way Forward

## Post Workshop Report

29<sup>th</sup> April 2008



**Ministry of Healthcare and  
Nutrition**



**Ministry of Water Supply and  
Drainage**



European Union  
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IOM International Organization for Migration

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5/27/2008

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## Introduction

A one-day workshop was held on 29<sup>th</sup> April 2008 at the International Water Management Institute (IWMI) Headquarters, Pelawatte, Battaramulla. The workshop was jointly funded by IWMI, UNICEF, the Stockholm Environment Institute (SEI), the International Federation of the Red Cross (IFRC) and the International Organization for Migration (IOM). It was organized in collaboration with the Ministry of Health (MoH) and the Ministry of Water Supply and Drainage (MWSD).

The objectives of the workshop, as defined by the Steering Committee were framed in terms of participants' outputs, stating that **as a result of the workshop:**

1. Participating organizations will have a better appreciation of the ecological sanitation concept;
2. Government will endorse the acceptance of the ecological sanitation concept;
3. Participants will be aware of the role they and others will play in ecological sanitation; and
4. Participants will reach consensus on the key steps in taking ecological sanitation forward and relevant responsibilities will be understood.

## Key Outcomes

The concepts of ecological sanitation - an approach to sanitation that saves water, does not pollute and returns the nutrients in human excreta to the soil - were endorsed by the Ministry of Health Care and Nutrition (MoH); the Ministry of Water Supply and Drainage (MWSD); and the Ministry of Provisional Councils and Local Government. It was clear from the discussions in **Session One** that many organizations were already working on aspects of ecological sanitation and that the concepts were filtering into policy and practice. However, a concerted and structured effort is still needed to fully implement and institutionalize ecological sanitation approaches in Sri Lanka. (just a suggestion)

In **Session Two** it was discussed how to make Ecological Sanitation a reality in Sri Lanka. To achieve a system of sanitation that contributes towards an equitable and sustainable society and which helps to meet the Millennium Development Goals (MDGs) it was agreed that several factors needed consideration. These included agreement on the goals of using ecological sanitation to meet the MDGs; mechanisms for collaboration and coordination; strategies for capacity building and training; and a financial policy.

The discussion that took place in Session Two resulted in four **overarching goals** which the group put forward for further consideration in another workshop or smaller session. These were:

- Make waste a resource to improve food security and increase food production i.e. for home gardening and agriculture.
- Improve waste and wastewater management to conserve water resources.
- Improve knowledge and its management including research and technology development in order to provide choices which are socially and culturally acceptable.
- Institutionalize ecological sanitation concepts into relevant organizations to enable them to identify and implement more cost effective and sustainable sanitation options.

It was felt that for any **collaboration and coordination** efforts to be efficient there need to be parallel and interlinked bodies at the national and provincial level, which are linked to an NGO consortium that would provide technical guidance. As such the structure proposed for further consideration was:

- An apex body or steering committee comprised of various ministries and mandated to inform policy matters, undertake strategic planning for Sri Lanka, raise funds, monitor activities and promote ecological sanitation.
- An ecological sanitation consortium of various stakeholders from the government, NGOs and private sector. This would provide a forum for them to discuss their views and share ideas, and they could inform the steering committee.
- A provincial level committee that would act as a conduit of policy implementation to the local level and also provide information to the steering committee to inform decision making and policy development.

It was agreed that existing structures should be utilized and the suggestions of the workshop would be presented formally to the National Watsan Coordination Committee by **25<sup>th</sup> May 2008**. The proposed steering committee or core group should be formed by **1<sup>st</sup> July 2008**. A redefinition of the existing ToR of the National Water and Sanitation Coordination Group has to be considered. If the National Watsan Coordination Group members agree the reviewed ToR should be available by **31<sup>st</sup> August 2008**. By this time the National Watsan Coordination Group should also be strengthened with additional members. Dates were not set for other activities but this will be done in future meetings and through the steering committee.

It was clear that for this to be possible and for ecological sanitation to spread across the country, there was a pressing need for **training and capacity building**. It was proposed that this should be achieved by training a set of relevant people who could then continue to train others. It was also felt that to achieve a coherent message a training manual should be developed. It was suggested that this should be the responsibility of the MoH.

To achieve any of this it is essential that **finances** are available and that a **strategy** is formulated from the outset to obtain and effectively utilize funds. This requires some further discussion to detail the modes of funding and financial management but in essence it was felt that the strategy should be formulated as a sector-wide approach, rather than being done on an individual organization or program basis. A number of government agencies would be involved in this ranging from health to sanitation and agriculture. It would also be necessary to harness resources from the private sector.

## Participant Organisations

### Participation from Government Departments:

Ministry of Agriculture  
Ministry of Education  
Ministry of Environment  
Ministry of Health Care and Nutrition  
Ministry of Water Supply and Drainage  
Ministry of Provincial Councils and Local Government  
National Water Supply and Drainage Board  
Urban Development Authority  
Disaster Management Centre  
National Institute of Health Science

### Participation from NGO's, INGO's, IO's, and others:

Arthacharya  
Helvetas  
International Federation of Red Cross  
International Water Management Institute  
IRD  
IWMI  
IOM  
Stockholm Environment Institute  
Malteser International  
Oxfam  
Practical Action  
Sarvodaya  
Sevenatha  
Sewalanka  
UNICEF  
University of Jaffna

## Workshop Agenda

- 08.30 Registration  
09:15 Introduction  
09:20 Objectives of the workshop  
09:30 Address by the Secretary to the Ministry of Water Supply & Drainage  
09:40 Address by the Secretary to the Ministry of Healthcare and Nutrition  
09:50 Address by the Secretary to the Ministry of Provincial Councils and Local Government  
10:00 Role of National Water Supply and Drainage Board in Ecological Sanitation  
10.20 Questions and Answers  
10.35 **Tea Break**  
**Ecological Sanitation - the concepts and practicalities**  
10.50 The Ecosan Concept  
**Ecological Sanitation in Sri Lanka**  
11.10 Outcome of the UNICEF workshop and capacity building on ecological sanitation  
11.20 Lessons learned from implementing Urine Diverting Toilets in Sri Lanka.  
11.30 Findings from UNICEF's evaluation of the appropriateness of urine diverting toilets in Sri Lanka  
11.45 Questions and Answers  
12.00 Introduction to the Working Sessions  
12.10 Working Session One: How can these concepts be incorporated into the daily activities of our organizations and what would we hope to achieve by doing so?  
13.20 Summary and wrap up of the morning  
13.30 **Lunch Break**  
**Ecological Sanitation - making it a reality in Sri Lanka**  
14.30 Session Two: The World Café  
16.15 Return to original workspace to finalize key points and consolidate  
16.30 Plenary – report on the agreed priorities and responsibilities. Review and agree goals.  
16:50 Closing remarks

## Welcome Address by Ranjith Wirasinha

I was very pleased & honoured to have been assigned the pleasant task of welcoming you. May we call on you in the context of the ultimate goal which is to help the unfortunate, mostly the poor, to rid them of the clutches of poverty & hopelessness to a life of dignity, assisted by good hygiene & sanitation. The call to you therefore is:

- (i.) as people who care for the unfortunate & the marginalized;
- (ii.) as people who care for the environment & so would help manage waste as a resource to enrich our land & not to pollute our water resources;
- (iii.) to those who feel committed to sustain our environment for the generations to come, for what we have during our life time is only a lease of the land & water;

Remember that these are also the underlying objectives of the Millennium Development Goals.

My friends these are veritable imperatives for a very worthy cause, Eco-Sanitation could stand tall in that quest. In many situations Eco-Sanitation could be the platform to help the unfortunate and/or marginalized people out of indignity & hopelessness. This is not to project that eco-sanitation is only for the poor. No. It is to keep our focus on the unserved.

It is often the poor who live in situations where the traditional technologies for sanitation are too expensive & also not technically & environmentally suitable. There is therefore a pressing need to include Eco-Sanitation technology in our guidelines with clear instructions on when & where it is appropriate. This is in progress. It now requires to be followed with Government endorsement to proceed with appropriately formulated programs. We expect that endorsement to happen, at this Consultation.

Equally important will be the education of those who are expected to be involved. They are:

- (i.) in planning - sociologists with technical back up;
- (ii.) in design - engineers, architects;
- (iii.) in approval - local authorities, environmental authorities, public health officers;
- (iv.) the proxies for construction - NGOs, contractors;
- (v.) the users - people, communities, institutions;

You who are gathered here are a small but critical cross-section of the very important people for the cause. This Consultation expects to provide you with a good look at the concepts of Eco-Sanitation. With government endorsement, we will seek your interventions for starting programmes as appropriate. The Consultation will provide the opportunity for you to interact with each other, agree on goals & objectives in the light of the need, make adjustments to the on-going programmes of your agencies where appropriate, to be more collaborative with each other. We need to agree on how awareness can be raised effectively; and also have a stab at financing options & the roles that Government, financial resource centres, the people & the private sector could play.

Please remember that you are here not only as representatives of your agency but more as human beings, citizens of Sri-Lanka, foreigners who care, all to help the needy & sustain the environment for the next generations.

## Summary of Addresses by Ministerial Representatives

This section provides a summary of the addresses made by representatives from the Ministry of Health, the Ministry of Provincial Councils and Local Government, the Ministry of Water Supply and Drainage, and the National Water Supply and Drainage Board. It is not a full and complete representation of their presentations but provides the essence of their messages.

### **Address by Dr. P. G. Mahipala, Deputy Director General, Public Health Services, MoH on the Role of the Ministry of Health Care and Nutrition in Ecological Sanitation**

We appreciate the efforts of donors and all organizations that have come forward to fund this workshop and provide us with much needed information.

Water, sanitation and hygiene are vital to good health but 1.1 billion people do not use safe drinking water and 2.6 billion do not have access to latrines or basic sanitation facilities. Every 20 seconds a child dies as a result of poor sanitation, 6000 per day die of diarrheal disease.

In the next 25 years the world population will rise to 8 billion of which 5 billion will be in cities and 2 billion in slums. In Sri Lanka in 2003 urban sanitation coverage is 87% and rural coverage is 79%. According to the annual health bulletin 2005 4.3% are not using toilets, rising to 11% in certain areas. UNICEF found that drinking water coverage was 98% in 2004 in urban areas and 74% in rural areas. Hospital waste is also an issue being produced at 0.36 kg/bed/day but there is not a proper disposal system. The population density in Sri Lanka is 316 persons/km<sup>2</sup>; the second highest national population density in Asia.

The public health system in Sri Lanka was introduced by the Dutch in order to take care of armed forces but by 1858 sanitation was recognized as an important area and in 1912 a separate sanitary department was formed. In 1978 the Alma Ata declaration on public health was established of which Sri Lanka is a signatory.

Ecological sanitation is an approach that does not pollute, that saves water and returns nutrients to the soil. By 2030 50% of the world's population will face water shortages; one individual uses about 50,000 liters of water per year.

There has been an increase in diarrheal diseases especially hepatitis in Sri Lanka. There are also issues of water shortages, water pollution and food security. These all need to be urgently addressed. To achieve success in sanitation and health we need a combination of advocacy for political leadership, we need to develop and strengthen sanitation policies, and we need collaboration. Hopefully this workshop will be the start of such a process.



**Address by Mr Deepthi Hettiarachchi, Additional Secretary of Provincial Councils and Local Government on behalf of Mr Casion Herath, Secretary**

This workshop is very timely if we are to address the Millennium Development Goals (MDGs) in the timeframe set for us and because ecological sanitation is very important. Every one of us has an important role in this. From the local government point of view this is a constitutional requirement, Article 73 of the constitution discusses environmental sanitation and how it should be implemented: The State shall protect, improve and preserve the environment for the benefit of the people. In another article it is the fundamental duty of all individuals in the country to protect the environment.

The Pradesha Sabha Act, 1987 covers sanitation and maintenance of latrines but many of the local authorities have forgotten that they are the custodians of this particular area, therefore in some small townships these facilities have been neglected. It is the duty of the Pradesha Sabha to take effective measures to ensure that proper sanitation and latrines are provided for all houses and buildings; and to provide public latrines in all places as necessary within its limits; and to ensure all latrines, public and private, are maintained in proper order and condition. There are also many other provisions in several acts relating to local government connected to sanitation, latrines, waste conservancy and scavenging, which covers due cleaning and emptying of latrines and removal of night-soil.

Later, in the 1980s, many para-statal bodies were created to take over these duties but the problem is that the local authority system has been neglected and funding for investments in these areas has been insufficient. One reason for lack of facilities is the high land prices. The local authorities are also finding it hard to manage the vast spectrum of activities with their limited resources; therefore these essential services have been neglected. This has clear results such as an increase in health spending, especially in relation to reducing vectors because the local government is seen as the preventative mechanism and if the streets and drains are maintained then many of the problems can be avoided. Therefore the importance of the local government is not always tangible but it is critical if results are to be seen.

Ecological sanitation concepts are therefore very timely, we may be a little late but we need to start this now, therefore I thank all the organizers and we will give our support and endorse the outcomes of this workshop. I wish you all success with these deliberations.

**Address by Mr. Asoka Pieris, Secretary to the Ministry of Water Supply and Drainage**

I am pleased that this consultation has been arranged to enable us to make progress in Sri Lanka's commitment to meet the MDGs and to help the people because I am aware that there are several ecological sanitation tools that can be of benefit. We have piloted dry toilets and treatment wetlands, and I believe that both technologies are in synergy with natural cycles and as a result will require less funding and fewer resources, and are simple to maintain.

Lack of sanitation often keeps families in the grip of poverty and morbidity, giving them access to improved sanitation will hugely benefit them and it is most likely to be effective in rural areas. There

are many water supply and sanitation initiatives being undertaken by the government including appropriate policy development, the review of the Public Health Inspector (PHI) manual, and safe water plans. To achieve these we must maintain cooperation and collaboration and we are therefore very grateful to the external agencies that have provided financial and technical support for this consultation and fully support the initiatives to include ecological sanitation in the portfolio of activities where they are appropriate. We also ask that the other ministries accept and endorse these principles too, if we are to achieve Vision 21. May I thank the Ministry of Health for guiding the development of this venture and ask you all to participate actively in the important group sessions.

**Address by Mr. K. L. L. Premanath on the Role of the National Water Supply and Drainage Board in Ecological Sanitation**

The National Water Supply & Drainage Board was formed in 1975 under the Act No. 2 of 1974. It is the leading organization to provide water supply and sanitation facilities for the population of Sri Lanka.

In Sri Lanka, this concept was initiated while implementing the Third ADB Assisted Water Supply & Sanitation Project. As project looked for an appropriate approaches in disposing human excreta for water logged areas and hilly areas, advice from experts was seeking in order to cater that social need. The expertise from Eng. Paul Calverts was received by the project so that project was able to implement several programmes in areas representing different geological situations of the country mainly at Ratmalana, Moratuwa and Matale. Matale is an example for a hilly area and other locations are considered as areas where water table is relatively low.

With the inputs of Paul Calvert in late '90s and the beginning of the millennium, most difficult hurdle to pass through was orienting people to accept this technology where usage of water is minimum to which local cultures are traditionally not favoured. As a result number of awareness programmes and technical sessions had to be implemented in order to motivate and aware the people who are the real users of the constructed decomposed toilet. Training on using the toilet was an extremely difficult exercise at the beginning however those were overcome mainly due to sociological strategies adopted through the sociologists and community workers. Mr Calvert had conducted series of technical sessions for designers in order to establish appropriate design types where operation and maintenance are also user friendly and able to do at low cost.

Once the decomposed toilets are constructed, a National Workshop was arranged in 2002 in order to share the lessons learned and exchange the know-how. As a result, the acceptance and the blessings of the health authorities also received for the concept of Eco-Sanitation. With implementation of programmes at Matale and Ratmalana, more requests received to construct more decomposed toilets and creation of demand was looked successful. However due to lack of funding, continuations of implementation was not done as expected.

However as a guide for future, NWSDB can provide technical guidance for implementing agencies and private parties and health authorities with regard to eco-sanitation technology. It is also noted

that as NWSDB has to effectively involve and act dynamically towards policy development in cooperating eco-friendly sanitation in state sanitation policies. As more potential usage is envisaged more to be done in the future regard to eco-sanitation and most importantly focus has to be on social concerns and related issues than introducing technology. If the suitable background could be built up in participatory manner, people may embrace the technology realizing its advantages and values with attitudinal change according to the experience of the pilot programmes.

Finally, we will make sure that necessary guidance and support will be given at the regional level for the implementation of Eco Sanitation activities.

## Questions to the Speakers from the Floor

**Q.** Where do we stand regarding ecosan toilets because many of the structures that have been put up have been demolished by the PHIs.

**A:** The MoH has sent comprehensive instructions endorsing ecosan toilets and giving instructions on how they should be constructed and implemented, therefore it is now very clear. Unfortunately decisions taken regarding this in 2002 were not implemented; therefore today is very important and we need to develop an action plan with a steering committee to implement decisions taken at this meeting. These previous problems should be overcome by now because ecosan is now fully endorsed and guidance given.

The Municipal Councils (MCs) have received the circular about ecosan, but we want to get the Ministry of Provincial Councils and Local Government and many other agencies involved at the top level. If we don't then we won't be able to have an impact. That is why we invited senior officials today and after this meeting we will have further top level discussions and try to get approval from the government to implement ecological sanitation all over the country. We need a time frame to work through this as soon as possible. Even without cabinet approval if the ministries here endorse these actions then we can take things forward.

**Q:** When we are introducing a new unconventional system, we need to be careful not to adopt a top down approach. Pilot projects are important to test the system out in a limited area, to learn how people react and to understand the social dynamics associated with ecosan; having done that we need to develop strategies to get ideas across to the people. We also need to involve other stakeholders, especially political leaders because they can support or destroy such work.

The current review of the PHI Manual presents a golden opportunity to include ecosan concepts.

**Ranjith Wirasinha:** The follow-up training programme for PHIs is also needed and is in progress. There will also be inputs to the curriculum and there has been training for tutors so that future generations of PHIs will be trained.

**Constanze Windberg :** You can not take only a bottom up or top down approach – both need to go on simultaneously so that there is knowledge and awareness at the top level to support activities at the field level.

**Neil Herath:** This sort of thing should be widely known to the greater majority, so this information needs to get into university curricula.

**Kannan Pasupathiraj:** these organizations could all be involved in developing curricula for universities, and this activity could be an outcome from this workshop.

**Julie van de Blik:** IWMI is extremely pleased to see that a cross-section of organizations is participating in this workshop. IWMI works on food for water and we are interested here in looking at closing the nutrient loop. We also see that one way of addressing the increasing pressures on water for food is through the management of wastewater and sanitation.

We have looked at the health implications of wastewater use in Africa and Asia and are providing knowledge about this area. Ecological sanitation is a multi-disciplinary approach and it is good to see all these institutions coming together here to consider the issues from different angles.

**Deepthi Sumenasekara:** An interesting statistic is that just 0.005% of the population has a urine diverting dry (UDD) toilet!

It was felt that we needed to talk more widely about ecological sanitation issues and not just to focus on the one technology of UDD toilets.

## Technical Presentations

A series of technical presentations were made to inform the discussion about ecological sanitation. The PowerPoint slides of these can be found in the Annexes.

## Working Session One

In this session workshop participants were split into 4 groups and worked with members of their own organization or other similar organizations. The groups were split by:

- Ministry of Water Supply and Drainage, and National Water Supply and Drainage Board
- Ministry of Health Care and Nutrition
- Other Government organizations
- NGO's, INGO's, IO's, practitioners and academics.

The aim of the working session was to address the issues of how ecological sanitation concepts can be incorporated into the daily activities of our organizations and what would we hope to achieve by

doing so. To reach this understanding three questions were considered in relation to the main organizations present:

1. What does your organization currently do in relation to the ecological sanitation concepts?
2. How could your organization include ecological sanitation concepts in their daily activities?
3. What do you see as the goals of utilizing ecological sanitation concepts in strategies for Sri Lanka to achieve the MDGs?

The responses to these questions were written on three sheets of flip-chart paper. Each group was given a workspace area where they received other workshop participants to explain their answers and receive feedback.

The **goals** that were suggested in this session were used in **Working Session 2** and will form the basis for future activities.



## Output from Session One

### Discussion Group 1: Ministry of Health Care and Nutrition

**Members:** NIHS, MoH (5x)

#### ***Task (1) Existing or Past Activities of Members***

- As a policy we have to accept the concept of ecosan
- Sent the circular about ecosan
- Incorporating into PHI manual
- Educate public on pilot projects
- Offer as an option
- Trainers were trained at NIHS (30)

#### ***Task (2) How can future activities relate to ecosan***

- Education (public by PHM + PHI, supervision and guidance on use of UDD toilets)
- Communication materials development
- Incorporation of ecosan concept into PHI curriculum

- Education of School Children
- Assist in construction of Ecosan toilets on demand (technical assistance)
- Social Marketing

**Task (3) Relation to MDG**

Goal 1: Contribute to eradicating poverty and hunger by improving home gardening and reduction of the spread of disease.

Goal 4: Reduce child mortality by reducing the spread of disease

Goal 6: Proper management of waste water → reduce breeding sites → reduce vector borne diseases

Goal 7: Ensure environmental sustainability

Goal 5: Improve maternal health

**Comments of other groups:**

MoH is not consulted for construction and maintenance in schools or the education of school children.

**Discussion Group 2: NGO's, INGO's, IO's**

**Members:** IRD, IFRC (2x), Arthacharya, Oxfam, Malteser, Sewalanka, IOM, Practical Action, Helvetas, Sarvodaya

**Task (1) & (2) Activities of Members and how future activities can relate to ecosan:**

**IRD:** Watsan Interventions in North and East and Hambantota offer potential for Ecosan

**Helvetas:** Watsan Interventions (Final Year), Advocacy on Ecosan and Technical Documentation continued

**IFRC, PA:** Continues with Ecosan, funding available

**Sevenatha:** Pioneered in Sri Lanka (Matale), interested to continue

**Sarvodaya:** First Ecosan in Moratuwa, Constructed Wetland in Kalutara

**Artharchaya:** active in waste management, potential in the link Ecosan – Waste

**Oxfam:** Potential for Ecosan Interventions in Batticaloa and Trincomalee, funds available

**IOM:** Sanitation interventions in the North and East (not focused on Ecosan), Ecosan approach should be incorporated in work

**Malteser:** Involved in advocacy for Ecosan and implementation (Habarana), Constructed Wetlands, follow the holistic approach.

**Task (3) Relation to MDG**

Funds were raised against MDG

**Comments of other groups:**

- A research based approach to implementation is needed
- Interventions need to be based on needs assessments and demands for ecosan
- Conventional toilets should not be destroyed to build ecosan toilets

- Incorporation with local system is crucial since NGOs only follow a temporary approach
- Top down should be combined with bottom up approach: don't only work with PHI also not only with Ministry

### **Discussion Group 3: Water and Sanitation Ministries**

**Members:** NWSDB (6), Ministry of Water Supply and Drainage (WSSP)

#### ***Task (1) Current Activities***

- Implementation of ecosan activities and concepts
- Support to update policies
- Facilitate new programs
- Promote the concept of ecosan
- Needs assessment in project areas
- Development of manuals and constantly updating and developing
- Giving assistance to researchers and assessments

#### ***Task (2) How can future activities relate to ecosan?***

The emphasis was on including all the concepts and technologies such as wetlands and ecosan toilets:

- Inclusion of concepts in daily activities
- Develop local guidelines and designs
- Collaboration and coordination with other actors – ecosan task force
- Inclusion of the concepts in on-going designs e.g. wetlands in cities
- Inclusion in training programmes
- Assistance for technology development

#### ***Task (3) Relation to MDG:***

- Ecosan provides a good option to fill the gaps where conventional options can not be used
- Promotion of organic fertilizers
- Conservation of water
- Alleviate drainage issues in low income settlements
- Save capital expenditure and cost effectiveness which will lead to increased coverage.

#### ***Comments of other groups:***

- Form an ecosan Task Force!

## Discussion Group 4: Other Government Organisations

**Members:** UDA, Ministry of Agriculture, Ministry of Education, Disaster Management Centre, Ministry of Environment, University of Jaffna, UNICEF

### **Task (1) Current Activities**

**UNICEF** – is providing support on policy, training and implementation of ecosan

**UDA** – promotes sustainable green and healthy cities

**Ministry of Environment** – is currently learning about ecosan philosophy, and supporting construction of wetlands and other options

**Universities** – transfer of knowledge on organic farming and water quality aspects

**Ministry of Education** – include ecosan in curriculum

### **Task (2) How can future activities relate to ecosan?**

**Ministry of Education** – introduce to school system

**Ministry of Agriculture** – local food campaign through urban agriculture; protection of canals from pollution

**Ministry of Environment** – feed research back into policies

**UDA** – introduce ecosan into planning

**Universities** – promoting research and introduction into curriculum.

**UNICEF** – continue to support government on policy, advocacy and inter-sectoral collaboration; knowledge management at district level.

**Disaster Management Centre** – introduce through district coordination and disaster management communities; promotional material

### **Task (3) Goals in relation to MDGs**

**Ministry of Agriculture** – greater food production

**UDA** – Develop future plans to suit

**Disaster Management Centre** – plan for disaster mitigation in relation to environment and safety

**Ministry of Environment** – improve livelihoods of slum dwellers

**Universities** – improve livelihood and knowledge

**Ministry of Education** – Transfer knowledge through students

**UNICEF** – improve WATSAN conditions





## **Working Session Two**

### **Working Session 2: How do we make Ecological Sanitation a Reality in Sri Lanka?**

In this session the participants discussed four key topics related to effectively implementing ecological sanitation in Sri Lanka. At the end of the session it was intended that there would be concrete, agreed action points that can be taken forward in the coming months. The areas of discussion were:

- Goals of using ecological sanitation to meet the MDGs
- Collaboration and coordination
- Training and capacity building
- Financial policy and strategy

#### **Methodology – World Café**

In order to give everyone an opportunity to contribute to each of these topics a methodology called “world café” was used. Every participant was given the opportunity to sign up during the break for one of the topics above. This was the first topic that the participants discussed in a group of no more than 17 people. Each group selected a facilitator who took notes on a flip chart. Each group was given 30 minutes to discuss the issues.

After 30 minutes everyone except the facilitator moved to the next workspace to be briefed and to discuss and give feedback on the next topic on the list.

This was repeated 3 times (for a slightly shorter time in the last 2 workspaces) until each participant had been given the opportunity to discuss each topic. They then returned to their original discussion workspace to consolidate the notes made and decide on 3 or 4 KEY ACTIONS or POINTS that would be presented back to all the participants in plenary.

The intention was to achieve a consensus on key activities and people responsible for implementing them.

## Output from Session Two

### Discussion Group 1: Further Development of Goals

#### Team Briefing

Building on the session before lunch there will be further discussion on exactly what the goals should be for all relevant stakeholders. The goals should be realistic and achievable. They will include overarching goals for all stakeholders but there may also be some specific goals for certain sectors. At the end of the workshop it is intended that the participants will make firm commitments to achieve agreed goals.

#### Discussion Points:

- Physical goals of the MDGs
- Make waste a resource to improve food security e.g. for home gardening and agriculture
- Improve waste and wastewater management.
- Conserve water resources
- Avoid flooding (in low-income areas)
- Implement more cost effective options for sustainable sanitation
- Be efficient in capital investments and O&M
- Implement more cost effective options e.g. low technology solutions such as wetlands
- Increased food production
- Improved livelihoods of marginalized people (high density populations and water scarce areas etc).
- Improve lifestyle through improved economic conditions
- Improve and manage knowledge, including research and technology development.
- Improve waste and wastewater management
- Behavioral change for all sectors but specifically including children
- Update policy, manuals and guidelines
- Reduce morbidity and in particular child mortality
- Ensure environmental sustainability
- Improve country level collaboration and coordination
- Be sensitive to environmental sustainability in planning and design
- Be sensitive to social and cultural issues in planning and implementation
- Strengthen disaster preparedness related to food security, natural hazards, man-made disasters and epidemics
- Develop the enabling environment for resource support, both local and foreign, and including both financial and technical support
- Institutionalize the concepts of ecosan in relevant organizations
- Awareness raising on all aspects of ecosan philosophies and social marketing as needed
- Close the sanitation gap and improve existing sanitation
- Ensure human rights by providing desired solutions not just low technology options
- Approach as an option for all – not as an inferior option for the poor. To achieve this it will be necessary to develop technologies and implement appropriate marketing.

- All Government quarters should have ecosan toilets
- All Government buildings should have ecological sanitation options (though not necessarily toilets as they are generally not good in communal areas)

## **Discussion Group 2: Coordination and Collaboration**

### **Team Briefing**

What should be the mechanism for taking ecological sanitation forward? If ecological sanitation is to be effectively built into the normal working practices of government organizations and NGOs, and if Sri Lanka is to work in a coordinated way to achieving the MDGs through the use of ecological sanitation concepts, it is critical that a structure for collaboration is developed and agreed. The structure should be relatively simple so as not to place unnecessary burden on organizations that are already busy, but it should none-the-less, be robust. Such a structure may include something like a steering committee and working groups, but this is entirely for the participants to decide. Once a structure has been suggested it is important that certain organizations are assigned and agree to specific roles. All of this should be considered and presented to the group for agreement

### **Discussion points:**

- Before taking decisions a needs assessment should be conducted
- Consider why people do not have a toilet
- Address financial constraints
- What are we doing? Who are the stakeholders? How could we facilitate?
- Decide on mechanism including:
  - Funding and awareness raising,
  - Decide on coverage: where to implement these activities?
  - Form Consortium

What is needed for efficient coordination?

- APEX body (Formal type of steering committee)
- Informal body (NGO consortium): this consortium should have one representative in the Apex body
- Task Force

There should be one controlling body at national and provincial level

### **National level:**

#### **1. APEX body (steering committee) – Formal body**

Stakeholders: NWSDB, Ministry of Water Supply & Drainage, Ministry of Health, CEA, UDA, Local Government, Ministry of Education, Ministry of Agriculture , one representative from NGO, etc. This body should develop policies and functionality at secretary level

ToR of Apex Body

- Policy matters
- Strategic planning
- National level monitoring
- Fund raising
- Appoint task force
- Awareness raising (also provide knowledge background for steering committee members)

**2. Ecosan consortium (NGO consortium)**

Stakeholders: Government, NGOs, INGOs, private Sector, CBOs

ToR of Ecosan Consortium:

1. Express their view,
2. Forum to discuss,
3. Report to steering committee

**3. Provincial level (incorporates district level)**

Chief Secretary - Chair

**Question: Use existing structures or form new ones?**

**Comments from other groups:**

- Decide where you need collaboration, don't set it up too high or low,
- Address people who have real interest
- Form collaborative group to support efforts
- Use existing structures but make sure the right stakeholders are represented
- Sustainability can be biggest issue, since the secretaries come and go

**Discussion Group 3: Training and Capacity Building**

**Team Briefing**

What needs to be done to improve knowledge about ecological sanitation? There are knowledge gaps all over the world with regard to ecological sanitation and Sri Lanka is no exception. What are these knowledge gaps – do they relate mostly to the theory and concepts, or implementation, or both? Do organizations or individuals exist who can help to fill these gaps? We need to develop a training and capacity building programme but what form should it take and which organizations can take responsibility for ensuring that the programme is implemented? How can we link with existing training and university curricula for example?

**Discussion:**

Three topics to cover for Training and Capacity building

1. Content of the training & capacity building program
2. Target groups

This is the most important area to discuss in the planning phase. There are different categories. (Community /CBOs, schools – students, teachers & parents, service providers –

Government organizations, NGOs, planners and implementers, policy makers, universities & training institutions, media personals)

3. Strategies/ methods

The organizations to be involved in this process

1. Ministry of Health Care & Nutrition
  2. National Water Supply and Drainage Board
  3. INGOs & NGOs
  4. Other organizations – Ministry of Education, Local authorities
- } Main organizations

Activities to be carried out:

1. Develop training manuals that provides a standard manual.  
Responsibility – MoH
2. Training of Trainers  
Responsibility – MoH
3. Conducting trainings

## Discussion Group 4: Financial Policy and Strategy

### Team Briefing

If ecological sanitation is to be effectively included in the portfolio of tools to be used in addressing sanitation and food security needs, funds will be required. What should be done about securing funds? Where and how can funds be mobilized and when funds have been received how should they be managed? Can public-private partnerships play a role and what about tariffs, taxes or payment for services (such as nutrient rich irrigation water or compost)?

### Discussion:

- Sanitation is a responsibility of the government and society therefore we need finances to contribute to a target through a sector wide approach, so that all actors contribute and a monitoring mechanism can be set up. At the moment different departments or organizations work in different ways but these disparities need to be sorted out.
- Develop a strategy for intervention that involves LAA, Ministry of Health Care and Nutrition, MOA, Ministry of Agriculture, NWSDB and CWSSP
- Harness local resources from the private sector (CSR) and provide incentives for the private sector to undertake R&D, and to develop and market appropriate options. These people need to be attracted to the sector.
- Incentives to implementers though tax exemptions for adopting ecosan in the projects

### Comments from other groups:

- Make sure that the authorities that should be involved are not overlooked and that all agencies are involved in a financial mechanism e.g. agriculture as well as sanitation and health.
- One way in which you can bring all interested parties together is to define a subsidies policy.

## Summary of Key Action Steps

### Group 1. Overarching goals for using ecological sanitation to meet the MDGs

- 1.1 Make waste a resource to improve food security and increase food production i.e. for home gardening and agriculture
- 1.2 Improve waste and wastewater management to conserve water resources
- 1.3 Improve knowledge and its management including research and technology development in order to provide choices which are socially and culturally acceptable.
- 1.4 Institutionalize ecological sanitation concepts into relevant organizations to enable them to identify and implement more cost effective and sustainable sanitation options.

### Group 2. Coordination and Collaboration

- 2.1 Inform National Watsan Coordination Meeting about this activity - **(GM Waterboard, Dr.Mahipala) – deadline 25<sup>th</sup> May 2008**
- 2.2 Appoint a core group for ecosan activities - NWSDB, MoH, MoLG, Agriculture, Ecosan Consortium - **(GM Waterboard, Dr.Mahipala) – deadline 1<sup>st</sup> July 2008**
- 2.3 Redefine ToR of WATSAN coordination & strengthen by including additional members - **(Core Group) – deadline 31<sup>st</sup> August 2008**
- 2.4 Awareness and knowledge management for other Stakeholders
- 2.5 Formation of Ecosan Consortium

### Group 3. Training and Capacity Building

- 3.1 Developing Training Models - **(MOH)**
- 3.2 Training of Trainers- **(MOH)**
- 3.3 Conducting Trainings- **(MOH Master Trainer)**
- 3.4 Implementation of M&E- **(PHI/LA Community)**

### Group 4. Financial Policy and Strategy

- 4.1 Contribute to a national target through sector wide approach
- 4.2 Strategy of intervention shall be through the involvement of LAA, Ministry of Health Care and Nutrition, MOA, Ministry of Agriculture, NWSDB and CWSSP
- 4.3 Harness local resources from the private sector (CSR)

## Appendix A - Profiles of the Key Speakers

### **Dr.P.G. Mahipala, Deputy DG PHS**

Dr Mahipala is a medical doctor by profession, and is currently Deputy Director General of Public Health Services. He is qualified in Community Medicine, Medical Administration and Economics. Dr Mahipala has more than 12 years experience in the Public Health Ministry in various positions. He has a wide range of experience and expertise in Water Quality Management, Sanitation and Environmental Health.

### **Mr. K.L.L. Premanath GM NWSDB**

Mr. Premanath has a BSc Eng (Hons); D.S.E. (Netherlands); M.Eng (Const Management), C.Eng, FIE(SL) and is currently General Manager of the National Water Supply & Drainage Board

- Founder member of the Rural Water Supply & Sanitation Policy
- Pioneer of Community Managed Water Supply & Sanitation System
- Country representative of the Global Water Forum
- Country Coordinator of the Water Supply & Sanitation Collaborative Council
- Initiator of the Implementation of Dry Compost Toilets in Sri Lanka

### **Mr Ranjith Wirasinha**

Ranjith Wirasinha is a Civil Engineer from the University of Sri Lanka. He retired in 2001, and has since that time been advisor to GOSL and UNICEF. He completed his post graduate studies in Sanitary Engineering in Delft, the Netherlands and completed courses in Management and Appreciation of Economics and Financial Analysis.

- 12 years with the GOSL with the then Department of Water Supply and Drainage.
- 5 years with British consultants, and left as an Associate Director
- 13 years with ADB in Manila
- 10 years with UN as founder/Exec Dir of Water Supply and Sanitation Collaborative Council
- Managed global programme Vision 21- Water for People and proposed the MDG's and developed Bellagio Principles for collective and progressive development for WSS services
- Honorary Chairman of SRIWASH

### **Ms Constanze Windberg**

Constanze Windberg is a WATSAN specialist with focus on Ecological Sanitation seconded by the Stockholm Environment Institute (SEI) to IFRC. She has a Masters in Civil Engineering, with focus on Liquid and Solid Waste Management and Town Planning with University of Hamburg-Harburg. She has been active in the field of Ecological Sanitation since 2000.

- Masters thesis on ecological sanitation systems
- PhD research on the link between urban agriculture and ecological sanitation in Uganda and South Africa

**Mr Kannan Pasupathiraj**

Mr Kannan Pasupathiraj is a specialist on Ecological Sanitation with the International Federation of the Red Cross. He has a Masters in Civil and Environmental Engineering, Town Planning and Waste and Waste Water Management. He has been active in the field of Ecological Sanitation with NGO's and IFRC for the last 10 years.

**Mr Ananda Jayaweera**

Mr Ananda Jayaweera is currently a Water and Environmental Specialist with UNICEF. He is a Water and Environmental Engineer with a BSc from the Engineering University of Sri Lanka. He has a Diploma in Sanitary Engineering from IHE Delft, the Netherlands. He has more than 16 years experience with the NWSDB with 9 years defining the water policy programme for Sri Lanka. He had 5 years in the Stata Water Corporation in Nigeria and 2 ½ years with UNICEF.

**Mr Deepthi Sumenasekera, DGM, NWSDB (North Central and Northern Province)**

Mr Deepthi Sumenasekera is a Civil Engineer with more than 25 years of experience in Water and Sanitation sector. He has been involved in Eco Sanitation technology for about 5 years.

**Mr Varuna Rathnabharathie, Project Manager, Practical Action**

Mr Varuna Rathnabharathie has a BSc and MSc in Agriculture. He has 2 years of Eco Sanitation experience working in Norway and Sweden and is presently managing organic agriculture project (traditional paddy cultivation) and experiments in usage of human urine as an organic fertilizer



## Appendix B – Programme Details

Time	Session	Facilitator/ presenter
	<b>Session 1</b>	
08.30 - 09.00	Registration	
09:15 – 09:20	Brief introduction to the day	Ineke Ann Pitts, The Strategy Team
09.10 - 09.20	Objectives of the workshop: how can ecological sanitation help to achieve the MDGs?	Ranjith Wirasinha
09.20 - 09.30	Address by the Secretary to The Ministry of Water Supply & Drainage - Mr. Asoka .T. Pieris	Delivered by Mr Sirajudeen, Director, Tenders, MWSD
09.30 - 09.40	Address by the Secretary to the Ministry of Healthcare and Nutrition - Dr. Athula Kahandaliyanage / Role of Ministry of Healthcare and Nutrition in Ecological Sanitation - Deputy DG PHS, Dr. P.G. Mahipala	Dr.P.G. Mahipala, Deputy DG PHS
09.50 - 10.00	Address by the Secretary Ministry of Provincial Councils and Local Government - Mr. Casion Herath	Delivered by Mr D.P. Hettiarachchi, Additional Secretary, MPCLG
10:00 – 10:20	Role of National Water Supply and Drainage Board in Ecological Sanitation- GM NWSDB Mr. K.L.L. Premanath	Mr. K.L.L. Premanath GM NWSDB
10.20 - 10.35	Questions and Answers	Ineke Ann Pitts, The Strategy Team
10.35 - 10.50	<b>TEA BREAK</b>	
	<b>Ecological Sanitation - the concepts and practicalities</b>	
10.50 – 11.10	The Ecosan Concept: An approach to improve human dignity, community health and food security.	Constanze Windberg / Kannan Pasupathiraj
	<b>Ecological Sanitation in Sri Lanka</b>	
11.10 – 11.20	Outcome of the UNICEF workshop and capacity building on ecological sanitation	UNICEF Ananda Jayaweera
11.20 -11.30	Lessons learned from implementing Urine Diverting Toilets in Sri Lanka.	Practical Action and Deepthi Sumenasekara DGM (NCP)NWSDB
11.30 - 11.45	Findings from UNICEF's evaluation of the appropriateness of urine diverting toilets in Sri Lanka	Constanze Windberg
11.45 - 12.00	Questions and answers	Ineke Ann Pitts, The Strategy Team
12.00 – 12.10	Introduction to the working session. Also introduce how this will link to the group sessions after lunch and ask everyone to sign up for a group	Ineke Ann Pitts, The Strategy Team
12.10 – 12.50	<b>Group Session One:</b> How can these concepts be incorporated into the daily activities of our organizations and what would we hope to achieve by doing so? Questions to address: <ul style="list-style-type: none"> <li>What does your organization currently do in relation to the ecological sanitation concepts?</li> <li>How could your organization include ecological sanitation concepts in their daily activities?</li> </ul>	Discussion Groups: 1. Ministry of Health 2. Agencies 3. Water & Sanitation Ministries 4. Others

	<ul style="list-style-type: none"> <li>What do you see as the goals of utilizing ecological sanitation concepts in strategies for Sri Lanka to achieve the MDGs?</li> </ul>	
12.50 – 13.20	<p>Report back by each of the main organizations at booths. Walk around and look at each.</p> <ul style="list-style-type: none"> <li>Feedback from the discussion;</li> <li>Are their current programmes relevant;</li> <li>If not, where are reviews necessary?</li> <li>List of proposed goals.</li> </ul>	The organizations will showcase their work and goals.
13.20 – 13.30	Summary and wrap up of the morning	
13.30 - 14.30	<b>Lunch</b>	<b>Sign up for afternoon group sessions</b>
	<b>Ecological Sanitation - making it a reality in Sri Lanka</b>	
14.30 - 14.40	<u>Group Session Two: The World Café</u>	In this session ask the participants to come up with a list and to prioritize 3 action points with responsibilities assigned and dates for completion.
<u>Session 1:</u> 14.40 - 15.10	Group 1: Collaboration and coordination - what should be the mechanism for taking ecological sanitation forward?	
<u>Session 2:</u> 15.10 – 15.40	Group 2: Training and capacity building - what needs to be done to improve knowledge about ecological sanitation?	
<u>Session 3:</u> 15.40 - 16.00	Group 3: Financial policy and strategy - what should be done about funds, tariffs and managing money?	
<u>Session 4:</u> 16.00 - 16.15	Group 4: Goals of using ecological sanitation to meet the MDGs.	
16.15 - 16.30	Return to original workspace to finalize key points and consolidate	
16.30 – 16:50	Plenary – report on the agreed priorities and responsibilities. Review and agree on the goals.	Presented on flipcharts
16:50 – 17.00	Closing remarks	

## Appendix C – Technical Presentation Slides

### The Ecosan Concept

Constanze Windberg and Kannan Pasupathiraj

**Ecological Sanitation**

An approach to improve human dignity,  
community health and food security.

Constanze Windberg, Colombo

**Agenda**

- Background
- What is Sanitation?
- Conventional Sanitation Approach
  - Limitations
- Ecological Sanitation as a Sustainable Alternative
- Ecosan Systems
  - Turning "Waste" into Resources
  - Examples for Reuse
- Conclusion

National Workshop on Ecological Sanitation, Colombo, April 26, 2008

**Why talking about sanitation?**

- In 2000, about 1.2 billion people world wide lacked access to improved water sources.
- In 2004, 2.6 billion people have inadequate sanitation facilities and/or no means of wastewater disposal.
- Worldwide more than 90% of wastewater is discharged completely untreated into the environment.
- Contaminated water is responsible for about 80% of all illnesses and 25% of all death in developing and emerging countries.

(WHO, 2004)

National Workshop on Ecological Sanitation, Colombo, April 26, 2008



**The Global Response**

Millennium Development Goals (MDGs):

- By 2015, reduce by half the proportion of people without access to safe drinking water  
(UN General Assembly New York 2000)
- By 2015, half the proportion of people who do not have access to basic sanitation  
(World Summit on Sustainable Development, Johannesburg 2002)

National Workshop on Ecological Sanitation, Colombo, April 26, 2008

### What is sanitation?

- Sanitation is the hygienic means of preventing human contact from the hazards of wastes to promote health. (<http://en.wikipedia.org>)
- Formulation and application of measures designed to protect public health. ([www.thefreedictionary.com](http://www.thefreedictionary.com))
- .....

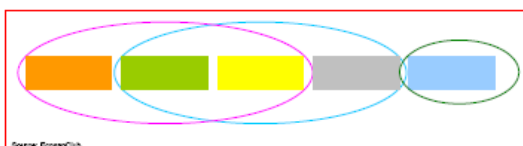
National Workshop on Ecological Sanitation, Colombo, April 26, 2008



Source: C. Wiedberg

### What is sanitation? Components of sanitation systems

- Wastewater management (incl. greywater and human excreta management)
- Stormwater management
- Solid waste management (incl. human excreta management)
- Hygiene



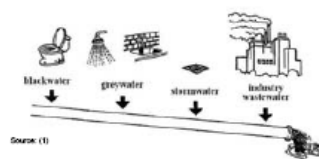
Source: EcoSanClub

National Workshop on Ecological Sanitation, Colombo, April 26, 2008

### Conventional Sanitation Approach



Source: EcoSanClub



Source: (1)

### Conventional Sanitation Approach

With conventional waterborne flush-toilets, we mix

roughly 50 kg of faecal matter (per person/year)

50 kg

roughly 500 l of urine (per person/year)

500 L

with roughly 20'000 l of clean flushwater\*

20'000 L



If this wastewater is discharged untreated into rivers, an even higher amount of water is polluted

Source: adapted from Seacore International

\* Based on the Swiss average for a toilet that uses about 8 L of Water per flush (2).

### Conventional Sanitation Systems: Limitations

Despite inherent flaws, improvement of hygienic situation in many places through conventional sanitation:

- dangerous substances moved out of cities
- excreta "safely" carried elsewhere

**But: → Problem is shifted downstream!**

And associated external costs are not considered:

- Environmental contamination
- Eutrophication of water bodies,
- Loss of fertilizer worth billions USD/year

Source: Seacore International

National Workshop on Ecological Sanitation, Colombo, April 26, 2008

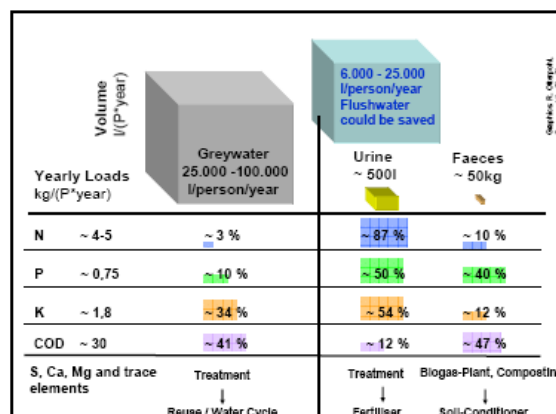
### Conventional Sanitation Systems: Limitations

- Unsatisfactory purification or uncontrolled discharge of more than 90 % of wastewater worldwide
- Severe water pollution,
- Health risks
- Consumption of precious water for transport of waste
- High investment, energy, operating and maintenance costs
- Frequent neglect of poorer settlements
- Loss of valuable nutrients for agriculture
- Linear end-of-pipe technology

"The idea that human excreta are wastes with no useful purpose is a modern misconception. It has led to the development of so-called "flush and forget" sanitation solutions, where precious drinking water is used to transport excreta into the water cycle misusing our rivers, oceans and aquifers as a sink for untreated waste." (3)

National Workshop on Ecological Sanitation, Colombo, April 26, 2008

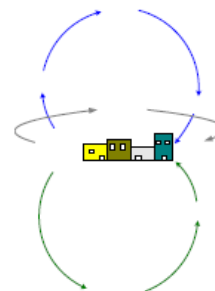
Source: Ecosan International



What to do?

### Ecological Sanitation as a Sustainable Alternative

- New paradigm is clearly needed:
  - environmental sanitation based on ecosystem approaches
  - Move away from a linear to a circular flow of nutrients
- Ecological sanitation:
  - based on an overall view of material flows as part of an ecologically and economically sustainable wastewater management system
  - Respecting local needs and customs

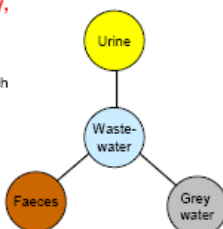


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### Ecological Sanitation as a Sustainable Alternative

Ecosan is a new philosophy,  
not a specific technology

The speciality of the new approach is to view urine, faeces and greywater separately as components with different characteristics in term of pathogens, nutrient content and benefits to soil and plants.

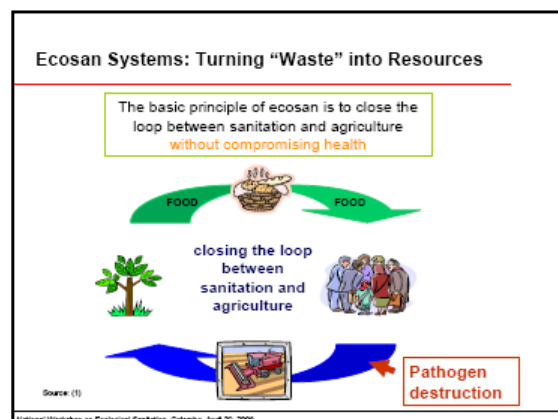
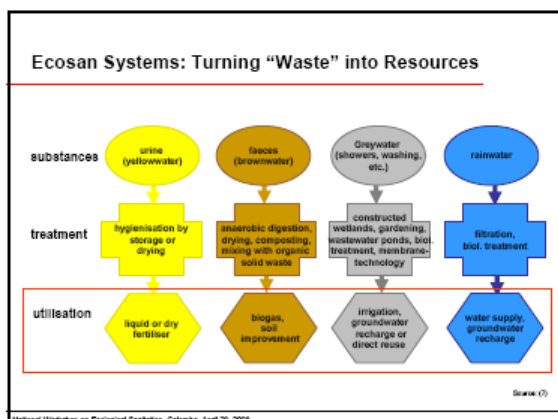


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### Ecological Sanitation as a Sustainable Alternative

Criteria for Ecological Sanitation Systems:

- Disease prevention
- Environmental protection
- Nutrient recycling
- Affordability
- Acceptability
- Simplicity



### Ecosan Systems: Turning "Waste" into Resources

#### Agricultural Reuse

ecosan systems aim to:

- ⇒ Reduce health risk related to sanitation, contaminated water and waste
- ⇒ Improve quality of surface and groundwater
- ⇒ Improve soil fertility
- ⇒ Optimise the management of nutrients and water resources

For the safe reuse of Ecosan Products refer to

**WHO GUIDELINES FOR THE SAFE USE OF WASTEWATER, EXCRETA AND GREYWATER, 2006**

National Workshop on Ecological Sanitation, Colombo, April 26, 2006

### Ecosan Systems: Turning "Waste" into Resources

#### Other Reuse Possibilities:

- Domestic reuse of greywater after treatment:
  - ⇒ Industry, toilets
  - ⇒ Recharge of groundwater
- Rainwater harvesting → treatment → drinking water
- Use of energy contained in wastewater:
  - ⇒ Electricity
  - ⇒ Heating
  - ⇒ Biogas production (cooking)
  - ⇒ etc.....

National Workshop on Ecological Sanitation, Colombo, April 26, 2006

### Ecosan Systems: Examples for Reuse

- On-site application of urine
- Off-site application of urine
- Application of composted faeces in agriculture

On-site and off-site application of urine (Upsala and Stockholm, Sweden).

Source: (EcosanClub)

National Workshop on Ecological Sanitation, Colombo, April 26, 2006

### Ecosan Systems: Examples for Reuse

- Storage bin for faecal material
- Urine tank

National Workshop on Ecological Sanitation, Colombo, April 26, 2006





## Outcomes of the UNICEF Workshop and Capacity Building on Ecological Sanitation

Ananda Jayaweera

### Strategic Planning on Sustainable Sanitation

- Exigency created by Tsunami .....
- Environmental Impact of Transitional Shelter Sites. UNICEF in Collaboration with AIT formulated a capacity building programme for Sustainable "sanitation systems and constructed wetlands".
- Building capacity of the public and private sector on constructed wetlands
- Finding ways to publicize and promote new and innovative decentralized and environmental friendly sanitation technologies and approaches

"Waste Management in Harmony with Nature"

### Capacity Building on Sustainable Sanitation

- UNICEF Contracted AIT to provide necessary exposure to the GOSL in 2006
- Workshop on technical aspects of CWL May 2006
- Study tour to Thailand June 2006
- Strategic planning workshop in October 2006 in collaboration with AIT.
- 

### Objectives of the Strategic Planning Workshop

- To introduce environmentally sound technologies and practices for sustainable sanitation services
- To build capacity of the environmental professionals in public and private sector on the design construction and operation of constructed wetland.
- To explore opportunities for research and field base trials on appropriate sanitation technologies
- To develop a national plan of action for household centered environmental sanitation in line with national policies.

### Capacity Building of GOSL Environmental Professional

- National Water Supply & Drainage Board
- Ministry of Social Services and Welfare
- Central Environmental Authority
- UDA
- Ministry of Health
- Technical training Study visits and final workshop for Strategic planning with wider participation

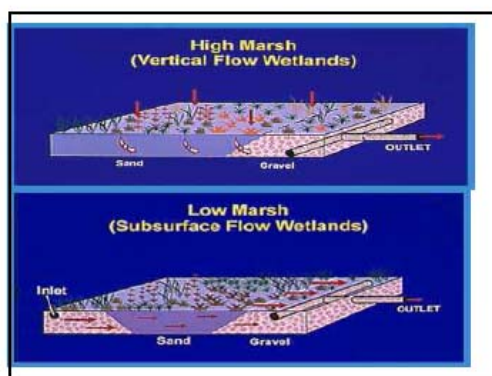
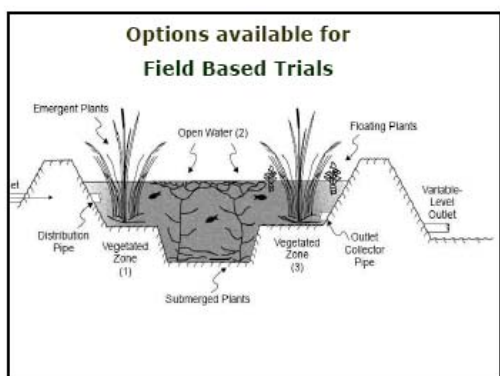
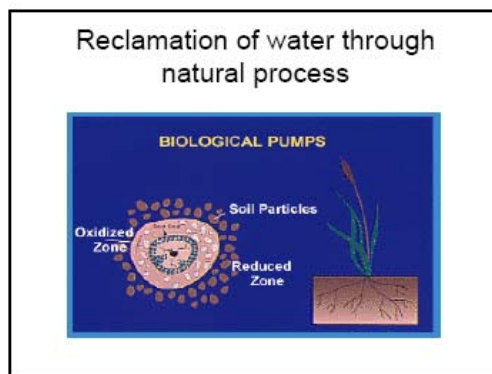
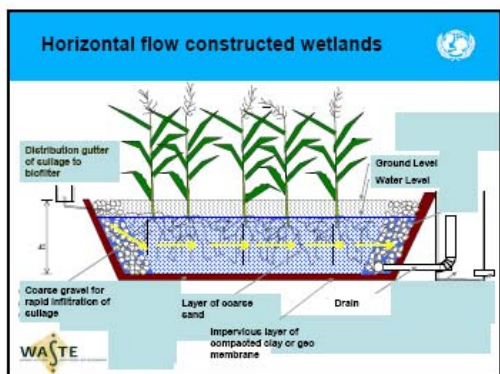
### Out Come of the Strategic Planning Workshop

- Outputs
- Process/Activities
- Timeframe
- Key stakeholders
- Resources
- Out of 34 outputs UNICEF expressed commitment for six .....

### The Only Outcome

- NWSDB/NIHS who received training under the UNICEF capacity building established a partnership to provided technical assistance to design and construct a seepage treatment project for Kalutara UC work is in progress.





**Capacity Building ?  
Effective Environmental Sanitation**

- Is it the capacity building or paradigm shift
- Fragmented responsibilities overlapping mandates ?

Urban Local Authorities  
M of E&NR, CEA, UDA NWS&DB,  
M o H&N PS

**Promote forming a Community of  
Practice among the following agencies**

- M of WS&D, NWSDB
- M of H&N, NIHS HEB and PHS
- M of Env & NR, CEA
- M of UD&SAD, UDA
- M of PC& LG Urban Local Authorities
- They are not defined by organizational mandate
- A Community of Practice (COP) is a special type of informal network that emerges from a desire to work more effectively or to understand work more deeply among members of a particular specialty or work group.
- C o Ps are groups of people who've worked together over a period of time and through extensive communication have developed a common sense of purpose and a desire to share work-related knowledge and experience

## Impact of Social and Technical Aspects for the Success or Failure of Ecosan Toilets in Tsunami Affected Areas in Sri Lanka

Varuna Rathnabharathie

### Impact of Social and Technical Aspects for the Success or Failures of Eco san Toilets in Tsunami Affected Areas in Sri Lanka

Varuna Rathnabharathie



### Difficult Conditions

- Improper constructions of toilets
- Lack of drainage systems
- Dense population (No space for a toilet)
- Overflowing of the toilets due to high water table
- Water stagnation & frequent floods
- Rocky ground surface
- Abandon due to water scarcity



Double Volute Urine Diversion Dry Toilet ( Compost Toilet/ eco san toilet) 156 toilets constructed



### Socioeconomic background & Environmental conditions

- Affected by Tsunami; directly or indirectly
- Poor people
- Peri-urban (permanent houses)
- Rural areas (temporary houses made of wood, cajan or corrugated sheets)
- Different ethnic groups (Sinhala, Muslim & Tamil)
- Different sanitation alternatives, i.e. open defecation, temporary pit toilets, neighbors flush toilets, flush toilet which overflows during rainy periods



### Attitudes towards eco san toilets

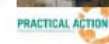
- Easy to use by normal people
- Difficult to use by pregnant mothers, children and elders
- Easy to maintain
- Difficult to explain to others
- Eco san toilets are the best toilet option for flooding areas and water scarce areas



### Existing situation

#### Households with positive attitudes

- + Act as demonstrators and disseminators of the technology
- + Rural users were very much interested on the technology



#### House holds with negative attitudes

- Do not like the toilet; need flush toilets
- Do not use the toilet for urination and defecation, but use for storage purposes
- Alter in to flush toilets
- No good hygiene behaviors, thus the toilet was not in good hygienic condition
- This negative mind-set was seen in the peri-urban areas



#### Problems occurred when using the eco san toilet

- Maggots develop in the chambers during the heavy rainy season
- Bad smell during heavy rainy season
- Bad smell when open the lid
- Problems occurred due to construction errors
  - Water fills in to the chambers during the flooding
  - Water leakages in to the chambers during the rainy season
- Blocking the urine pipe
- Breaking the urine pipe
- Leaning the toilet
- Difficulty in draining the toilet washing water to outside



#### Comments for future changes by the users

- Incorporation a hand rail to the steps (some users have already made temporary hand rails)
- Introducing seat risers (Commode types)
- Including a separate place for urination /urinal (according to the Muslim culture)
- Improve the appearance of the toilet by plastering and painting
- Decrease the height of the toilet



#### Effects and impacts of interventions to the users

- Saves water
- Saves money (cost of water and cleaning materials (detergents))
- Got extra income/ savings by cultivating the plant bed
- Valuable fertilizer/compost (recycle and reuse the waste)
- Good sanitation facilities
- Safety
- Social recognition
- Can be used all over the year (during the floods, rainy season & dry season)



#### Reasons for failures (or Success) of the eco san toilets

- Lack of / no awareness programs to the users
- Construction errors
- Negative attitudes towards eco san toilets
- Bad hygiene behaviors
- Lack of / no follow up



#### Conclusions

- Ecosan projects - significant impact - change the behaviors and attitudes of the people
- Both social and technical aspects - significant impact for the success and/or failures
- Eco san for difficult conditions
- Properly constructed and maintained toilet can be used all the year through with out problems
- Suitable type/s selected with a sound understanding. (social and cultural norms, attitudes, existing hygiene and sanitation practices, sources of drinking water, climate, soil types, patterns of habitation and local construction materials)
- More user friendly options - ash flush cisterns, automatic lids, advance ventilation systems, should be developed and introduced
- Social mobilization is a critical issue in changing attitudes and behaviors of the people



## Recommendations

- Education programs with appropriate training and educational materials
- The PHIs and PHMs make aware on the technology and introduce present & future users of ecosan toilets for their inspection and follow up
- Alternative additive materials- saw dust, wood chips, sand and soil should be tested
- Addition of more additive materials prevent developing maggots
- Bottom concrete slab where the water table is high
- The size of the chamber: number of users & the anticipated life time of the chamber (10 ft3 volume = family of 4 members to use in 1 ½ years rotation)
- The ventilation system should be improved
- Best answer - ventilation fan system function by electricity/ solar panel
- A follow up at the initial eco san toilet constructions by a trained mason
- Conduct an investigation on the land and soil type before the construction



- A hand rail and/or one more step can be incorporated- to climb by elders and pregnant mothers.
- Seat risers (Commode types) to make access to elders and disabled
- Introduction of ceramic squatting
- Urine diverting toilets with urine collectors and urinals
- Indoor eco san toilets
- Introducing automatic lids to the faecal matter hole
- Ash flush cisterns
- Participatory methods for community hygiene behavior change and to improve water & sanitation facilities (PHAST & SARAR)



## Popularizing Ecological Sanitation in Sri Lanka

Deepthi Sumanasekera

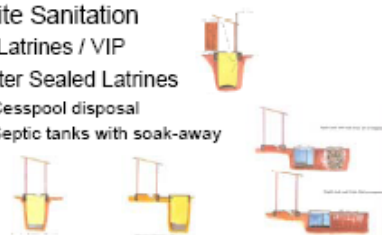
### POPULARIZING OF ECOLOGICAL SANITATION TECHNOLOGY IN SRI LANKA

#### LESSONS LEARNED

*Deepthi U. Sumanasekera,*  
Deputy General Manager  
National Water Supply & Drainage Board,  
Sri Lanka  
April 2008

### Sanitation Options

- Off Site (Piped sewers)
  - Colombo MC priority areas, Housing scheme, Industrial zones
- On Site Sanitation
  - Pit Latrines / VIP
  - Water Sealed Latrines
    - Cesspool disposal
    - Septic tanks with soak-away



### Introduction of Ecosan

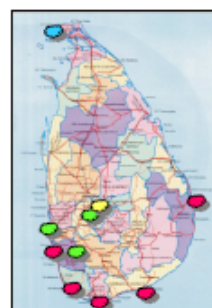


Objective 1: Pilot  
Project with 30  
toilets at three  
locations



Objective 2:  
Concept awareness  
& promotion

### Ecosan Locations

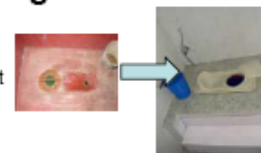


- Pilot project -2000/2001
- Replication - 2002
- TSUNAMI assistance -2005
- TSUNAMI/UNICEF assistance - 2006/7 (Practical Actions)

### Lessons Learned

### Focusing on Poor

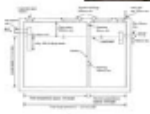
- Top down approach
- Wrong convincing point
- Option for poor
- Primitive design
- Lack of recognition





## High Capital Investment

Option	Cost in USD
Conventional direct/off pit latrines	200-240
Ecosan type	300-350
Toilet with septic tank	600



## Lack of Technological Awareness

### -Capacity building

#### -Typical designs/BOQs

#### -Training of masons

- Trained by Practical Actions:
- Name : A.L. Mohamed Jiffy
- Home Address: 170/25, Sennelkiremm 01, Semmenthurai
- Occupation : Mason
- Age : 29 Years
- Experience : 15 years,
- Other Information: Eight masons are currently working under him. Involved in construction of major buildings and houses..



## Use of Water



## Family Discipline



### Training on:

- Proper use
- Trouble shooting
- Corrective measures

Needs several days to correct a mistake !!!

## Risk of Post-Contamination



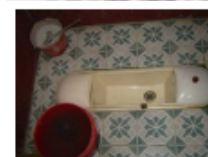
Wash-water/urine disposal has to be carefully designed !!!

## Inadequate Monitoring



### Post project monitoring

- is a must !



### Market for Products

No market  
in Urban  
areas



Need to  
promote  
urine  
fertilizer



### Lack of Awareness



Lack of knowledge: on  
pollution by conventional  
practices and alternative  
solutions



Market strategy: Conservation  
of the environment

### Policy Issues



More awareness !

Guidelines and  
regulations !!



Small focal  
groups are more  
effective !!!

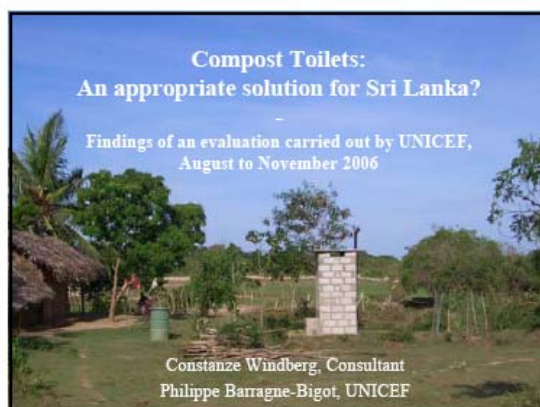


**Lessons  
Learned are not  
learned until  
they are put in  
to practice**



## Findings of a UNICEF Evaluation: Are Composting Toilets an Appropriate Solution for Sri Lanka?

Constanze Windberg



### Agenda

- Background
- Findings
- An appropriate solution?
- Recommendations
- Conclusion

National Ecosan Workshop, Colombo, April 26, 2008

### Background

Evaluation of the appropriateness of ecosan in Sri Lanka,  
August to November 2006

- Objective 1: List of past project related to ecological dry composting toilets
- Objective 2: Assess ecological sanitation options and approaches, answer to key questions a-p
- Objective 3: Stakeholder Analyses, identify potential partnerships and alliances

National Ecosan Workshop, Colombo, April 26, 2008

### Findings of site visits

- As 26 dry compost toilets could be visited,
- All toilets are UDDTs with addition of ash,
- 16 currently used, 1 demolished, 2 abandoned, 3 converted into pour-flush, 1 not used, 1 under construction, 2 not accessible,
- Good to very good condition
- Storage of faecal material: 1-5 years
- No smell, rarely flies,
- Large number of damaged urine pipes
- No education material

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### General layout



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### Urine Diverting Squatting Slabs



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### Newly introduced



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### Ecosan toilets: An appropriate solution for Sri Lanka?

Ecosan approaches offer appropriate solutions for every environment

BUT

Ecosan toilets as such are not a guarantee for sustainability!

- Political commitment,
- Community awareness and acceptance,
- Right marketing approach.

National Ecosan Workshop, Colombo, April 26, 2008

### Situation in Sri Lanka

#### Political commitment:

- Supportive: Dry compost latrine recognized by the Ministry of Water Supply and Drainage and by MoH as a safe sanitation option
- Information did not reach local level
- High interest, little opposition

#### Community awareness and acceptance:

- Little knowledge at all levels
- Interviewees open for experiments
- In many project weak awareness program

#### Marketing approach:

- Existing projects did not succeed in identifying / creating demand
- No strategy of most projects to go to scale
- Often focused on poor only

National Ecosan Workshop, Colombo, April 26, 2008

### Recommendations

#### Marketing approach

**Compost toilets should not be an option  
for the poor only!**

Compost toilets have to be marketed as a desirable option not as a compromise. Different target groups will need different approaches.

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### Learn from professionals



Truly perfection in design, an art form for the most exclusive bathroom.

Source: TOTO catalogue

National Ecosan Workshop, Colombo, April 26, 2008

### Learn from users



Photo: C. Wiedberg, Uganda

National Ecosan Workshop, Colombo, April 26, 2008

**Community awareness and acceptance**

- Implement demonstration sites and ecosan projects
  - Preferable large scale
  - Tsunami housing schemes
  - Interlink with other projects (SWM, women empowerment, agriculture, home gardening, nutrition, HIV/AIDS, ...)
- Form alliances (Plantation sector, private sector, NGOs, INGOs...)
- Implementation of ecosan toilets in promoters offices

**Practice what you preach!**

**Political commitment**

- Political commitment has to be followed by action
- Include ecosan in relevant regulations and guidelines
- Distribute circular issued by MoH

National Ecosan Workshop, Colombo, April 28, 2008

**Conclusion**

Compost toilets can be an appropriate technology for Sri Lanka.

BUT

Even that there is a big interest in implementing ecosan by IOs and INGOs. **Compost toilets will only be a sustainable solution if the demand is created and met by Sri Lanka itself with support from IOs or INGOs!**

National Ecosan Workshop, Colombo, April 28, 2008