

**Node Report**  
**China Knowledge Node**



**20-June-2011**

An  **EcoSanRes Programme Node**

# Table of Contents

<i>Introduction</i>	1
<i>Overview of Node Outcomes and Impacts</i>	2
<i>Objective 1: Until December 2010, public awareness in China on sustainable sanitation has been undergoing a significant change due to broad media coverage of related topics in at least 1 TV station, 1 Radio station, 3 newspapers and script for 1 documentary prepared</i>	5
Indicators: In 2010, TV and radio stations as well as newspapers have informed about sustainable sanitation concepts; the script for a documentary on sustainable sanitation is prepared and ready to use	5
<i>Objective 2: Until December 2010, sustainable sanitation options for urbanized areas are analyzed, categorized and made available to urban developers in at least 1 province and the Association of Architects &amp; Planners in Beijing</i>	7
Indicators: Architects and urban developers have been informed about sustainable options for urban sanitation	7
<i>Objective 3: Until December 2010, knowledge in sustainable sanitation concepts is accessible to a broader audience through a website, an expert pool is identified and working, and technology development is ongoing in at least 2 universities, institutes and enterprises</i>	8
Indicators: CNSS website is visited at least by 1325 people/year; Expert pool is actively involved in knowledge sharing and development	8
<i>Objective 4: Until December 2010, in at least 2 universities and professional education institutions curricula on sustainable sanitation are applied and knowledge on sustainable sanitation is disseminated among sanitation promoters in at least 2 national organizations</i>	9
Indicators: Curricula developed with support from third parties (fund raising or assignment); capacity development	9
<i>Objective 5: Until December 2010, the CNSS network has achieved permanent contacts to decision makers in at least 2 provinces and at central level</i>	10
Indicators: Sustainable sanitation concepts and options are known at policy level in at least 2 provinces and by central decision-makers	10
<i>LFA – all years aggregated</i>	11
<i>Appendix 1: List of knowledge products</i>	1
<i>Appendix 2: List of presentations/publications</i>	1
<i>Appendix 3: List of inventories (to be handed over)</i>	1
<i>Project-related Appendices</i>	2

## Introduction

Since the contract of China Node for Sustainable Sanitation (CNSS) has been signed at November 6<sup>th</sup> 2008 at Macao, as the first node office of ESR2 program, the CNSS started functioning and progressed rapidly according to its work plan.

China has both experience and history in the practices of ecological sanitation, which can be sourced back to the 1980s. However, there has been no platform or mechanism to either accumulate or exchange such knowledge on ecological sanitation before, thus making it difficult for the continuity of the knowledge transfer from one location to another to cover the huge territory of China. Moreover, the traditional taboo to talk about sanitation in China hindered the change from conventional technologies to future and re-use oriented sustainable sanitation systems, and its mainstreaming both in the media and in the mindset of decision makers. The launch of CNSS was right in time to fill this gap and to bring forth a broad platform for different players to join efforts. The importance of CNSS became more and more prominent, also by connecting to the Knowledge Nodes located in Nepal, South Africa and the Philippines; they shared knowledge with the CNSS and exchanged information. Within the framework of CNSS itself, networking with local experts and organizations was developing straight forward within the ECOSANRES-2 supported period up to 2011.

The capacity development program on sustainability issues of sanitation, implemented through the excellence of USTB-CSES (University of Science and Technology – Centre for Sustainable Environmental Sanitation) and CWA (Clean Water Alliances), are founded on a sound project planning process, where (i) extensive consultations have been made with the relevant stakeholders and where (ii) the objectives and outcomes as well as focused outputs, are clearly identified. A Project Document has been prepared with that in mind, applying LFA and output based planning for achieving a sound planning process.

The Centre for Sustainable Environmental Sanitation (CSES), integrated in the School of Civil & Environmental Engineering at the University of Science and Technology Beijing (USTB) was created in 2007 with the objective to build capacity among young professionals (Chinese and international) in the interrelated sectors of sustainable environmental sanitation, food security, bioenergy and climate protection. Up to 30 master and PhD candidates (about 50% of them belong to the female gender) do their research and project work in the CSES. These young academicians are coming from different Chinese provinces and different economic groups of the Chinese population: daughters and sons from workers, farmers and academicians. The Centre cooperates largely with national and international universities, organizations and individuals. Since May 2008 CSES distributes the Chinese EcoSan Newsletter among 100 registered users of the google-China EcoSan discussion group and the 5000 members of the China Biogas Association.

In the moment of CNSS creation, Clean Water Alliances (CWA)-Vantone was a working group of CWA and Vantone charitable foundation. CWA-Vantone Foundation's awareness raising approach is based on mass media contacts and volunteers; among the volunteers at least 60% are girls. Since its foundation in 2004, CWA and its programs have been frequently covered by at least 100 Chinese media institutions for organizing a series of public welfare activities under the theme of "People and Water in China". Beijing Vantone Foundation started operation in May 2008, being committed to clean water schemes for ecological communities combined with energy conservation, poverty alleviation, emission reduction projects, resource recycling, and green building. In April 2009, CWA took over the role of contribution of Vantone with the permission of SEI project node project manager, Dr. Elisabeth Kvarnstrom. Strong in working actively with mass media, and in mobilizing resources from both authorities and business to support charitable activities, CWA is enhancing the fundraising capability with several partners, either business or non-profit to support the activities of CNSS.

The China Node for Sustainable Sanitation (CNSS) office was officially hosted by USTB-CSES, but both partners were responsible for the funds they received separately from SEI. CNSS start-up and office was coordinated from November 2008 to November 2009 by Elisabeth-Maria Huba, international social scientist and expert in sustainable sanitation; from November 2009 to June 2011, Prof. Dr. Li Zifu coordinates the CNSS, supported by Dr. Zhang Lingling. CWA partner is represented since November 2008 by Mr. James Gao. The official website of CNSS [www.susanchina.cn](http://www.susanchina.cn) was launched in February 2009.

This Final Status Report covers progress and achievements from Nov. 2008 to May 2011 and follows the structure of the project document. Progress is reported under the different objectives and the financial status is described separately in the financial reports following the structure of the financial guideline.

## Overview of Node Outcomes and Impacts

CNSS partners mainly achieved the following outcomes and possible impacts in the period November 2008 to May 2011:

### 1. Launching pilot projects and showcases in different areas in China;

#### **Outcomes:**

- 108 Eco-toilets built in the earthquake area in Sichuan province, improving hygiene and sanitation for more than 1000 people; Eco-toilets promoted in Shanxi Hougou village in September 2009.
- Designed and installed urine diversion vacuum toilets for urban ecosan demonstration in the 12<sup>th</sup> floor in the building of the Department of Environmental Science and Engineering, University of Science and Technology Beijing.
- Demonstration garden established next to CNSS office, where vegetables are grown using treated urine.
- Support to develop sustainable sanitation systems in peri-urban areas in extreme cold winter climates.
- Design of eco-san toilets in two locations in Beijing (Yanshan Shuyuan and Shijiahutong, approved by the future users; construction work will be done in due time.

**Impacts:** Showcases could be copied in neighbour towns and neighbouring residential areas as a result of the training to the local implementation team and local authorities. Replication of showcases in vicinity of CNSS office (UD vacuum toilet and vegetable garden) is facilitated to visitors and members of the academic community in USTB's environmental science and engineering department

### 2. Forums, conferences, workshops and training courses were organized.

#### **Outcomes:**

- December, 2008: Eco-San Forum and CNSS Workshop at Chengdu, Sichuan, attended by more than 100 organizations including research institutes, NGOs, and delegates from central and local governments. While CNSS partner CWA organized the workshop and the UDDT construction, CSES's contribution was to check the technical design and to give a presentation about ecosan and CNSS.
- January 2009 to May 2011: four enterprise, experts and media salons for CEOs of environmental technology and equipment related companies, interested media and local governments.
- March 2009: Experts' Meeting at USTB to create the Node Experts Group and to identify Chinese criteria for sustainable sanitation
- May 2009: Training of 25 engineers from DPR Korea, China and Nepal at USTB in re-use oriented Decentralized Wastewater Treatment Systems – cooperation of SEI, Save the Children UK, UNICEF, BORDA and GIZ
- August 2009: Lecture at Tokyo University about "sanitation and urban planning"
- August 2009: Workshop at USTB on urine re-use and biogas technology in cooperation with University Bonn/Germany
- October 2009: Beijing International Environmental Technology Conference at USTB; about 120 participants from China and abroad; 90 articles are published in the Conference Proceedings.
- November 2009: NGO Eco-san training in Beijing for 15 NGOs that work in environmental protection projects in the context of rural urbanization.
- December 2009: Co-organizing with SEI workshop on Erdos-Eco Town project (Lessons learned and ways forward); participants include people from Dongsheng (local residents and government officers), Chinese experts, USTB, CNSS, international experts and Swedish Embassy representatives.
- December 2010: Organizing China Sustainable Sanitation Development Forum 2010.

**Impacts:** CNSS provided a recognized communication platform for research institutes, NGOs, governments and media; sustainable sanitation concepts are introduced to media, CEOs of environmental technology and equipment related companies, and local decision makers; awareness of the importance of sustainable sanitation has increased. Indicators for showcase evaluation have been discussed and documented for future application; ecological sanitation systems are introduced and approved by the users; Chinese experiences and capacity building needs are collected and analysed. National and international networking is established.

### 3. Ecosan related publications

#### **Outcomes:**

- Fact sheets and posters on sustainable sanitation technologies in Chinese language: constructed wetlands, urine diverting toilets, urine treatment and utilization, and faeces composting.
- English- Chinese translation of Peter Morgan's "Toilets that make Compost" and Anna Richert's "guidance on the use of urine in crop production".
- Final editing of "GIZ-Biogas sanitation fact sheet" with co-financing from GIZ-ecosan.
- Indexing English language proceedings of 2009 Beijing International Environmental Technology Conference in the knowledge database, which can be searched in the web worldwide: 92 articles published in the conference proceedings.
- November 2009: CNSS presented Chinese experiences with UDDTs on the IWA Water, Sanitation and Development conference in Mexico; financially supported by the German government

**Impacts:** Facilitating access to international ecosan knowledge to people who read and speak only Chinese; information to international ecosan community about Chinese experiences and developments.

4. Launching the CNSS website [www.susanchina.cn](http://www.susanchina.cn) in February 2009 and improving web design in 2010.

**Outcome:**

- Until 15<sup>th</sup> June 2011, there have been about 44021 visitors counted

**Impacts:** Promoting knowledge about CNSS and ecosan issues through internet; discussion and knowledge platform is built.

5. Introduce ecosan through different ways and at different places in China.

**Outcomes:**

- In 2009, participating in a CCTV<sup>1</sup> program to discuss during one hour about "toilets", CWA introduced the concept of ecosan.
- In 2009, invited at the National Administrative School, CWA spoke to senior officers from 30 provinces and 10 central departments about ecosan.
- SWIF Nov.2009: presentation of CNSS; article titled "Assessing the sustainability of innovations in Urban Ecological Sanitation: Erdos Eco-town Project" published in the conference proceedings.
- In 2010, organizing the "2010 People and Water Photo Contests" in cooperation with SINA.com<sup>2</sup>, the contest office received more than 2,400 photos from 23 countries.
- Presenting the ecosan concept in Yunnan TV programs on May 4th to May 8th 2010, the program received a very high audience ratio of 0.2%, which means that more than one million people watched the program. In addition, the program was reported on 15 evening newspapers nationwide.

**Impacts:** ecological sanitation concepts are known but not yet mainstreamed; the message of sustainable sanitation is disseminated.

6. Broaden international and local cooperation.

**Outcomes:**

- November 2008: following the World Toilet Summit in Macau, CNSS together with SEI visited the National Park Jiuzhaigou on demand of the park administration to develop ecological sanitation systems for park infrastructure (average 20,000 visitors/day) and for villages bordering the park.
- Since May 2008: technical backstopping to the Nepal Biogas Support Programme to improve the toilet connection coverage to the biogas plant model; and model adaptations to safely co-treat human excreta - – supported up to end 2011 by KfW (German Development Bank).
- April 2009: CNSS invited to contribute with own experiences to the creation of the "South East Asia Node" in Kathmandu/Nepal
- August 2009: Study tour on "eco-cities, eco-villages partnerships, and models for sanitation in a ageing society" with mass media representatives and high ranking decision makers/opinion leaders to Sweden, Germany, France, Luxemburg, Switzerland: places visited (among others): Freiburg Energy Village, Siemens Muenchen
- 2009 & 2010: attending the World Water Week at Stockholm, Sweden
- 2009 & 2010: 6 young academicians attend UMB Norway summer training course on Ecological Sanitation

---

<sup>1</sup> China Central Television

<sup>2</sup> A very popular Chinese website

- January 2010: attending the World Toilet Summit in Singapore
- Since January 2010: collaboration with Mongolian University of Science and Technology and the French NGO “Action contre la Faim” on an urban ecosan project in the Ger areas of Ulaan Baator.
- February 2010: first meeting of CNSS delegates with the Southern African Knowledge Node on Sustainable Sanitation in Pretoria, South Africa to explore potential cooperation

**Impact:** International networking on sustainable sanitation concepts, experiences and technologies, cooperation opportunities explored like joint training workshops, joint ideas of media coverage, exchange of documents, reports and contacts with different countries; increased reputation of CNSS and its topics and capacities in Asia and abroad; Chinese experiences accessible for international audience.

#### 7. Evaluation different projects in China and abroad.

##### **Outcomes:**

- Evaluation of the sanitation impact of UDDT, 4-in-1 biogas model, and DEWATS in selected Chinese regions (Liaoning, Sichuan, Yunnan, Shanxi).
- Investigation of an eco-toilet program for re-use of urine at fruit trees in Tianshui, Gansu province
- Investigation of a biogas project in Vietnam.
- Collaboration with Chinese NGO “YE CAO WEN HUA” in ecosan projects in Guangyuan Sichuan.

**Impacts:** Documented impacts of human excreta, agricultural waste and wastewater treatment with different ecological technologies, and detailed analysis of management challenges for long term operation: increased expertise in CNSS and in Node Expert Group and knowledge in NGOs for implementation of sustainable sanitation projects through sharing the results of investigations; increased local and international reputation of CNSS

#### **Overall Reflection:**

According to its original activity plan, CNSS has almost achieved all its planned objectives. The main barrier to achieve the entire objective is the time. Besides, CNSS is the first node established in the world, no existing experience is available for references. CNSS activities have always been organized at a very high professional level. This professionalism led to the reputation CNSS is currently enjoying among experts, media, decision makers and developers. In the times of rapid transition from rural to urban areas, CNSS provides future oriented ecosan concepts to broaden the view on sanitation, and the technological choices. There are still many “not yet answered” opportunities for CNSS, and both partners USTB-CSES and CWA will go on looking for funding opportunities to implement at larger scale ecosan in urban and rural areas, in China and in neighbouring countries.

The “seed funding” provided by SEI allowed for conducting research and data collection which would not have been possible without this basic financing; students and young academicians were introduced to the ecological sanitation concept and were enabled to write their Master Thesis in the sector. Reaching out to media, NGOs and enterprises in the most comprehensive way would not have been possible without CNSS funding; the increased reputation as experts in environmental sanitation is partly due to the public events organized under CNSS.

Without any doubt, there is still a need for an institution like CNSS– both in the public and in the academic sector of China. The kind of activities still needed include (list not exhaustive) (1) user approved and functioning showcases of ecological sanitation technologies; (2) training to local decision makers and developers on sustainable sanitation concepts; (3) continuous presence in the media with related topics; (4) continuous presence in national and international workshops and conferences for knowledge sharing and update.

These activities will probably not be carried forward, as funding opportunities for networking, international and national knowledge and experience exchange, and media presence are currently very difficult to identify due to international donor agencies’ and governmental budget restrictions.

CNSS has been created as knowledge platform to cater also for neighbouring countries especially in Mongolia and DPRK. When relevant contacts had been established, SEI informed that this aspect is no longer in the task list of CNSS. However, the demand in Mongolia and DPRK was there, and CSES used other funds to respond, without being entitled to relate this important work to CNSS.

**Objective 1: Until December 2010, public awareness in China on sustainable sanitation has been undergoing a significant change due to broad media coverage of related topics in at least 1 TV station, 1 Radio station, 3 newspapers and script for 1 documentary prepared**

*Indicators: In 2010, TV and radio stations as well as newspapers have informed about sustainable sanitation concepts; the script for a documentary on sustainable sanitation is prepared and ready to use*

**1.1 TV programs**

CNSS participated as co-planner in the CCTV program “People’s View” to discuss the topic “toilets” for 1 hour on March 15<sup>th</sup>, 2009. CNSS introduced the concept of Eco-San, gave a description of the Eco-San forum and the pilot project in Sichuan, and disputed with the supporter of traditional water-flush toilets. The program received the highest audience ever since the beginning of 2009, around 0.3%, which means 3,900,000 people watched the program. CNSS was invited to inform about alternatives to the conventional flush toilets as a private charity foundation just set up luxury flush toilets for primary schools in an extremely dry and poor town in Gansu province. As so many people doubted whether the charity did the right thing, the charity<sup>3</sup> started to look for alternative solutions. After the broadcasting of the program, CNSS received a lot of supportive messages including requests from other real estate developers. This potential and how to work together with private charities and real estate companies still needs to be explored.

CNSS joined in a Yunnan TV provincial program called “drought, nature and people”. The program was broadcasted on May 4th to 8th, 2010. The ecosan concept was introduced and project pictures were shown. After the program was broadcasted Beijing Times, the largest newspaper in circulation in Beijing, expressed a strong interest in cooperation with CNSS-CWA.

“Hougou Eco-Village Launching Ceremony” – a CNSS-CWA showcase - was reported by Shanxi provincial TV. The program introduced the Hougou village project and the eco-village launching ceremony, shot on the eco-toilets and interviews of users and experts.

**1.2 Newspapers**

CNSS arranged a visit for media from Beijing to the pilot project site in Sichuan province after the accomplishment of 108 eco-toilets, accompanied by professor Lin Jiang and Li Lingling from Guangxi to give training on site both to media and to the implementation team from March 21<sup>th</sup> to 23<sup>th</sup>, 2009. As a result of the visit and training, a reporter from the Chinese People’s Political Consultative Committee Daily wrote about the concept of Eco-San, the process how the pilot projects process, and concluded that the Forestry Department of Sichuan Province will build eco-san toilets in many of their reservation territories. The newspaper is a national newspaper that serves as information tool for central and local Political Consultative Committees. News being published in such newspaper are regarded as “official distribution”. The readers of this newspaper are governors, including all PCC officers throughout China.

Other major media contacted like China Daily, Xinhua News Agency are also “official media” and cover both the high-rank and low-end readers of the whole nation. An article “The Eco-Toilet Dream of a grassroot NGO” on the Chinese People’s Political Consultative Committee Daily described in detail how the 108 eco-toilets are built up at Water Drop Village, Sichuan province, and why it is important for the village to use the eco-toilets. “How to turn a Thousand–Years-Village to Ecology” - an article to introduce Hougou village project, including background, current status and visions to promote the eco-san concept was released by Xinhua News Agency during Hougou Eco-Village Launching Ceremony.

Beijing Times China Social Responsibility Weekly, the subsidiary of Beijing Times will be founded on June 20<sup>th</sup> 2009, and CNSS is invited as guest to attend the ceremony.

**1.3 Radio program**

In December 2008, the ecological sanitation construction project has been talked when the China Radio International reported the ecological reconstruction after the shake. In April 2011, the ecological village and ecological sanitation toilet project in Myanmar has been mentioned at Burmese channel of China Radio International.

**1.4 Documentary script**

Documentary scrip has been made and broadcasted at Yellow River TV channel in ShanXi province.

**1.5 Show cases**

---

<sup>3</sup> the founder is one of the richest real estate developers in China

108 Eco-toilets were built in the earthquake area in Sichuan province, improving hygiene and sanitation conditions of more than 1000 people in the village. Eco-toilet implementation has been started in Shanxi Hougou village.

CNSS and Wanruo Environmental Engineering Co. designed and installed vacuum toilets on the 12<sup>th</sup> floor in the Building of Environmental Science and Engineering, University of Science and Technology Beijing.

A demonstration garden was established next to the CNSS office on the campus of USTB, where crops or vegetables are grown using treated urine.

Urine diversion toilets are designed for Yangshan Shuyuan, which is located in Beianhe village Beijing, for the house of a volunteering family. The system includes a urine diversion toilet, urine collection unit, fecal treatment unit as well as a constructed wetland as wastewater treatment unit.

Urban ecosan system demonstration with urine diversion toilets and “living machine” (a form of biological wastewater treatment, using sunlight, bacteria, green plants and animals to treat water) for sewage disposal is designed for a family house - Siheyuan, Beijing, to provide convenient and sanitary living condition.

### **1.6 Websites publishing CNSS activities**

Xinhua news agency, netease China, Sina.com, Sohu.com, China.com released the news and copied the program of Yunnan TV show on their websites. An article in Chinese – “The Eco-San approach to reach the ultimate target of All Water Are Back To Clean (Hai Yan He Qing)” By Sohu Gongyi Channel (website) describing in detail CNSS-CWA’s story how to start to know Eco-San and then launch the Eco-San Forum to make it public to all the possible audiences.

Both, the 2009 Beijing International Environmental Technology Conference and the China Sustainable Sanitation Development Forum 2010 were reported by many professional websites (for example, China water net, Water & Wastewater Engineering).

### **1.7 Toolbox**

A set of comprehensive, informative, and eye-catching “outreach materials” has been produced. These materials include brochures on the introduction of CNSS and Chinese language fact sheets on constructed wetlands, urine treatment and utilization, and urine diverting toilets, as well as posters; adhesive stickers, leaflets and badges.



## **Objective 2: Until December 2010, sustainable sanitation options for urbanized areas are analyzed, categorized and made available to urban developers in at least 1 province and the Association of Architects & Planners in Beijing**

*Indicators: Architects and urban developers have been informed about sustainable options for urban sanitation*

**Connection with urban developers and their industry association:** Supported by the CCTV program mentioned under Objective 1, and an ongoing governmental project related to the modification of old housing communities, CNSS get connected to some major urban developers and their industry associations. The idea of ecosan was transferred on the highest decision level.

In June 2010, CNSS received the invitation to present “Low carbon related technology and models for ecological city design” at the 2010 International Conference on Urban Development and Planning in Qinghuangdao city, Hebei province, China. The conference is held by Ministry of Construction, China, Development Bank, World Bank and Hebei Province Government.

**Alliances with the Association of Eco-city Research Committee.** Already in June 2008, CSES received the invitation to present on the “Application of Ecological Sanitation Projects in Urban Areas” at the International Symposium on Urban Development and Construction in Langfang city, Hebei province. CNSS was further invited to present about: “rainwater utilization” at the Shenzhen Urban Planning Meeting<sup>4</sup>, a new developing zone of Guangming District, Shenzhen city: participants included the Director of the Urban Construction Department/Ministry of Construction; local officials from the Water Saving office; Chief Engineer of Shenzhen Municipal Engineering Design Institute; Director of Guangming District Authority; CNSS presented also on “integrated water management (ecosan, water saving, rainwater harvesting, wastewater reclamation and reuse)” to the technical staff of Shenzhen Water Group<sup>5</sup> for Shanghai Construction Indicator Development during the Mid-Term Expert Evaluation Workshop<sup>6</sup> of Chongming Eco-Island; participants included the Chief Engineer, Director of Technical Department, and other Engineers of the Shenzhen Water Group.

**Analyze eco-san options in Erdos/Inner Mongolia.** November 2008 to January 2009, an intern at CNSS-CSES analyzed the performance and acceptance of the human excreta composting system in Erdos/Inner Mongolia; the report has been send to SEI.

**Attending important conferences in China.** Forums and conferences where CNSS has been invited to as presenter to governmental officers, urban developers, city planners and builders included:

- “Global Environmental Scientist Forum” in May 2010 in Shanghai;
- Forum on the topic of “Use of Rainwater” in Shenzhen with Shenzhen City Guang Ming Xin Qu government on 13th May 2010;
- Annual forum of eco-city development in China;
  - Nov 2009 in Shandong: topic of “Planning and models of Ecological cities”
  - June 2010 in Hebei: topic of “Green、 Ecology and Digital: the change of development model of Chinese city.”
  - Nov 2010 in Wuxi: topic of “City water environment and water ecological use technique”
- “International Green Habitat Forum” in November 2010 in Chengdu.

**Indicators for showcase evaluation.** A working paper on evaluation criteria combining social, economical and technical parameters related to Sustainable Sanitation has been elaborated and applied as indicators for showcase evaluation. The report is available in the appendix.

---

<sup>4</sup> 2009-06-06

<sup>5</sup> 2009-06-08

<sup>6</sup> 2009-06-09

**Objective 3: Until December 2010, knowledge in sustainable sanitation concepts is accessible to a broader audience through a website, an expert pool is identified and working, and technology development is ongoing in at least 2 universities, institutes and enterprises**

*Indicators: CNSS website is visited at least by 1325 people/year; Expert pool is actively involved in knowledge sharing and development*

**Installation of CNSS website.** The CNSS website was installed under [www.susanchina.cn](http://www.susanchina.cn) in February 2009. It is designed to be the “virtual node”, a platform where much of the central function and purpose of the Knowledge Node could be served. A professional group was employed in June 2010 to update not only the website design but also the content. Until 15<sup>th</sup> June 2011, both CNSS website versions were visited over 44021 times. Within the website, users can download materials related to ecosan, for example the GIZ Ecosan newsletter in Chinese. Ecosan technical facts sheets and information were translated and are available on the website.

**Set up expert database.** An Expert Database has been set up – in a first stage, including universities working in sustainable sanitation, expert data base/core expert group, company list – suppliers and service providers. This data base is used only for internal networking among the two CNSS partners, as Chinese data protection rules do not allow for public accessibility.

**Set up technical database.** A technical database has been developed by CNSS. This working document – periodically updated - displays devices and enterprise contacts. Its publication is still issue of negotiations with the included enterprises and individuals due to Chinese data protection regulations and Chinese Intellectual Property Rights.

**Set up media list.** CNSS has established a media contact list which includes journalists from national and local TV stations, newspapers, magazines, radios as well as websites. Having built up a steady communication network, releasing eco-san news and activities will be done periodically. Also some specialized journalists can be chosen to join our bi-monthly salon periodically to communicate on sustainable sanitation options.

**Expert meeting.** The first expert meeting was organized on March 14, 2009 in the premises of USTB. 25 experts coming from different governmental institutions and universities attended the meeting. The Agenda included 3 topics: (1) Presentation of the China Node for Sustainable Sanitation to interested experts, (2) Identification of national indicators for evaluation of sustainable sanitation systems in China, (3) Identification of Core Node Expert Group.

The second expert meeting was organized on 31st July, 2010. 33 experts coming from different governmental institutions and universities attended the meeting. The Agenda included following topics: (1) Situation analysing on city drainage system; (2) Trend and aim on city drainage system; (3) Examples on city drainage system.

**Media salons.** CNSS launched the first media salon on 29th August 2010. There were 14 journalists from Xinhua News Agency (Chinese official media), China Environment Daily, China Science and Technology Daily, Beijing Youth Daily, Qianlong.com etc who attended the salon. The second media salon was held on 12th September 2010. There were 9 journalists and 4 experts attended.

**Scientific conferences.** In October 2009, Beijing International Environmental Technology Conference was attended by about 120 participants, both from China and international organization. 90 articles were published, and the conferences proceedings were indexed by ISTP available for download at the CNSS website.

From 2<sup>nd</sup> to 5<sup>th</sup> December 2010, China Sustainable Sanitation Development Forum 2010 took place at USRB. About 100 participants, both from China and international organizations, summarized the two years' work of CNSS and shared experience about and among other Knowledge Nodes and organizations. The Forum provided opportunities to experts, government officials, and business leaders, to present their work, exchange ideas and develop visions for future sustainable sanitation policies, standards and systems in China. On the last two days, international participants were invited to visit the showcase at Hougou Village, Shanxi Province.

**Objective 4: Until December 2010, in at least 2 universities and professional education institutions curricula on sustainable sanitation are applied and knowledge on sustainable sanitation is disseminated among sanitation promoters in at least 2 national organizations**

*Indicators: Curricula developed with support from third parties (fund raising or assignment); capacity development*

**Production of sustainable sanitation script.** A script on sustainable sanitation curricula for bachelor students is already drafted under the name "Bilingual Teaching Material – Introduction to EcoSan Technology"; it will be adjusted following the feedback from external experts and students. The textbook has been distributed to 3<sup>rd</sup> year undergraduate students in 2009, 2010 and 2011.

**Ecosan engineering workshop.** an international engineering workshop on DEWATS - waterbased ecological sanitation systems - was conducted between 02.05.-17.05.2009 at the USTB, co-financed by UNICEF DPR Korea, SEI, GIZ, and CNSS; engineer "trainees" have been delegated from DPRK, China and Nepal. The curriculum developed for this training course was later adjusted in order to be applied in a variety of Chinese universities and technical formation centres.

**International networking building.** Three delegates from CNSS provided in-sights into the Node Development in China to selected sanitation stakeholders in Nepal during the South-Asian Node Strategy Workshop in Kathmandu in April 2009.

**Chinese literature prepared for public.** "Toilets that make compost" written by Peter Morgan and "Practical Guidance on the Use of Urine in Crop Production" written by Anna Richert have been translated into Chinese.

Four Chinese fact sheets on constructed wetlands, urine diverting toilets and urine treatment and utilization, and faeces composting were produced. The fact sheet on constructed wetlands for small scale wastewater treatment was printed.

**Ecosan concept survey distributed and analysed.** A public survey on Ecological sanitation concept was done in September and October 2009 among students at the USTB who are not involved in the CNSS. Over 100 questionnaires have distributed. Opinions and knowledge about ecological sanitation from this basically informed public have been collected and revealed that the interest in ecological sanitation is quite high especially in regard to water saving and nutrient re-use.

**Objective 5: Until December 2010, the CNSS network has achieved permanent contacts to decision makers in at least 2 provinces and at central level**

*Indicators: Sustainable sanitation concepts and options are known at policy level in at least 2 provinces and by central decision-makers*

**Speech given in National Administration School.** After several months' efforts, CNSS was invited as guest speaker to give a first speech on sustainable sanitation at the National Administration School on April 16<sup>th</sup>, 2009. This seminar for an advanced class for bureau level officers nationwide runs under the theme "How to keep the economy grow and how to make the supportive public policy"; the students are 34 bureau level officers from various ministries from more than 15 provinces. CNSS was the only speaker representing the environmental experts from NGOs. CNSS introduced the idea of ecosan, the set up of CNSS and the pilot projects in Sichuan, which attracted many questions and interests afterwards. Some of the students showed deeper interest requesting further information: the vice director of Hubei provincial bureau of press and publication, the vice director of secretariate office of Ministry of Civil Affaire, the vice director of Heilongjiang provincial bureau of surveying and mapping. This may open brighter ways to talking in depth possibilities of working together in different provinces to promote sustainable sanitation. The vice director of the economy department of national administration school is very supportive to CNSS and is interested to be a strategic partner to create more chances for CNSS to present sustainable sanitation concepts in a wider range.

**Individual approaches to various provincial decision makers.** CNSS has made individual contacts to the highest level of decision makers in Chongqing (Municipal city), Jilin province and Qinghai province. And the contact person are the Mayor of Chongqing, the Vice Executive Chairman of People's Political Consultative Conference of Jilin Province and the Vice Governor of Qinghai Province. All of them showed great interest to support sustainable sanitation concepts to be applied in their place. CNSS has made individual contacts to highest level decision makers in the cities of Guangxi, Dalian and Suzhou.

**Support from the Youth Communist Party.** CNSS, as one of the board experts, participated in an internal meeting organized by the Youth Communist Party and gave an introduction about the Eco-Toilet Action, which received high appraisalment. There is an annual prize of 1 million CNY as total amount to be granted to various environmental-friendly projects; the prize is co-set by the Youth Communist Party and Toyota Investment Co. Ltd. Part of the prize, around CNY200,000 goes to one of the ecosan related projects under the lobby of CWA.

**Concept sheet for sanitation.** CNSS presented Concept Sheets for brief information about the sanitation situation in China and the technological options provided by sustainable sanitation concepts. This Concept Sheets reflects both the Chinese context, potential and experiences, and international case studies.

**Alliances building.** CNSS has built up a good connection to the eco-city research committee of the Ministry of Construction, and attended conferences organized by this committee: (1) in October 2009 in Dezhou; (2) in June 2010 in Qinghuangdao.

## LFA – all years aggregated

Programme Objectives	Objectively Verifiable Indicators	Means/Sources of Verification	Impacts
<p><b><u>Objective 1</u></b></p> <p><b>Until December 2010, public awareness in China on sustainable sanitation has been undergoing a significant change due to broad media coverage of related topics in at least 1 TV station, 1 Radio station, 3 newspapers and script for 1 documentary prepared</b></p>	<ul style="list-style-type: none"> <li>- In 2010, TV and radio stations as well as newspapers have informed about sustainable sanitation concepts;</li> <li>- The script for a documentary on sustainable sanitation is prepared and ready to use</li> </ul>	<p>(1.1) At least 3 meetings / round table discussions about sustainable sanitation in at least 2 provinces: Invitation letters; agenda &amp; minutes from meetings / round table discussions</p> <p>(1.2) Toolbox (as part of communication package) is available and used in at least 2 provinces: Edited documents / guidelines &amp; handouts; written requests from institutions in at least 2 provinces</p> <p>(1.3) CSES and CWA staff members participate in at least 4 relevant events each year, in total up to 8: Registration document; print out of lecture &amp; presentation; agenda</p> <p>(1.4) At least 12 publications until end of 2010 in different media; script elaborated: Copies from press releases; script for documentary film</p> <p>(1.5) A database with criteria and showcases is set-up and used by at least 6 institutions or 25 individuals: List of criteria; publication; on-site visits, database</p>	<p>CNSS interacting with different stakeholders and bringing different stakeholders together to promote sustainable sanitation</p> <p>Awareness raising campaigns on sustainable sanitation successfully applying different means included in the toolbox (communication package) adjustable to the specific needs in the different economic, social and geographic Chinese contexts</p> <p>In relevant public event (conferences, workshops, lectures, camps) the topic of sustainable sanitation is represented</p> <p>Mass media contacts are established and CNSS reaches already out to relevant groups in society</p> <p>Node Expert Group approved criteria to identify and monitor regularly Show Cases for sustainable sanitation concepts &amp; technologies</p>

Programme Objectives	Objectively Verifiable Indicators	Means/Sources of Verification	Impacts
<p><b><u>Objective 2</u></b></p> <p><b>Until December 2010, sustainable sanitation options for urbanized areas are analyzed, categorized and made available to urban developers in at least 1 province and the Association of Architects &amp; Planners in Beijing</b></p>	<p>- Architects and urban developers have been informed about sustainable options for urban sanitation</p>	<p>(2.1) A database on water based re-use oriented urban sanitation technologies in China is set up: Data base; on-site visits</p> <p>(2.2) Obstacles to safe re-use in selected pilot projects are identified and recommendations to overcome them are formulated: Document; on-site visits</p> <p>(2.3) At least 2 Chinese projects implementing UDDT systems have been analyzed in-depth: Reports; site visits</p> <p>(2.4) Experiences with the composting system in Erdos are documented in a report: Report</p> <p>(2.5) At least 4 Chinese projects implementing biogas systems have been analyzed in-depth: Reports; site visits</p> <p>(2.6) At least 2 Chinese projects implementing DEWATS systems have been analyzed in-depth: Reports; site visits</p> <p>(2.7) At least 6 CWA Vantone Foundation staff have participated in a study tour on sustainable sanitation</p>	<p>An inventory of models and case studies of water based re-use oriented urban sanitation technologies is being set up that could be used for references</p> <p>Lessons Learnt from urbanized UDDT projects in Inner Mongolia and Yunnan provinces are analyzed; they play a significant role in design and implementation processes of UDDT before upscaling and upgrading</p> <p>Based on the analysis of the performance and acceptance of the composting system installed in Erdos/Inner Mongolia, systems (modules, training, mechanics) for closing the loop are tailored in line with the specific context of other locations</p> <p>Experiences with sanitation aspects &amp; impacts of the 4-in-1 Biogas model and of resource optimizing Decentralized Wastewater Treatment Systems (DEWATS) are analyzed; their publication for national and international audience supports the further implementation of these sustainable sanitation systems</p> <p>CWA staff and other NGOs increased their knowledge on sustainable sanitation.</p>

Programme Objectives	Objectively Verifiable Indicators	Means/Sources of Verification	Impacts
<p><b><u>Objective 3</u></b></p> <p><b><u>Until December 2010, knowledge in sustainable sanitation concepts is accessible to a broader audience through a website, an expert pool is identified and working, and technology development is ongoing in at least 2 universities, institutes and enterprises</u></b></p>	<ul style="list-style-type: none"> <li>- CNSS website is visited at least by 1325 people/year ;</li> <li>- Expert pool is actively involved in knowledge sharing and development</li> </ul>	<p>(3.1) Internet domains are registered and a website set-up: Website; invoice for internet domain registration</p> <p>(3.2) The template for registering in the knowledge database is set-up and already used by at least by 15 stakeholders involved in sustainable sanitation: Database</p> <p>(3.3) An internet discussion forum on sustainable sanitation is established in Chinese; At least 1 expert meeting on sustainable sanitation take place in China; At least 4 salons of knowledge sharing take place;</p> <p>(3.4) The technology database is published on the CNSS website and updated at least twice until end of 2010: Database on CNSS website</p>	<p>The CNSS website serves as Open Space for discussion and knowledge platform, although interested stakeholders have not yet access to experts, technology options and show cases</p> <p>The “Who’s Who in Sustainable Sanitation in China” is not published due to Chinese data protection rules; however it facilitates networking among the CNSS experts</p> <p>The technology database could open both broader markets for sustainable sanitation devices to manufacturers and dealers and a wider selection range to real estate developers, architects and interested stakeholder. The database is already used by CNSS to answer specific questions from Chinese experts. Due to Chinese data protection rules it is not accessible by the public.</p>

Programme Objectives	Objectively Verifiable Indicators	Means/Sources of Verification	Impacts
<p><b><u>Objective 4</u></b></p> <p><b>Until December 2010, in at least 2 universities and professional education institutions curricula on sustainable sanitation are applied and knowledge on sustainable sanitation is disseminated among sanitation promoters in at least 2 national organizations</b></p> <p>-</p>	<ul style="list-style-type: none"> <li>- Curricula developed with support from third parties (fund raising or assignment) ;</li> <li>- capacity development</li> </ul>	<p>(4.1) Draft of curricula for undergraduate; Chinese book for practical guidance on the use of urine in crop production</p> <p>(4.2) Translation into Chinese of “toilets that make compost” written by Peter Morgan</p> <p>(4.3) A complete overview on capacity development needs from at least 50 stakeholders is established</p>	<p>The results from the survey on capacity development needs among public stakeholders provides a baseline for capacity building strategy development, capacity building methodology and events, but not for the impact assessment of CNSS, as the survey was conducted just among an audience that received only basic information on sustainable sanitation.</p> <p>The analysis of the feedback from students using the drafted ecosan curricula has not been evaluated so far due to time and budget constraints.</p>



<b><u>Programme Objectives</u></b>	<b>Objectively Verifiable Indicators</b>	<b>Means/Sources of Verification</b>	<b>Impacts</b>
<p><b><u>Objective 5</u></b></p> <p><b>Until December 2010, the CNSS network has achieved permanent contacts to decision makers in at least 2 provinces and at central level</b></p>	<p>- Sustainable sanitation concepts and options are known at policy level in at least 2 provinces and by central decision-makers</p>	<p>(5.1) At least 4 meetings with influential policy and decision makers take place focusing on sustainable sanitation concept and options; contacts to relevant schools are established; at least 1 lecture given in one of them: Minutes from meetings; invitation letter for lecture, handouts</p> <p>(5.2) Concept sheet for brief information about sustainable sanitation options available, and permanently updated: Concept sheet</p> <p>(5.3) Strategic alliances with relevant associations for the urban development, planning and construction grow: Minutes from meetings; documented correspondence</p>	<p>Policy and decision makers at provincial and national level confirmed support to the further implementation of sustainable sanitation systems.</p> <p>The Concept Sheet for brief information about the sanitation situation in China and relevant options provided by Sustainable Sanitation Concepts is used for further awareness raising</p> <p>Strategic Alliances with different professional associations – esp. of urban planners and developers – enabled significant steps on the way to mainstreaming Sustainable Sanitation in new settlement areas and in old (historical) housing structures.</p>

### Appendix 1: List of knowledge products

Year	Date (if applicable)	Product type	Description of product	Context where used	File name	Downloadable at
2009	july	Conference report at IETC	Experimental Study of Bentonite–soil Mixtures as Anti-seepage Materials of Constructed Wetlands			Available by request
2009	july	Conference report at IETC	A brief introduction of anti-seepage technology of constructed wetland			Available by request
2009	july	Conference report at IETC	The investigation of biogas utilization in Nepal			Available by request
2009	july	Conference report at IETC	Advances in Disinfection Technologies of WWTPsTail Water Research			Available by request
2009	july	Conference report at IETC	Effect of pH and cation strength on lincomycin sorption from water by soils			Available by request
2009	july	Conference report at IETC	Improved wastewater ultraviolet disinfection by ultrasonic pre-treatment			Available by request
2010	july	Conference report at IETC	Technical innovation in wastewater treatment			Available by request
2010	july	Conference	Experimental study of the settling sludge in secondary			Available by request

		report at IETC	sedimentation tank supplying for MBBR			
2010	july	Conference report at IETC	Experimental investigation on high concentrated brown water treatment through MBR system			Available by request
2010	july	Conference report at IETC	The influence of pH to the P-recovery from human urine via struvite formation			Available by request
2010	july	Conference report at IETC	Application of constructed wetlands for domestic and municipal wastewater treatment in China			Available by request
2010	july	Conference report at IETC	Surveying the long-term feasibility and acceptance of different sustainable sanitation systems in Shanxi and Yunnan			Available by request
2010	july	Conference report at IETC	Evaluation of promotion of large-scale sustainable toilet utilization in the villages of Shanxi province in China			Available by request
2009		paper	Experimental study on treatment efficiency of wastewater from small hospital by vertical flow constructed wetland			Available at <a href="http://ieeexplore.ieee.org">http://ieeexplore.ieee.org</a>
2009		paper	New concept for water management in urban areas of China			Available at <a href="http://ieeexplore.ieee.org">http://ieeexplore.ieee.org</a>
2010		paper	Application and development of biogas storage membrane		沼气贮气膜的应用与发展	Available at <a href="http://www.cnki.net">http://www.cnki.net</a>

2010		paper	Current status of biogas projects in Germany		德国沼气工程现状分析	Available at <a href="http://www.cnki.net">http://www.cnki.net</a>
2009		paper	Research on disinfection of WWTPs effluents by ultrasound		超声波对城市污水处理厂出水消毒的研究	Available at <a href="http://www.cnki.net">http://www.cnki.net</a>
2010		paper	城市生态卫生排水系统及其应用 Urban ecological sanitation drainage system and its applications			Available at <a href="http://www.cnki.net">http://www.cnki.net</a>
2010		paper	城市道路雨水水质研究进展 Research on urban rainwater			Available at <a href="http://www.cnki.net">http://www.cnki.net</a>
2010		paper	养牛场一体化沼气工程启动运行效果分析 Analysis on biogas project at cattle farm			Available at <a href="http://www.cnki.net">http://www.cnki.net</a>
2010		book	Proceedings of 2009 Beijing international environmental technology conference			
2009		book	Technical guidelines for wastewater treatment of constructed wetland 人工湿地污水处理技术导则			
2008		presentation	国际卫生设施年 International Year of Sanitation 2008			

2010		book	堆肥厕所 Toilet that makes compost (chinese version)			
2010		presentation	城市可持续发展的综合水管理技术 Sustainable integrated water management in urban areas			
2010		presentation	生态城市建设中的生态卫生设施排水技术 Suatainable sanitation technology application in ecological urban development			
2010		newspaper	冲厕小事情，生态大问题 Small toilet, big ecological problem			
2011		book	尿液用于农作物种植实用技术导则 guidance on the use of urine in crop production (chinese version)			
2009	Feb.	Newsleter translation	Quarterly newsletter on ecological and sustainable sanitation worldwide,a service by the GTZ program "sustainable sanitation –ecosan"(on behalf of BMZ)			
2011	06.09	conference	International Green Habitat Forum			
2010	11.02	conference	City water environment and water ecological use technique			

2010	05.13	conference	Use of Rainwater			
2010	05.05	conference	Global Environmental Scientist Forum			
2010	06.23	conference	Green 、 Ecology and Digital: the change of development model of Chinese city			
2010	03.25	conference	CEO Discussion and Networking Evening:China's Emergence as a Global Greentech Market Leader			
2010	06.28	conference	中德可持续城市发展论坛 Forum on sustainable city development in China and Germany			
2010	07.29	conference	2010 中国首届民族生态与水安全健康高峰论坛 2010 1st Forum on national ecological-, water- safety and healthy			
2010		Fact sheet	Water purification technology by engineering ecological system			
2010		Fact sheet	Intoduction of CNSS			
2010		Fact sheet	Introduction of hougou vilage			
2010		Fact sheet	Activities list of CNSS			
2010		Fact sheet	Intoduction project of NSFC			
2010		Fact sheet	Introduction of vacuum toilet			

2010		Fact sheet	Introduction of yellow water			
2010	07.31	Eco-city saloon	Invitation letter of the first sanitation saloon			
2010	07.31	Eco-city saloon	Brief introduction of the first sanitation saloon			
2010	07.31	Eco-city saloon	Draft of first sanitation saloon			
2010	07.31	Eco-city saloon	Schedule of first sanitation saloon			
2010	07.31	Eco-city saloon	Contact information of first sanitation saloon			
2010	07.31	Eco-city saloon	Major topics material of first sanitation saloon			
2010	07.31	Eco-city saloon	Presentation of wastewater collection system			
2010	Sep.	Investigation reports	Investigation of an eco-toilet program for re-use of urine at fruit trees in Tianshui, Gansu province			
2010		Investigation reports	Write a book as guidance for biogas			
2010		Investigation reports	Investigation of decentralized wastewater treatment systems in Sichuan Province, China			
2011		Investigation reports	中国低碳生态城市发展报告 Report on development of low carbon ecological city in China			
2010		Table	Eco-toilet volunteering family registration form			
2010		table	Experts data			

2011	Feb.	file	Design instruction of Yangshanshuyuan Sustainable Sanitation Demonstration project			
2011	Feb.	Drawing	Design drawing of Yangshanshuyuan Sustainable Sanitation Demonstration project			
2011	Feb.	table	Project Budget of Yangshanshuyuan Sustainable Sanitation Demonstration project			
2011	June	piece	Check and accept agreement of Yangshanshuyuan Sustainable Sanitation Demonstration project			
2011	April	file	Design draft of Living Machine System in Shijia Lane			
2011	4	Radio.mp3	中国国际广播缅甸语台《中缅友好协会恢复成立将推动两国民间各领域交流合作取得新进展》中宣传生态卫生理念  Radio programme at Burmese channel of China Radio International.		中缅友好协会录音报道.mp3	Available by request
2008	11	ppt	Ecological Sanitation in the Earthquake Area		Ecological Sanitation in the Earthquake Area081102.ppt	Available by request
2009		Presentation	Enterprises and ecology		社会企业与生态.ppt	
2010	August	TV program	清水同盟做客新浪直播间，谈水、生态、及生态卫生  TV programme on <a href="http://www.sina.com">www.sina.com</a>			<a href="http://www.cleanwater.org.cn/page/Default.asp?ID=396">http://www.cleanwater.org.cn/page/Default.asp?ID=396</a>
2009	Mar.	TV program	清水同盟策划并参加了中央电视台 10 套《大家看法》栏目的周末特别节目《十个厕所的生存烦恼》在其中倡			<a href="http://news.148365.com/vid">http://news.148365.com/vid</a>



			导了生态卫生理念，呼吁公众关注厕所的实际问题			eo3317.html
			<b>TV programe on CCTV10</b>			
2010	Sep.		生态卫生厕所在后沟纪录片		生态卫生厕所在后沟.mov	
			Script on ecological sanitation toilets at HOUGOU			
2009	Apirl	presentation	受邀参加国家行政学院第十五期厅局级公务员研修班《可持续增长与宏观经济政策》研讨会，发表《生态文明与经济增长》的演讲，宣传生态卫生理念。		生态文明与经济增长.ppt	
			<b>Ecological culture and economic growth</b>			
2009	Sep.	presentation	后沟生态村启动仪式演讲		后沟生态村.ppt	
			<b>Ecological village of HOUGOU</b>			
2010	Nov.	presentation	清水同盟在耶鲁大学森林与环境学院就中国水问题发表演讲		Yale.ppt	
			<b>Water affairs &amp; NGOs in China</b>			
2010	May	TV	<相约东南>清水同盟淡水保护与可持续生态			<a href="http://www.tudou.com/programs/view/3NSpCo9CwcI/">http://www.tudou.com/programs/view/3NSpCo9CwcI/</a>
			<b>TV programme</b>			
2010	Sep.	poster	第二次媒体沙龙关于 eco-sanitation 海报展示		我想有个干净的厕所 1. gpg; 我想有个干净的厕所 2. gpg; 我想有个干净的厕所 3. gpg; 我想有个干净的厕所 4. gpg; 我想有个干净的厕所 5. gpg; 我想有	
			<b>Posters on eco-sanitation</b>			

					个干净的厕所 6. gpg;	
2011	May	Book	关于厕所与清水的那些事  Toilet and clean water		关于厕所与清水的那些事.pdf	
2011	May	Presentation	天津大学、天津工业大学、天津农学院等高校生态与水文化巡讲。其中包括可持续生态卫生理念的传播  Ecology and water culture		生态与水文化.ppt	
2011	July	Presentation	广州人与水摄影展，20日《生态与水讲座》  Ecology and water			
2010	July	presentation	受2010中国首届民族生态与水安全健康高峰论坛邀请演讲《民族生态与水安全》  National ecology and water safety		民族生态与水安全.ppt	
2010	April	TV	清水同盟主席高中参加云南卫视《民生大议—旱动天地人》旱灾特别节目  TV programme on YUNNAN TV			<a href="http://v.youku.com/v_show/id_XMTgwMzMzMzc2.html">http://v.youku.com/v_show/id_XMTgwMzMzMzc2.html</a>

**Appendix 2: List of presentations/publications**

Year	Date (if applicable)	Title	Presenter/author(s)	Location	Context	File name	Downloadable at
2010		Proceedings of 2009 Beijing international environmental technology conference	Zifu-Li Xing-wang Guan Helmut Hohnecker				
2009		Technical guidelines for wastewater treatment of constructed wetland	Zifu-Li Zhen-Li Liyang-Lei Chengqing-Yin				
2008		国际卫生设施年 International Year of Sanitation 2008	Yifei-Li	Sichuan dishui village			
2010		堆肥厕所 Toilet that makes compost (chinese version)	Zifu-Li		Translation of composting toilet written by Peter Morgan		
2010		城市可持续发展的综合水管理技术 Sustainable integrated water	Zifu-Li	Chengdu, Sichuan province			

		management in urban areas					
2010		生态城市建设中的生态卫生 设施排水技术 Sustainable sanitation technology application in ecological urban development	Zifi-Li	Qinhuangdao, Hebei province			
2010		冲厕小事情，生态大问题  Small toilet, big ecological problem	CSR weekly		Report about the forum held by CNSS 2010 in USTB		
2011		尿液用于农作物种植实用技 术导则  guidance on the use of urine in crop production (chinese version)	Zifu-Li		Translation of practical guidance on the use of urine in crop production written by Anna Richert		
2008	Nov.	Ecological Sanitation in the Earthquake Area				Ecological Sanitation in the Earthquake Area081102.ppt	Available by request
2009			James-Gao	Chongqing		社会企业与生 态.ppt	

2009	April	生态文明与经济增长 Ecological culture and economic growth	James-Gao	Beijing		生态文明与经济增长.ppt	
2009	Sep.	后沟生态村 Ecological village of HOUGOU	James-Gao	Shanxi		后沟生态村.ppt	
2010	Nov.	Water affairs & NGOs in China	James-Gao	Yale		Yale.ppt	
2011	May	生态与水文化 Ecology and water culture	James-Gao	Tianjin		生态与水文化.ppt	
2011	July	生态与水 Ecology and water	James-Gao	Guangzhou			
2010	July	民族生态与水安全 National ecology and water safety	James-Gao	Beijing		民族生态与水安全.ppt	

**Appendix 3: List of inventories (to be handed over)**

<b>Object/Type of product</b>	<b>Brand and model</b>	<b>Serial number or similar</b>	<b>Purchase Date</b>	<b>Price</b>	<b>Estimated value April 2011</b>

## **Project-related Appendices**

The products itemized above appended as well as other relevant documents are attached in this section. In order to make this much clearer, some of the books and presentations with many pages, are only attached the front page instead of the whole document. However, all the full version of books and presentations are available in electronic version and the printed version is available by request.

