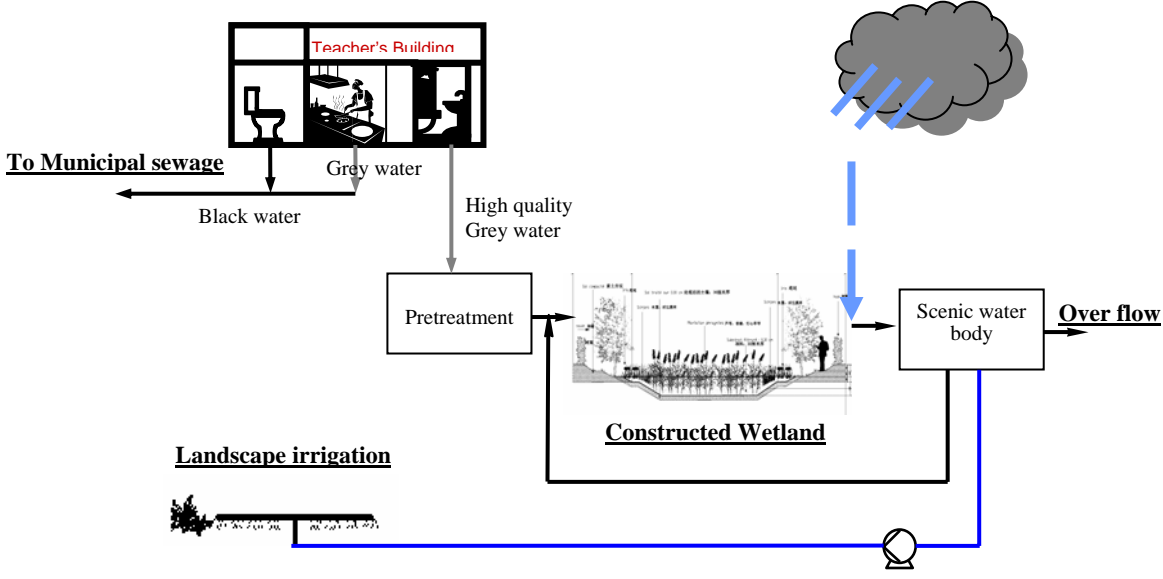


SWITCH DEMONSTRATION PROJECT

<p>1. Name of Demonstration : Chongqing Greywater demo</p>	<p>2. Location(s): Chong Qing, China (greywater facility construction) Chengdu, Wuhan, Chongqing (monitoring)</p>
<p>3. Lead workpackage/partner: Workpackage 4.1, Lead partner – Chongqing University (12)</p> <p><i>Other workpackages involved:</i> <i>Workpackage: 1.4, Lead Partner – EPFL (21)</i> <i>Workpackage: 2.3, Lead Partner – UNESCO-IHE (1)</i> <i>Workpackage: 6.4, Lead Partner – UNESCO-IHE (1)</i></p>	
<p>4. Timeframe: July 2007 through April 2010</p>	
<p>5. Description of demonstration: The site of Chongqing Greywater demo-project will be located in the New Huxi Campus of Chongqing University. Huxi Campus is the new development area of Chongqing university, which has a planning area of 2.45 sq. km (with 1.75 sq. km for teaching and 0.70 Sq. km for teachers' residential use). There are two big lakes in teaching area, and one in the residential area.</p> <p>Upon the end of 2005, the first phase of the campus has been finished, and about 250,000 sq. m of buildings for lecture, laboratory, and student building have been constructed. The teachers' residential area is planned to finish the construction at the end of 2008.</p> <p>A integration scheme of grey water reuse and landscape/aesthetic purpose is proposed. The grey water from 21 high-rises will be collected and treated onsite by CW, the rainwater will be captured and treated onsite with shallow grass trenches, swales and CWs. The reclaimed water (both grey water and rain water) will be used as the source of landscape irrigation and the complementary of the scenic water body. The water quality conservation of the scenic water is another issue in the whole water system, which will be considered.</p>  <p>Preliminary Process Flow Diagram for Sustainable water system in newcampus_CQU</p>	

Innovative features/science:

A integration of grey water reuse and landscape/aesthetic purpose

Potential impact:

The grey water demo project for the new campus of CQU will reduce the consumption of potable water by 150 million liters per year. If this demo-project can be replicated at 10 sites in each China’s city, it will reduce the consumption of potable water by 990 billion liters per year, which will rescue 2.5% of water supply shortage for future China.

Relationship to LA – evidence of demand:

The high water consumption of landscape water body and irrigation as well as the difficulty of maintaining the water quality of the scenic water body has become a heavy load for universities, residential areas, public owned garden, and even industrial area. There is a very obvious demand to solve this issue in a sustainable and economic way. Decentralized grey water reuse is a feasible solution according to China’s current economic/social development situation.

It is not sure that the demonstration contents have been identified as a priority by the Learning Alliance. The demonstration has been presented in Beijing-Chongqing LA meeting once.

Plans/ideas for scaling up:

The new campus of Chengdu Medical college will be the first replication. grey water reuse and rain water harvesting and reuse will be implemented there.

With the help of MOC’s new policies of “resource saving campus”, “sustainable building”, the conception and idea of decentralized wastewater(greywater) treatment and reuse will be taken in practice into the new development projects. So there is a good potential for scaling up the demonstration.

6. Budget Summary (overall description of SWITCH and match funding – how 35/65% split will be achieved)

The total budget of Demonstration in Chongqing is 541,802.4 EUR, in which 189,630.84 EUR from EU, and 352,171.56 EUR from matching funds.

<i>Year</i>	<i>SWITCH budget (EUR)</i>	<i>Matching funds (EUR)</i>
2006	39, 312	73,008
2007	38, 323	65,169
2008	47, 332	323, 000
2009	54, 663	2, 120
2010	10, 000.84	3, 435
2011		

7. Dissemination Plans

Target Audiences/rationale:

Governmental relation: MOC, MOE, Gongqing Government; The demo-project can also become a partial content of national demonstration as “resource saving campus” and “sustainable building”.

Universities/Colleges: A successful integration of grey water reuse and landscape/aesthetic purpose will be a paradigm for Universities/Colleges to learn from.

Students: The demo-project will become a study case for students, who will influence the future society with the idea in their mind.

Planned Publications:

2 papers for international Journals; (about the design of Demo-project)

4 papers for Chinese Journals, (about the design of Demo-project and the experiment study).

Media:

The media will be targeted to promote the dissemination activity with the following measures: ribbon cutting events after the successfully finishing construction of the demo-project; publication on journals; SWITCH website; and Newspaper.

Other (workshops, conferences, etc.):

LA Workshops between local stakeholders will be held for implementing pre-evaluation or post-evaluation about the promising system applied for the demo-project. So that sustainable water conception can be rooted into the mind of relevant stakeholders.

8. Training activities (activity, location, timeframe)

The demonstration is hopefully to be developed into a training module. With the help of MOC and MOE, the demo-project can be hopefully selected as a demonstration of “resource saving campus” in China, and training activities can be implemented after the construction work in Chongqing (the expected date would be the middle of 2008).

Chongqing Greywater Demonstration Project Details

Activity	Tasks	Timeframe for task	Deliverable & due date	Lead partner/ workpackage	Comments
Reviews and support studies 1. Investigate and review the existing technologies and processes 2. Experiment study on "Rain-Barrel" for roof rainwater treatment 3. Experiment study on Constructed Wetland for wastewater treatment	<i>Assess the potential of selected ecological technologies for wastewater and rainwater treatment and reuse</i>	Feb.2006 through July 2007	<i>D4.1-11-1R: Survey Report on Existing Technologies(Jan.07)</i> <i>D4.1-11-2R: Experiment study on "Rain-Barrel" (Aug.07)</i> <i>D4.1-11-3R: Experiment study on Constructed Wetland (Aug.07)</i>	Chongqing University (12)/ WP4.1	
Construction activities 1. Design for demo-project 2. Workshop reviewing demo design and establishing monitoring and research programme 3. Construction of demo-project	1. Design of a decentralized urban wastewater system for Chongqing Demo-project 2. Workshop reviewing demo design and establishing monitoring and research programme 3. Start of construction of demo-project and preparation of an operations manual	Mar. 2006 through Dec. 2008	<i>D4.1-11-4P: Feasibility study on sustainable water system for Longhu Lijia Residential Project. (Jul.06)</i> <i>D4.1-11-5P: design on greywater treatment and reuse for Huxi Campus_CQU (Oct.07)</i>	Chongqing University (12)/ WP4.1	The Greywater demo in Xindu campus of Chengdu Medical college can be regard as the second option.
Monitoring and analysis 1. monitoring and analysis 2. Post-evaluate	1. Implement monitoring and analysis on the performance of the designed system in demo-projects (Chongqing, Chengdu, Wuhan) 2. To conclude the successes and failures, advantages and disadvantages of selected technologies applied in the demo-projects for further improvement and promotion	Jan. 2009 through May. 2010	<i>D4.1-11-6R: Report on monitoring and analysis (Dec.09)</i> <i>D4.1-11-7R: Post-evaluation report on the ecological technologies for greywater treatment and reuse applied in demo-projects. (May.10)</i>	Chongqing University (12)/ WP4.1	

Chongqing Greywater Demonstration Project Budget

Year	Partner	Budget (EUR)	Matching Fund Organisation (name)	Budget (EUR)	Total Budget (EUR)
2006	Chongqing University (12)	39,312	Chongqing University Long Hu Real-estate company	35,008 38,000	112,320
2007	Chongqing University (12)	38,323	Chongqing University Chendu Medical College	48,169 17,000	109,492
2008	Chongqing University (12)	47,332	Chongqing University/Chendu Medical College	323,000	370,332
2009	Chongqing University (12)	54,663	Chongqing University/Chendu Medical College	2,120	56,783
2010	Chongqing University (12)	10,000.84	Chongqing University	3,435	13,435.84
2011	Chongqing University (12)				
Total		189,630.84		466,732	662362.8