

# outcome HIGHLIGHTS



Planning sanitation in Hatsady Tai, Lao PDR: Members of the Community Environmental Unit – a gender-balanced decision-making group elected by local residents – participated in every step of the sanitation planning process.

Photo: Sandec

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## Steps to a safer, cleaner community

Household-Centred Environmental Sanitation in Lao PDR

### In brief

- NCCR North-South researchers and their partners have developed a step-by-step, participatory approach to improving sanitation in low-income settlements, empowering residents to create a safe, clean environment
- Tested in a Laotian urban settlement, the approach led to new sanitation infrastructure and a solid waste management system created with heavy community involvement
- Flooding and open littering – and related health risks – were significantly reduced



Research featured here was conducted in Lao PDR

NCCR North-South researchers and partner organisations (see back) are striving to improve sanitation in developing countries. They seek to enable communities to play a central role in the planning, implementation, and maintenance of their sanitation systems. These efforts led to creation of the Household-Centred Environmental Sanitation (HCES) approach. The HCES approach is a step-by-step process for planning sanitation improvements in poorer areas, particularly urban settings. In 2007, the HCES approach was tested in Hatsady Tai, a settlement in Vientiane, the capital and largest city of the Lao People's Democratic Republic.

### Hatsady Tai

Over the years, Hatsady Tai's sanitation services failed to keep pace with population growth. Most residents used pour-flush toilets and soak pits to collect human waste and domestic wastewater. Since narrow streets prevented vacuum trucks from accessing their pits, residents often emptied untreated sludge and wastewater directly into uncovered storm-water drains. But garbage littering the landscape, the sludge itself, and poor soil permeability often disabled

the drains, causing flooding and health risks. In 2007, the prevalence of waterborne diseases in Hatsady Tai was high, with 14.5% of the population suffering from diarrhoea.

After residents submitted an official request for assistance to government authorities, Hatsady Tai was selected to test the HCES approach in a PAMS project (see back).

### Step by step

The HCES approach's initial steps focus on assessment of the environment and residents' sanitation needs. In Hatsady Tai, residents completed surveys and met with district authorities and sanitation experts to discuss their needs. A gender-balanced group of about 60 residents took part in a consultation workshop, setting priorities by anonymous vote. And, crucially, a Community Environmental Unit was elected by residents to represent their interests at every stage.

The next HCES steps centre on identifying solutions, drafting plans, and implementing them. In Hatsady Tai, experts used the assessment results and the Compendium of Sanitation Systems and Technologies to pre-



Following implementation of HCES plans: new covered stormwater drainage to protect against flooding. In addition to 300 metres of new drainage lines, 15 private toilets, a small-bore sewer (265m) for 32 households, and 3 community septic tanks were built. Total planning and implementation costs were US \$263 per beneficiary (275 inhabitants).

Photo: Sandec

select sanitation systems suited to the settlement. The options were then narrowed down with a project coordination committee incorporating members of the Community Environmental Unit. Then, in a series of meetings, plans were drafted, reviewed, and approved by all stakeholders, before being implemented by a private construction company.

The new infrastructure was unveiled in spring 2009: toilets, a small-bore sewer, three shared wastewater treatment facilities, and over 300 metres of new, partially covered drainage lines were among the visible improvements. Finally, dozens of households were furnished with wastebaskets and composting facilities.

### Community participation

Yet one of the project's chief accomplishments – community involvement – goes beyond visible infrastructure improvements. Application of the HCES approach showed the viability of community participation in sanitation planning. The project clearly increased residents' capacity to maintain a safe, clean environment. Indeed, the Community Environmental Unit was eventually put in charge of operating and maintaining the new sani-

tation facilities. And the community at large assumed responsibility for a comprehensive new solid-waste management system that reduces their dependence on inadequate city services; it includes household sorting of waste, composting and recycling, house-to-house collection of garbage by contracted residents, delivery to collection points, and agreed-upon fees to cover costs.

Hatsady Tai stands to lastingly benefit from the HCES project. Floods have decreased thanks to the new stormwater drainage system. This, in turn, will likely reduce rates of waterborne illness. Public littering and burning of household garbage have virtually disappeared, reducing associated health risks like respiratory illness. In all, Hatsady Tai appears on track towards a cleaner, healthier, more productive future – a future that residents themselves will have a large hand in sustaining.

The HCES approach has been further tested in diverse urban and peri-urban settings in Kenya, Tanzania, Costa Rica, and Nepal. Efforts to optimise its scalability regarding costs have led to improved microfinance schemes – directly to end-users – and community development funds.

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### Researchers

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### Select partners

- Eawag/Sandec [Switzerland]: [www.sandec.ch](http://www.sandec.ch)
- Asian Institute of Technology: [www.ait.ac.th](http://www.ait.ac.th)
- Water Resources and Environment Administration
- Hatsady Tai Community Environmental Unit

### Further reading

Tilley E, Lüthi C, Morel A, Zurbrugg C, Schertenleib R. 2008. *Compendium of Sanitation Systems and Technologies*. Dübendorf, Switzerland: Eawag [Swiss Federal Institute of Aquatic Science and Technology].

Lüthi C, Morel A, Kohler P, Tilley E. 2009. *People's Choice First. A 4-Country Comparative Validation of the HCES Planning Approach for Environmental Sanitation*. NCCR North-South Dialogue 22. Bern, Switzerland: NCCR North-South.

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Outcome Highlights feature effective collaborations between researchers, policymakers, practitioners, and local communities in the NCCR North-South network.

### Partnership Actions for Mitigating Syndromes (PAMS)

are pilot projects designed to test NCCR North-South research in real-world settings. Developed jointly by researchers and local stakeholders, they aim to promote mutual learning and reveal paths to sustainability.

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