The SEI Initiative on Sustainable Sanitation

Spurred on by the new Sustainable Development Goals (SDGs) and the broader post-2015 agenda, along with changing national realities, many low- and middle-income countries will need to invest heavily in sanitation in the next decade. The decisions they make and the approaches they take will have far-reaching consequences for sustainability and for the well-being of their citizens.

The SEI Initiative on Sustainable Sanitation (SISS) therefore comes at a critical time, with unprecedented opportunities to boost sanitation provision across the world. SISS aims to give new momentum to sustainable sanitation, through a combination of new research, knowledge management, capacity development, policy engagement, outreach and on-the-ground action. In doing this it will build on a long heritage of cutting-edge research and policy engagement on sustainable sanitation and broader sustainable development at SEI.

The need for new approaches

SISS envisions sanitation as an integral piece of the sustainable development puzzle, highlighting the multiple benefits it can provide in areas from health to food security, resilient livelihoods, disaster risk reduction, business growth, energy, and environmental sustainability. That requires taking a systems perspective that looks beyond the "hardware" issues to take in, for example, enabling institutional conditions and governance frameworks, and ways to change users' perceptions and practices.

Open defecation, along with poorly functioning wastewater and excreta management systems spread disease, pollute water resources and badly damage ecosystems and the services they provide to human populations. The problems can be particularly acute during disasters such as floods and drought. Limited access to sanitation also works against inclusive development, not least as some impacts fall more heavily on women and girls.

Despite these facts, and increasing policy attention in recent years, progress in sanitation provision has been slow in much of the world. The Millennium Development Goals (MDGs) called for halving by 2015 the proportion of the world population without access to improved sanitation (sanitation that is assumed to protect the user from faecal pathogens); however, some 2.5 billion people still lack such access. Taking into account the number of people using systems that release effluent untreated into the environment, or pit latrines and septic tanks that are not safely installed or managed, then only a minority of the world's population currently uses a sanitation system that protects the health of the wider community or the environment.

Vision: Sustainable sanitation systems become mainstream choices for sanitation development and accessible to all.

Mission: To boost sustainable sanitation provision at scale in low- and middle-income countries, through research, knowledge exchange, capacity development, policy dialogue, with a focus on productive sanitation approaches that yield multiple economic, social and environmental co-benefits.

Overarching objectives: To contribute to sustainable development through sanitation.

To contribute to the long-term sustainability of sanitation systems by strengthening governance, climate resilience, local capacity, sanitation-related livelihood opportunities, and social acceptance of sustainable sanitation.

Photo © Kim Andersson

A Bolivian family and their new sanitation and hygiene unit

Many barriers exist to the successful implementation of sustainable sanitation at scale. For example, the relevant institutions in many low- and middle-income countries have limited capacity and often lack skilled human resources to plan and implement sustainable sanitation systems. Furthermore, the clear and comprehensive policies needed to support sustainable sanitation are often missing, and the division of roles and responsibilities of different actors unclear, leading to overlaps and missed opportunities.

A lack of systems thinking also directly affects the sustainability of sanitation systems on the ground: many sanitation solutions installed under government and donor programmes fall out of

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Applying urine to cabbage crop, Niger

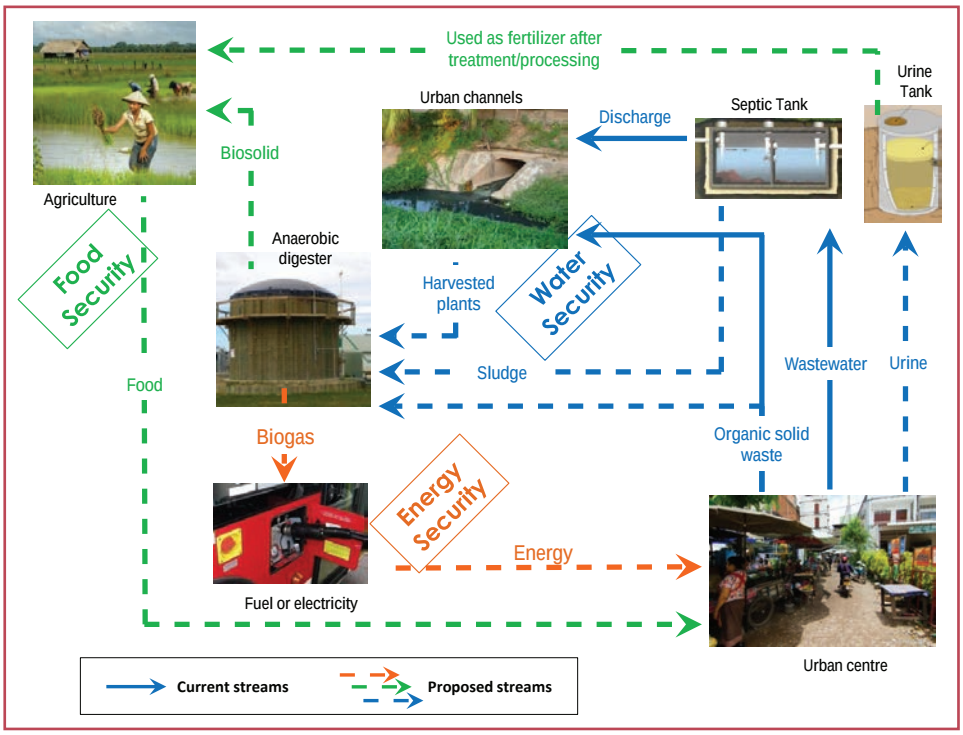

Figure 1: The potential for more productive use of waste streams in Vientiane, Laos
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use because no provisions were made for maintenance or the targeted users were not sufficiently engaged during the process and thus lack understanding of why and how to use them.

The right sanitation investments made now can also help to meet rising demands for clean water, food and energy driven by a range of global and regional trends, including population growth. Many options are available to safely recapture water and the rich nutrient content from human excreta, wastewater and other waste flows. These can be used to boost local agricultural production, to generate modern biofuels, to reduce unsustainable water extraction, and to minimize the release of untreated effluent. More broadly, they can improve livelihoods and open up lucrative new business opportunities.

However, even more than other sanitation provision, "productive" approaches to sanitation (see box above) demand systems thinking. There is a need for innovative ways to work with communities that not only motivate people to abandon open defecation, but also improve the sustained use of toilets as well as supporting the safe reuse of wastewater and sanitation sub-products. This will be an important strand of research and capacity building under the Initiative.

Definitions

Sustainable sanitation: Sustainable sanitation systems are those that protect and promote human health, minimize environmental degradation and depletion of the resource base, are technically and institutionally appropriate, socially acceptable and economically viable also in the long term.

Productive sanitation: Sanitation systems that make productive use of the nutrients, organic matter, water and energy content of human excreta and wastewater in crop and energy production. Productive sanitation is a term pioneered by SEI referring to sanitation systems that are designed to turn waste into valuable resources.

Aim and focus

SISS will explore new implementation models; consolidate and strengthen the evidence base for sustainable sanitation; provide capacity-building support to planners and practitioners in developing countries; and offer advice to governments, donors and others on implementation, planning and creating enabling institutional frameworks.

The Initiative will stress the case for "productive" sanitation, with a focus on hygienic management and safe, efficient use of sanitation waste products, and how it can respond to a broad set of post-2015 sustainable development challenges.

While the Initiative has a global scope, it will give special attention to sub-Saharan Africa (SSA). Of the 69 countries not on track to meet the sanitation MDG, 37 are in SSA. Furthermore, rapid urbanization and population growth, declining agricultural fertility, and widespread malnutrition are all serious challenges in the region, while water demand is projected to increase threefold between 2005 and 2030,[1] by which time more than 300 million of the 800 million people living in SSA are expected to be living in water-scarce environments.[2] Primary energy demand in SSA is forecast to increase fourfold by 2030.[3]


Photo © Alter-Eco

Indigenous villagers learn how to make their own toilets, Colombia

Building on firm foundations

SEI has worked on sustainability issues related to sanitation for more than 15 years, conducting research, establishing "knowledge nodes", implementing pilot projects, supporting the scale-up of national programmes, and working broadly to

[1] 2030 Water Resources Group (2009). Charting our Water Future: Economic Frameworks To Inform Decision Making: The Economics of Water Resources. McKinsey, Munich.

[2] New Partnership for Africa's Development (2006). Water in Africa: Management Options to Enhance Survival and Growth. Addis Ababa, United Nations Economic Commission for Africa. http://www.uneca.org/awich/nepadwater.pdf.

[3] http://www.buildafricaforum.com/en/infrastructures

Key Areas of Study

Multi-level sanitation governance: The Initiative will examine the policy and institutional frameworks needed to support sustainable sanitation, aiming to disentangle how sanitation policies and strategies articulate among different levels of governance and partners in development, and how they eventually translate into investment and behaviour change at the household level.

Systems approach: The Initiative will develop an integrated systems approach to enhancing resource management across sectors, with tools, models and criteria that can facilitate sanitation planning and management within wider multi-sectoral development planning at different governance levels. This work will also build on the "functional sanitation ladder" developed by SEI (see Figure 2), which highlights functionality, rather than technology, as the most important criterion for assessing sanitation systems.

Intervention methods for sustainable up-scaling: Productive sanitation has been implemented in numerous small-scale projects. To further support up-scaling, SEI will develop and pilot new intervention model in selected countries. There is a pressing need to take stock of experiences and learning in sustainable sanitation provision to date and to incorporate this into new models.

Sanitation within the broader sustainable development agenda: SISS will demonstrate how sustainable and productive sanitation can contribute to a wide range of goals and targets in the SDGs. For example, productive sanitation offers many potential synergies at the water-energy-food nexus, which could attract interest and investment in sustainable sanitation from a range of sectors, individuals, local governments, and public-private partnerships.

Disaster-resilient WASH systems: Research under the Initiative will also explore how to strengthen the resilience of water, sanitation and hygiene (WASH) systems, particularly to disasters. SISS will provide evidence for how sustainable sanitation systems can contribute not only to reducing disaster risks and climate change adaptation, but also to efficient energy use and climate mitigation.

Photo © Linus Dagerskog

Sensitizing local women about sustainable sanitation, Niger

enhance awareness, capacity and knowledge. The EcoSanRes Programme (2001–2011), which was financed by the Swedish International Development Cooperation Agency (Sida) explored sustainable sanitation issues and the potential for multiple co-benefits, and established knowledge nodes in eight world regions. SEI has integrated sustainable sanitation into other related SEI research areas, such as climate change adaptation, disaster risk reduction and resilience, the water-food-energy nexus, management of environmental systems, and transforming governance and behaviour.

SEI researchers are prominent and active in leading international sanitation networks and knowledge constituencies. SEI was a co-founder of the Sustainable Sanitation Alliance (SuSanA), which currently has more than 230 member organizations worldwide, including many policy-makers. Furthermore, SEI has an extensive resource base in terms of staff with sustainable sanitation-related knowledge and experience, which will be further enhanced and leveraged using expertise from across our extensive partner networks.

Routes to impact

Work under the Initiative will follow three main lines of work:

Capacity development, networking and knowledge management: This is where the research focus is defined and redefined through networking and stakeholder interaction, and where the knowledge base is surveyed, compiled and communicated to support capacity building and research.

As well as presenting new research carried out under SISS, a core activity will be gathering, synthesizing and make avail-

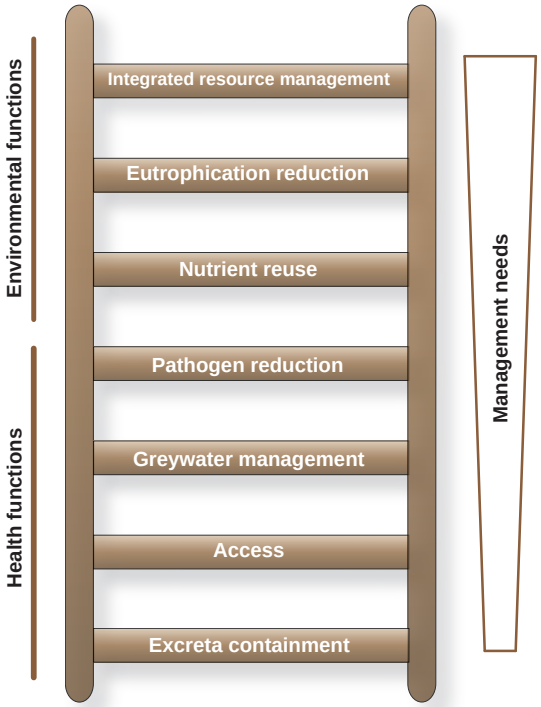

Figure 2: A ladder of sanitation systems functions developed by SEI (based on Kvarnström et al. "The sanitation ladder – a need for a revamp?", Journal of Water, Sanitation and Hygiene for Development 1(1)

able in accessible and targeted formats existing learning and experience in sustainable sanitation from diverse actors around the world.

SEI will work through established networks and global collaboration hubs, including SuSanA, Water and Sanitation for All, the Water Supply and Sanitation Collaborative Council (WSSCC), the African Union, the UN Environment Programme, the Asian Development Bank (ADB), and the Bill and Melinda Gates Foundation. SEI will also offer support to strengthen existing regional and national collaboration initiatives and platforms in SSA, Latin America and the Caribbean, South-East Asia, South Asia and the Middle East and North Africa.

Research and knowledge development: SISS will conduct new research and pilot interventions on sustainable sanitation implementation, responding to known policy challenges as well as demands clearly expressed by key stakeholders. Research will aim to provide *evidence* for how productive sanitation responds to a broad set of cross-sectoral development challenges beyond health. It will identify *keys to success*, from appropriate technologies to encouraging local adoption to business development to governance frameworks and policy engagement, and combine them into *new intervention models*.

To enable equitable long-term sustainability the research will also address issues such as behaviour change and gender. Box 2 elaborates on some of the specific research topics already identified. Collaboration with other SEI Initiatives and with a range of partners, particularly in developing countries, will be crucial in this research.

Policy advice and guidance to support scaling up and increased investment for sustainable sanitation: SISS will work with a range of actors responsible for planning and funding development programmes in which sustainable sanitation could play an important role. It will make active use of accumulated knowledge and emerging research findings to underpin policy formulation and support cross-sectoral policy dialogues, with the aim of increasing investment in expanded sustainable sanitation development.

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"Our urine is worth gold!" – on-site urine collection in Ouagadougou, Burkina Faso


Photo © Kim Andersson

A combined freshwater pump, washing and toilet facility, Bihar, India

SEI will use its connections with the Independent Research Forum (www.IRF2015.org) and others to support discussion around the SDGs and the development of indicators and national implementation modalities and plans. It will provide conceptual advice to the Global WASH Cluster on sustainable sanitation in emergencies, and through SuSanA, link to the UN system, including the UN Secretary-General's Advisory Board on Water and Sanitation (UNSGAB).

Funding

The SEI Initiative on Sustainable Sanitation is envisaged as a five-year programme. Core funding is provided by Sida. However, SEI will also seek to leverage funding together with new and established partners for a range of sanitation-related activities and projects that will together advance its strategic research agenda and enable capacity development and outreach through collaborative platforms.

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