resources **guide**

Solid waste management

Journals

■ *Habitat International* on Solid Waste Management
http://www.sciencedirect.com/science?_ob=PublicationURL&_cdi=5899&_pubType=J&_auth=y&_acct=C000050221&_verson=1&_urlVerson=0&_userid=10&md5=188ec46535e9e4f12e95b061d49eb625
A thematic issue of the journal *Habitat International* (Volume 30 Issue 4) was published in December 2006. The title of the issue is Solid Waste Management as if People Matter and it contains 10 papers from different contexts in Asia, Africa and Latin America.

Organizations

■ Collaborative Working Group (CWG) on Solid Waste Management in Low and Middle Income Countries
http://www.cwgnet.net/
The CWG network is a forum to encourage interaction between partners on key solid waste management issues and to provide the opportunity for improving the standards and sustainability of solid waste management. It covers the wide range of aspects that affect solid waste management, including institutional, social, financial and technical aspects. The CWG is best known for a range of publications and the series of international workshops that it has organized approximately every two years since 1995. Reports of these workshops can be obtained from the CWG Secretariat. Past workshops include:

- 'International Workshop on Municipal Solid Waste Management'; Ittingen, Switzerland, 1995
- 'Micro and Small Enterprises Involvement in Municipal Solid Waste Management in Developing Countries'; Cairo, Egypt 1996
- 'Waste Disposal Workshop', Belo Horizonte, Brazil, 1998
- 'Planning for sustainable and integrated solid waste management'; Manila, Philippines, 2000
- 'Solid waste collection that benefits the urban poor', Dar es Salaam, Tanzania, 2003
- 'Solid waste, health and the Millennium Development Goals', Kolkata, India, February 2006

■ EAWAG / SANDEC
http://www.sandec.ch/
The Swiss Federal Institute for Environmental Science and Technology (EAWAG) is a Swiss Competence Centre for National and International Water Research. The Department of Water and Sanitation in Developing Countries (SANDEC), composed of a team of scientists, develops and implements new water and environmental sanitation concepts and technologies with partner organizations worldwide.

The SWM Group of SANDEC undertakes applied research and capacity building/ training, and also provides short-term consultancy services relating to the research focus. In research, together with local partners, SANDEC develops and assesses new transdisciplinary approaches in solid waste management. The aim of decentralized solutions is to treat and reuse waste as close to the source of generation as possible. Hence SANDEC's research in Solid Waste Management includes:

- Decentralized organic waste management approaches such as aerobic composting, co-composting (e.g. combined composting of organic solid waste and faecal sludge) and waste treatment by saprophages (animals feeding on dead or decaying organic matter);
- Non-governmental approaches for municipal waste management (community-based and private sector small and medium enterprise approaches)
- Strategic planning and decision making for municipal solid waste management (e.g. economic valuation of strategic alternatives)
- Development and assessment of financing mechanisms for sustainable operation of solid waste services

While informal recycling of inorganic materials is already widespread, recovery and treatment of the organic waste fraction is still limited. In many cases more than 50 per cent of the total waste amount is biodegradable and could be treated with simple technologies in a decentralized way. The product is a valuable resource for urban and peri-urban agriculture in developing countries. SANDEC considers three components comprising important indicators for the feasibility of decentralized waste composting schemes:

- market demand for compost product
- lessons learned from existing schemes (technical, financial, institutional and social aspects) and
- financial and economic feasibility of composting.

In capacity development, SANDEC contributes to the development of professional expertise on solid waste management issues as well as on developing research skills. This is pursued through active involvement and support of curricula and course development in training courses and educational programmes. Skills in conducting research are developed by collaboration in research partnerships.

■ Practical Action
http://practicalaction.org/?id=urban_environment_asia.
http://practicalaction.org/?id=environmental_initiatives
Practical Action has a growing body of work on waste management. The organization is currently implementing a number of projects in Kenya, Zimbabwe, Bangladesh, Sri Lanka and Nepal on improving municipal solid waste management in low-income areas. In Asia, the work is organized through three projects funded by the EC (through its Asia Pro Eco programme).

- Bangladesh: A project called 'Environmental Initiatives, waste management and technology dissemination' is working in Gazipur district to test nine different technologies for waste management. Practical Action is working in partnership with the

micro-credit organization BASA capacity of municipalities to plan for and implement better waste management systems.
- In Sri Lanka, waste management has been an important component of the work with communities affected by the *tsunami*. This includes technologies for composting and plastic recycling.
- Regional: A project is working in Bangladesh, Sri Lanka and Nepal, adopting an integrated approach to improving the urban environment. This project takes community capacity-building and participatory planning as its starting point. It includes elements of work on waste management in four towns across the three countries.

Practical Action's activities in Kenya include building the capacity of waste management co-operatives in Nairobi and Nakuru. Technologies around composting, plastic and paper recycling have been developed. In Nakuru the project works with waste salvagers at the dumpsite and in the town; and at the other end of the spectrum with the inter-ministerial committee on the environment to help ensure new policies are pro-poor. Another important initiative is the publication of *Waste Digest* which is published with support from UNDP. In Zimbabwe, work has started with groups in three urban areas to help them link with their local authorities, provide a collection service in their neighbourhoods, and develop viable, sustainable businesses.

Practical Action *Eastern Africa*
P.O. Box 39493, Nairobi, Kenya
Tel: +254 20 2715293 / 2719313 / 2719413
Fax: +254 20 710083
E-mail: kenya@practicalaction.org.ke

■ SKAT Foundation
http://www.skat-foundation.org/publications/prarticle.2005-09-29.7288084326
The SKAT Foundation regularly produces manuals and reports, often in co-operation with other institutions or on behalf of government agencies or donors. Check out their full list of available titles by topic.

Websites

■ Professor David Wilson
www.davidcwilson.com
Professor David C. Wilson is a senior and respected figure in waste and resources management in the UK and internationally. He is now working full-time as an independent consultant, specializing in high-level policy and strategy work. He is also Visiting Professor in Waste Management at Imperial College, London. His web site contains a range of useful information, including information on Strategic Planning needed for good Governance in waste management.

■ Urban Resource Centre Karachi
http://www.urckarachi.org/home.htm
Urban Resource Centre (URC) Karachi has a dedicated area on waste management. Chaired by Prof Arif Hasan, who facilitates citizens' participation and voices in city-level decision making. It is worth a look to see what is available!

Compiled by Mansoor Ali, International Urban Projects Manager, and Lucy Stevens, International Co-ordinator, Access to Services Programme, Practical Action.

waterpoints

Rope and washer pump clean enough?

Does the rope and washer pump deliver water as clean as other hand pumps? The rope pump principle, in which the rope goes in and out of the well is often considered to be not as satisfactory in terms of protection of the water source as other pumps which are more tightly enclosed. But recent research[1] suggests that the water quality is equal to that of a standard hand pump.

The rope and washer pump is not a new technology. The principle was already known and used two thousand years ago in China. The technique is easy to understand, to adapt and to manufacture with locally available materials such as wood, bamboo and tyres. The functioning principle is a continuous rope, with pistons attached to it, pulled through a pipe the bottom of which is in the water. Each piston traps some water and lifts it up.

More recent innovations require the washers to be manufactured from rubber, but the technology is still cheap: around US$150 for a complete pump, as opposed to US$700 for a Nira AF85, a strong handpump widely used in Africa. The pump can be used in a well of 40m depth, and even up to 60m depth can be achieved.

To compare the microbiological quality of water pumped, 20 pumps were tested, ten Nira and ten rope pumps, operating in different areas of the Ghana's Upper East Region, and installed with support from the local charity Rural Aid. Three samples were taken for each pump.

The analysis of the results shows that there are no significant differences between the two types of pumps in terms of their impact on microbiological water quality.

The rope pump also outperforms the Nira AF85 regarding other criteria: its capital costs are lower, as are maintenance costs. The pumping head is higher for the rope pump than for the Nira, along with the flow rate. These financial and technical advantages are coupled with the fact that the rope pumps are manufactured locally.

The study concludes that the rope pump should be considered for adoption as a standardized pump by the Ghanaian and other governments.

Reference

1. Harvey, P.A. Drouin, T. (2006) 'The case for the rope-pump in Africa: a comparative performance analysis' *Journal of water and health*; Vol. 4, No. 4

Solid waste management training courses in Africa

Poor solid waste management (SWM) policies and practices impact heavily on the environment, well-being, and quality of life in Africa. The World Bank Institute (WBI) has therefore identified