

books

Solid waste management in Madras City: A case study 1994

By R. Dhanalakshmi and Shobha Iyer

Over the years there has been increasing focus on the management of solid waste within the urban sector. Recent studies have indicated that besides the formal collection, transportation and disposal of domestic waste there is also a system of informal recycling activities occurring simultaneously. Unfortunately, there are only a few published books which have specifically focused on the issues of the formal and informal solid waste management sector as one integrated system.

This publication, however, has tried to address this issue by focusing on a city case study in Madras, India and by covering both the formal and the informal systems of source separation and recycling through extensive fieldwork investigations among the different waste actors. It also includes interviews with some of the less well-known 'waste workers' such as waste pickers, and reflects the differences in the types of waste they are able to collect and trade, and the level of income they receive for this type of work.

The book is divided into five main chapters. The first chapter gives an overview profile of Madras city. The second chapter focuses on all the aspects of the collection, transportation and disposal of waste found in the formal sector of solid waste management. The third chapter in turn examines the informal sector of solid waste management which deals with the various actors ranging from waste pickers and dump pickers to dealers and wholesalers who are all involved in some aspect with the recycling of waste. In the fourth chapter the types of non-governmental organisations (NGOs) found working on the solid waste management issue for either social and/or environmental reasons are described in great detail. Finally, in the last chapter we are presented with a summary of the important provisions in the Madras City Municipal Act dealing with solid waste management.

Although this publication does not give a clear analytical overview of how the two sectors could potentially work together in the future, it nevertheless provides an abundant amount of information on the functioning of both sectors. Both professionals and academics who are interested in understanding the role of solid waste management specifically in the urban context should find this book worth while having on their bookshelf.

Marielle Snell

PondPack v7: Detention pond and Watershed Modelling Software

Haestad Methods, 1999, \$US 4,995.00 (for 1 user), available from Haestad

PondPack is the latest release by Haestad Methods, an American software publishing company who provide a range of computer

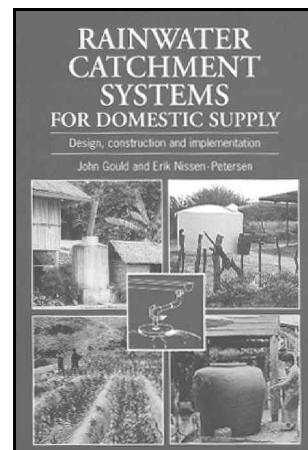
modelling applications for catchment hydrology simulation, hydraulic design and analysis of drainage systems. The main application for PondPack is the simulation of watersheds, stormwater runoff and catchment drainage analysis. More specifically, it has been developed and packaged as a versatile simulation tool to design culverts and retention ponds in order to alleviate flooding and peak flows of stormwater increased by urban developments.

Haestad describe their software as a model for a full range of stormwater projects from small sites to regional drainage problems. The main application of the software is to estimate storage requirements; this may be achieved for given outflow restrictions and downstream control such as the effects of tidal fluctuations. Thus, PondPack generates hydrographs and performs reach and pond routing across multiple combinations of different storm events. Rainfall data is based upon observed or synthetically generated data, entered as rainfall intensity hyetographs or intensity-duration-frequency (IDF) curves.

In terms of the mathematical heart of the model, the software offers nothing revolutionary, although it still manages to take up 17.5 MB of disc space, and minimum operating system requirements are Windows 95 or above. The rainfall-runoff models incorporated in PondPack are based upon a number of conventional linear hydrological models that lump together rainfall losses, including depression storage and infiltration. The choice of models includes the modified rational and the Soil Conservation Service model, and the model enables the user to choose between a number of different channel routing models; the most widely known being the Muskingham-Kunge model. The programme routes hydrographs either through engineering drainage conduits or through natural channels with irregular cross-sections. Drainage system outfall ancillary structures may be modelled, and the backwater effects of downstream restrictions to flow caused by confined discharges or submerged outlets may be simulated.

Clearly designed for the American market, the software perhaps has limited application in the developing world where the issues of drainage differ from those in the States. The model does not model overland flood flows; nor does it take into account the extent of solids build-up and blockages that are a frequent occurrence in drainage systems, especially in the developing world. The model makes no attempt to model quality and may not be applied for models of looped drainage systems. Notwithstanding these limitations, the major drawback with regards to its application in developing countries is undoubtedly the price tag. Starting at almost five thousand US dollars for a single user licence, it doesn't come cheap. Without doubt, PondPack may assist drainage engineers with a flexible simulation tool, but *Waterlines* readers should certainly evaluate the alternatives before they consider investing in this particular software package.

Jonathan Parkinson



A state-of-the-art review of practice in the collection of rainwater. With numerous case studies from around the world, *Rainwater Catchment Systems for Domestic Supply* will be of help to anyone intending to design or construct a rainwater catchment system.

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