

software review

SimTanka

Rural India's developmental efforts could get an unexpected boost from the software field. To kick off such attempts the first program of its kind has just been launched by public-spirited citizens, which offers to simulate the performance of rainwater collection tanks.

Called SimTanka, this free computer software is intended to stimulate performance of rainwater harvesting systems with covered water storage tanks under the influence of a fluctuating rainfall. Such systems are called Tanka in the western parts of Rajasthan.

Western Rajasthan – the region's inhospitable desert tract – is known to have once had prosperity, wealth and habitability in medieval times.

This is believed to have been based on the extremely sagacious use of its natural resource base, which has got badly eroded over time. Now, the search is on for a software fix which could help offer a solution.

'Traditional water harvesting techniques have been severely eroded, thrown into disuse and even eliminated in most parts of the country,' warned a citizens' report on the state of India's environment, brought out by the Centre for Science and Environment in New Delhi recently.

Most desert-tract villages have small ponds, which gave them enough drinking water for up to eight months in a good season. Villages also have used *tankas*. These are circular holes in the ground lined with fine polished lime (*chunam*), in which water was collected during rainfall and used only when other supplies failed.

Using computer simulation, this software

will predict the performance of this rainwater harvesting system, based on a mathematical model of the actual system. SimTanka simulates the fluctuating rainfall on which the water harvesting system relies.

Rainwater harvesting system are often designed using some statistical indicator of the rainfall for a given place, like the average rainfall. When the rainfall is meagre and shows large fluctuations – as is the case in India's desert tracts – then a design based on any single statistical indicator can be misleading. But SimTanka takes into account the fluctuations in the rainfall, giving each fluctuation its right importance for determining the size of the rainwater harvesting system.

'The result of the simulation allows you to design a rainwater harvesting system that will meet your demands reliably. It lets you find the minimum catchment area and the smallest possible storage tank that will meet your demand with probability of 95% in spite of the fluctuations in the rainfall,' says Vikram Vyas of the Ajit Foundation in Jaipur, which developed this software.

You can even use SimTanka to find out what fraction of your total demand can be met reliably by your system. SimTanka uses the rainfall record of the immediate past, say last fifteen years, to obtain probabilities of the future rainfall.

Simulation results give a guideline based on past rainfall record, not a definite prediction of future performance. SimTanka needs at least 15 years of rainfall record for the place where it's being used. If not available, then rainfall records from the nearest place which has the same pattern of rainfall can be used. It has an included utility, RainRecorder, to enter and update the rainfall data.

'SimTanka is free and is being developed by the Ajit Foundation in the spirit that it might be useful for meeting the water needs of small communities in a sustainable and reliable manner,' added Vyas.

Frederick Noronha

Ordering...

SimTanka runs on Windows 95

Copies are available by simply sending in three 3-1/2 inch floppies to Vikram Vyas, The Ajit Foundation, 396 Vasundhara Colony, Tonk Road, Jaipur 302 018, India

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webwatch

Global Water

Global Water is an international non-profit, non-governmental organization. It was founded by the former U.S. Ambassador John McDonald and Dr. Peter Bourne to help save the lives of people in developing countries that are lost due to unclean water.

Global Water focuses on permanent solutions to a region's water problems, such as drilling new wells to pump clean water; and purifying and storage of existing sources of water.

The site provides access to information about current projects and a list of planned projects. There are also links to other partner sites.

<http://www.globalwater.org/>

Water and Sanitation Information

The InterWATER site provides links to sources of information about water and sanitation in developing countries.

This site provides a list of key International Organizations in Water and Sanitation, complete with web addresses.

A list of Internet links related to the water and sanitation sector will be posted on this site shortly.

www.wsscc.org/interwater/

Global Environmental Sanitation Initiative

GESI has been launched by the Water Supply and Sanitation Collaborative Council (WSSCC) with the goal of improving the health, well-being and quality of life of the three billion people in developing countries who presently lack hygienic means of sanitation, by accelerating programmes to deliver improved sanitation systems.

The site includes a Sanitation News section, a publication section and useful links to partner sites.

<http://www.wsscc.org/gesi/index.html>

*Compiled by
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