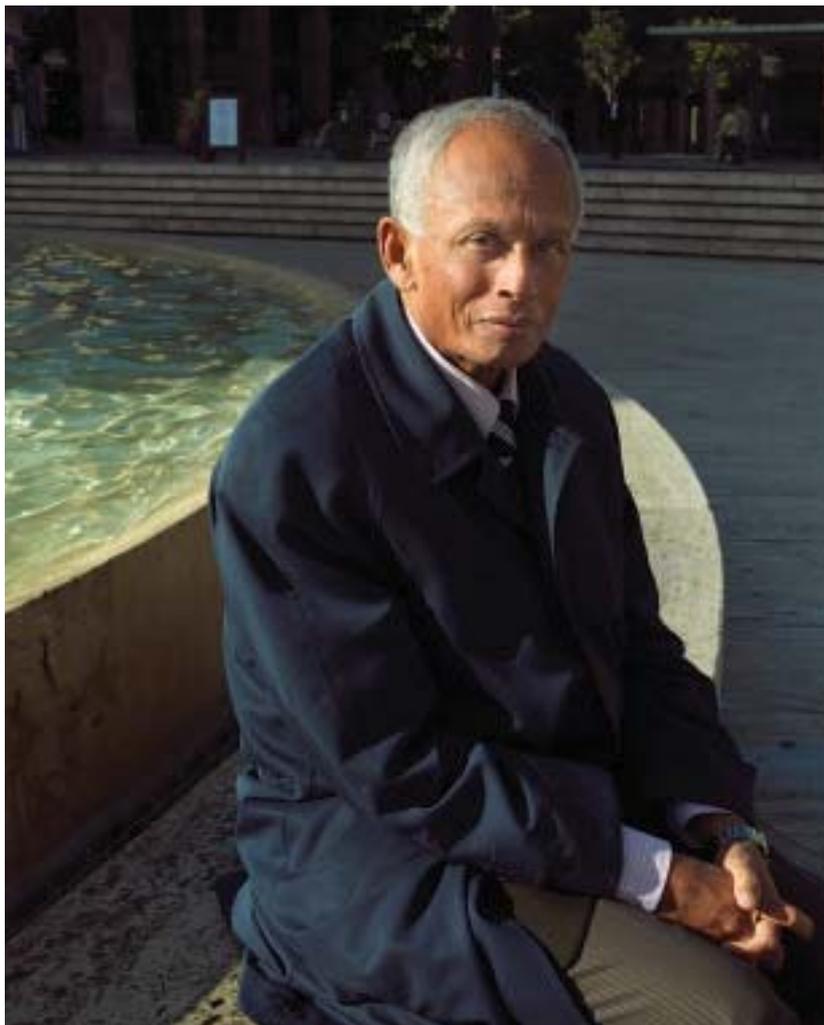


Asit Biswas

Water, Water Everywhere

... but scarcely a drop that is rationally priced. By Megha Bahree



ASIT BISWAS LOVES TO tell the story of the Phnom Penh Water Authority. It was 1993 and a new manager, Ek Sonn Chan, had been appointed to the then bankrupt utility. Of the water that it piped from its reservoirs, 72% disappeared without ever being paid for. Chan decided to chase down errant

customers, among them all of Cambodia's government agencies and the Army. When asked to pay up, the officer in charge pulled out a gun. Chan retreated but went back the next day with a handful of journalists in tow. The general once again pulled out his gun. Chan cut off the water supply. The next day the Army paid its dues, and all the other agencies followed. Today the utility is flush with cash, and there is clean drinking water—the kind that can be had straight from the tap—available through the city, around the clock.

As governments across the world, and especially the developing world, worry about a looming water crisis, Biswas dismisses it as a self-inflicted wound. The problem we have, he says, is not scarcity but mismanagement. The solution to shortages is simple: "Water must have a price. Anything that is free won't be used prudently."

Biswas, 70, runs his own think tank, the Third World Center

for Water Management, in Mexico City. The center gets its revenue from contracts to advise governments on water management as well as contributions from foundations and aid agencies. Given his blunt talk about water mismanagement, it's a wonder he has any paying clients at all, but he manages to pull in

enough—out of fear of kidnapping threats, he won't say how much—to operate on a million dollars a year and support a full-time staff of six, adding researchers as projects require them.

Of the fresh water available today, 70% is used in agriculture, 16% in industry and 14% by households. A recent study by McKinsey predicts global demand for water will increase 40% in 20 years, and in the most rapidly developing countries it will go up by 50%. The areas that are heavily dependent on agriculture and have some of the poorest farmers, like India, sub-Saharan Africa and China, would likely be affected the most. By 2025, according to a World Economic Forum report, water scarcity could affect annual global crop yield so much that the equivalent of 30% of today's global cereal consumption would be lost, even as demand for food increases.

Calm down, says Biswas. "There is enough water until 2060," he

says. “Water isn’t like oil in that once you use it it breaks up and can’t be reused.” Water can be reused umpteen times. Improved technology has reduced the cost of desalinating seawater and treating brackish water. More efficient industrial processes—partly driven by a higher cost on usage—are also reducing water consumption in, for instance, steel plants. The main problem, he says, is that water management in most countries is abysmally poor. Governments, however, are not in the habit of attributing shortages to their own ineptitude. They are more likely to describe the problem in apocalyptic terms.

“There’s a lobby that says water is a human right [and hence it should be free], and that’s baloney,” says Biswas. “Food has been declared a human right, and people still pay for it. So why shouldn’t they pay for water?”

The poor do pay for water—pay dearly, in fact, for bad water. Where clean piped water isn’t available, families in the Third World buy it from water vendors, sometimes a jar at a time. From Manila to Mexico City, they pay between 8 and 15 times as much per gallon as people in wealthy nations and get water of vastly inferior quality, Biswas says.

His solution: tiered pricing. Water should be priced based on monthly usage, with different rates set for different quantities used. A poor household would get a basic allotment at a low fixed rate but would get bumped up into the next higher rate category if it went over that amount even slightly. The next category would have a higher allotment of water usage, at a higher price. This kind of pricing would not only bring users from the gray market onto the meter at an affordable price, but would also give utilities enough cash to improve their supplies. In Phnom Penh, for instance, a household that consumes 2,000 gallons per month or less pays a subsidized rate. This water takes care of drinking, cooking and some hygienic needs. (An average household there has eight people.) Households in the next bracket up pay two times as much for all their gallons used.

While the global average for unaccounted-for water—that is, the difference between the amount of water that’s pumped from the reservoir and the amount that is billed for—is about 30%, Phnom Penh has brought it down to 7%, much lower than, for example, London’s 27%. New York City claims 6% is unbilled.

Biswas, who grew up in Orissa in southern India, graduated from the Indian Institute of Technology in 1961 with an M.A. in water resources engineering. With few job prospects in a then closed economy, he went to London with \$12 in his pocket, the maximum allowed in foreign exchange. Within three days he’d found a job in Liverpool to design dams, but he had to take an advance on his salary to buy his train fare. A year later he joined Queen’s University in Canada as a visiting professor. In 1968 he joined the Canadian Civil Service, at its request, to conduct water studies for the national department of natural resources. From the late 1970s he was an advisor to Mostafa Kemal Tolba, the executive director of the UN Environmental Program, until

founding the water management think tank in 1998.

Biswas blames part of the world’s water problems on political interference. India, for instance, under the tutelage of the World Bank, instituted in the 1970s a policy of free electricity for farmers. This was a precondition for loans from the bank to develop the nation’s agricultural sector. However, once the farmers got this electricity, the pumps were running nonstop, drilling deeper wells and depleting the water tables. Now, after decades of free electricity, farmers do not want to pay.

Rather than giving water or electricity away, Biswas says, the better way to help farmers is to help them get more crops per drop.

This could be done by educating them on the ideal amount of water required for their crops, providing them with higher-yielding seeds and better fertilizers.

The other part of the solution is to improve roads, trains and storage bins so that less of the crop is wasted. India is the world’s second-largest producer of cereals and vegetables, but half its output is lost before it gets onto the consumer’s table. India processes (freezes, cans or dehydrates) only 2% of its fruits and vegetables, a tiny fraction in comparison with China (23%), the Philippines (78%) or the U.S. (65%).

Governments “should be thinking of increasing availability of food per person,” Biswas says. “A country like India has very limited extra good land available, but let’s look at other options and not be obsessed with the current trend that we need more water and land to produce more food.” The world can keep up with its historical rate of increase in food production of about 2% per year, he thinks, through technological gains. For example, the International Rice Research Institute in Manila is working on rice strains that can stay in floodwaters for three to four weeks, while some companies are developing crops that will be drought- and pest-resistant, and even crops that can grow in saline water.

“Most of my clients realize they cannot continue business as usual,” he says. Indian Prime Minister Manmohan Singh told him that one of the critical issues on his agenda was water security, especially for the poor, since agriculture contributes a significant 18% to the GDP. In the Indian state of Gujarat the chief minister has been gradually increasing the price of electricity for farmers, and the state utility is finally breaking even after years of running in the red. Singapore’s former prime minister Lee Kuan Yew made water a priority, and today the city-state treats all wastewater and desalinates seawater.

Ideally, water, or any scarce good, should be priced at its marginal cost. If the last gallon supplied costs a penny to acquire and deliver, then every gallon should be priced at a penny, even if some of the supply can be had for free. That kind of pricing is, however, politically unrealistic. The next best thing, Biswas tells his clients, is to charge an amount that covers at least the operation and maintenance costs of the water utilities and over a period of time progresses toward marginal cost pricing. “The universal access to clean water will never be realized if water supply is free or heavily subsidized,” he says. **F**

BY THE NUMBERS

**Unaccounted-
For Water**

CITY
Amount Lost
(%)

SINGAPORE

5

PHNOM PENH

7

NEW YORK

6

LONDON

27