



**THAI KING REAPPRAISED
THE RICHEST ROYAL
ALSO: SINGAPORE'S 40**

**KOREANS &
FROZEN YOGURT**

**JAPANESE
BANK SAGE
(IN CHINA)**

SEPTEMBER 1, 2008 | WWW.FORBES.COM

Forbes

Asia



**JAIN IRRIGATION'S
PATRIARCH FOLLOWS HIS
MANTRA WHILE HIS SONS
LOOK TO A BIGGER HARVEST**

**DRIP THERAPY
FOR INDIAN
FARMERS**

AUSTRALIA A \$10.00 INDIA RS 180 KOREA W 7,200 PAKISTAN RS 250 TAIWAN NT \$210
 CHINA RMB 50.00 INDONESIA RP 35,000 MALAYSIA RM 18.00 PHILIPPINES P 200 THAILAND B 200
 HONG KONG HK \$55 JAPAN (TAX INCL.) ¥1200 NEW ZEALAND NZ \$11.00 SINGAPORE S \$11.00 UNITED STATES US \$6.50



UNTIL RECENTLY RAM Krishna Khodpe and his four brothers were eking out a meager living cultivating cotton on their 5-acre farm in the semiarid region of Jalgaon in India's western state of Maharashtra. To supplement his family's income, Khodpe ran a small shop selling sugarcane juice.

Then two years ago he saw a drip irrigation system being demonstrated in his village. This uses a motorized pump to push water through long black plastic tubes that are laid out in rows along the base of the plants. Instead of flooding the field, just the required amount of water "drips" slowly through intermittent holes in the tubes directly onto the plant's roots.

This irrigation-efficient system, Khodpe was told, could double crop yields and save up to 60% of the water that flood irrigation methods consume. The system wasn't cheap: \$600 an acre, of which half would come from a government subsidy. Scraping together the family's savings, Khodpe took the plunge.

He reaped a bonanza. The yield on his cotton crop increased two and a half times, earning Khodpe \$1,200 an acre, enough to recover the cost of the device in the first season. The family landholding has since expanded to 40 acres, says a beaming Khodpe as he walks visitors through his flourishing fields.

Changing the fortunes of poor Indian farmers like Khodpe has been a lifelong mission for Bhavarlal Hiralal Jain, founder-chairman of Jain Irrigation Systems, the leading supplier of this technique in India. Pursuing this altruistic goal doggedly over a 45-year business career, he's achieved global scale for his Jalgaon head-quartered company. Jain Irrigation has become the world's second-biggest manufacturer of agricultural micro-irrigation systems, behind an Israeli outfit, Netafim.

In India Jain's tubes cover more than half of the 4 million acres using the micro-technology. But that's still barely a trickle in a country with total farmland under cultivation of 300 million acres,

Drop By Drop

of which less than half is irrigated at all.

The much heralded Green Revolution of the 1960s, with its miracle seeds, made India self-sufficient in staple foods, but in the last decade agriculture's growth rate has notably stagnated. Today Indian farms, highly fragmented and with relatively little in the way of state water projects to channel the seasonal monsoons, produce some of the lowest yields in the world. For example, rice yield per acre on average is 1.3 tons versus 2.5 tons per acre in China. Poor productivity keeps Indian farmers trapped in a cycle of poverty, despite all the subsidies the

government doles out. This year's budget provided for a massive \$14 billion waiver on farm debt with state-owned banks.

Stepping up public investment in the sector, notably in irrigation, has become a priority for the government. That's no political wonder—65% to 70% of India's population is dependent upon agriculture for their livelihood. In 2004 an official study group said efficient water management through micro-irrigation could help many save on fertilizer and labor, as well as the precious liquid itself.

All good news for Jain Irrigation, whose revenues last year rose 58% to \$545 million with net profits increasing by 59% to \$31 million. (The company has broadened into contract farming and agricultural tissue culture, and is the country's largest processor of fruits and vegetables and the biggest producer of dehydrated onion.)

Since 2005 the company's share price has tripled. Despite a recent fall in the Bombay market, Bhavarlal's 32% stake, which he holds with his family, is worth \$300 million today.

What works in India applies abroad. So Jain has acquired six companies overseas since 2006, including irrigation firms in the U.S., Israel and Switzerland. According to analysts at UBS Securities India, these acquisitions give Jain a fuller product range, enabling it to extend its reach into mature markets in the U.S. and Europe.

Bhavarlal, 71, views this momentum as incidental to the higher purpose enshrined in Jain Irrigation's mission statement:

Dreaming of a better future for India's downtrodden farmers, Bhavarlal Jain created the world's second-largest micro-irrigation company.

By Naazneen Karmali

Photographs by Rajat Ghosh for Forbes

Jain Irrigation

"Leave this world better than you found it."

"Money has never motivated me. It's always been the cause," he declares from his sparsely furnished office at Jain Hills, the headquarters. On his office walls are pictures of people he admires most: Mahatma Gandhi; India's first prime minister, Jawaharlal Nehru; and John F. Kennedy. "They were all dreamers, and so am I," he says.

His friends and colleagues describe him as an agricultural guru. "B.H. is a son of the soil entrepreneur who truly knows the pulse of rural India. I've learned a lot from him," says Kiran Mazumdar-Shaw, chairman and managing director of leading biotech company Biocon, who got to know Bhavarlal in 1979 when he was a supplier of papain, an enzyme extracted from papayas that her firm was using.

Success hasn't motivated Bhavarlal to give up his strict Gandhian lifestyle. He is a vegetarian who eats only home-cooked food, avoiding processed items like biscuits and chocolates. His preferred attire is white cottons. "I like white because of its purity." This color penchant extends to the surroundings—Jain's offices and factories are mostly painted white. He makes a concession in the yellow, green, blue and brown of the company logo. These are the colors of nature, he elaborates, symbolizing the sun, trees, water and earth.

Having survived four heart attacks and two bypass surgeries, Bhavarlal has handed over operations to his four sons, all of whom work in the company. But he still wakes daily at dawn and treks to the highest point on Jain Hills, where he meditates and does yoga. Company executives take turns accompanying him on his early morning walk to update him on important issues. His grandchildren tag along, too.

From Bhavarlal's meditation spot, the 1,000-acre complex of Jain



Aqua men: Bhavarlal Jain in front of coiled irrigation tubes; his sons (from left to right, below): Ajit, Anil and Ashok, who stressed the importance of water conservation with their slogan, "More crop per drop."

Hills itself appears a shining advertisement for what micro-irrigation can achieve. Set in the midst of parched lands, it's an oasis of mango and banana trees, home to deer, peacocks and several other species of birds. The complex includes a training center for farmers, a demonstration plot and research and tissue-culture labs. Tucked away in one corner is a house where three generations of Jains live.

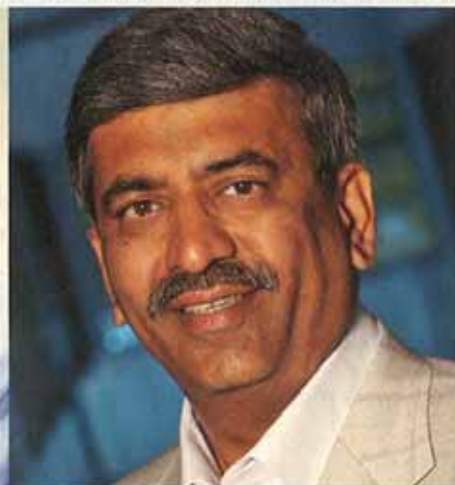
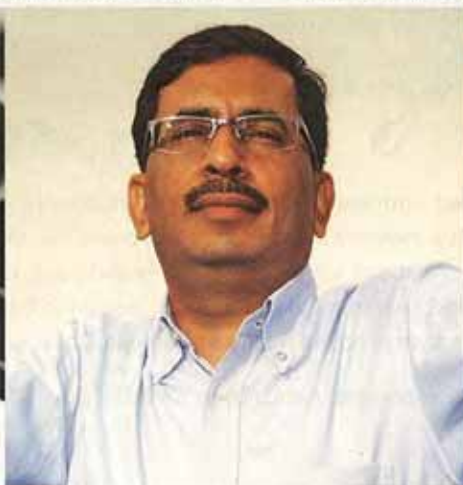
Bhavarlal was born into a Marwari family in a village not far away. His father and uncles were farmers and petty traders. Having bolder ambitions, Bhavarlal moved to what was then Bombay to study commerce and law, after which he prepared to join the civil service. But his mother, who never went to school and had lost nine children before Bhavarlal was born, urged him to reconsider. "She inspired me by saying I must do something that would help the cattle and birds, and all those who are disadvantaged," he recalls.

It took a while, but Bhavarlal found a route to the land. He began trading in agricultural products—tractors, fertilizers, seeds and pesticides. As the business grew, other family members got involved as well.

In 1978 they moved into manufacturing, starting with papain and then plastic pipes. Bhavarlal stumbled into his niche when he saw a drip irrigation system in 1985 at an agricultural trade show in Fresno, California. Handing over the trading business to his family (but retaining the plastics factory), he plowed ahead.

In his initial attempt to procure technology from Israel, where modern micro-irrigation had been invented, he found no willing partner. He persuaded James Hardie Irrigation of Australia to license its technology, but it took him more than a year to persuade India's hide-bound bureaucracy to let him acquire the know-how.

Harder still was selling to India's marginal farmers who own less



Jain Irrigation

than 2 acres of land on average and could ill afford the \$400-per-acre cost of the system. By then Bhavarlal's sons had joined the family trade and were involved with him in grassroots marketing, making house calls on farmers. Rather than talk about the technology, they emphasized the importance of conserving water, touting the slogan "More crop per drop." This underscored the higher yields farmers could get with less water.

"We've always been selling a concept, not just a product," says Anil Jain, 43. Model farms were established to show farmers how their fields could flourish by using this sophisticated irrigation method. Even so, it was a slog. "In those days only 10 out of 1,000 farmers whom we approached got sold on the idea," recalls brother Ajit, 42.

When the government introduced the micro-irrigation subsidy in 1990, it lit up business. With sales way up, the company expanded into fertilizers, plastic sheets, food processing and solar water heaters. That wasn't the end of it. In 1994 the Jains raised \$30 million on the Luxembourg Stock Exchange, using it for a slew of new ventures, including merchant banking, granite quarrying, software and telecom.

Bhavarlal says that despite his devotion to an agricultural mission, he became worried, as India first began to boom, that his company was too narrowly based to prosper. So it rapidly diversified.

Disaster ensued. "We couldn't handle the diversity," admits Bhavarlal's eldest son, Ashok, who's now vice chairman. By 1999 losses had piled up to \$40 million and the Jains had defaulted on their loans to banks. There was no money to pay for raw material or even salaries to workers. Jain Irrigation's stock plunged from a high of 450 rupees in 1994 to 9 rupees in 2000.

The nightmare lasted until 2002, when the Jains got a partner in Texas Pacific Group's Aqua Fund, which invests in water and renewable energy. Aqua took 49% in Jain Irrigation for \$44 million, valuing the company at less \$100 million. The Jains brought down their stake from 70% to 30%, conceding four board seats to Aqua's representatives.

Anup Jacob, the former partner at Aqua who sat on the company's board and oversaw its painful restructuring, recalls visiting 30 micro-irrigation companies before



By the Numbers

Farm Economics

The soil is still a bedrock of the Indian economy, but the nation is looking to boost output under tough conditions.

17.5% Agricultural contribution to India's GDP, versus 11.7% in China.

4.5% Growth rate of Indian agriculture in 2007-08, versus India's overall 9% GDP growth rate.

93 million tons India's annual production of rice, its biggest crop.

\$3 billion Estimated size of India's drip irrigation market, 2008-12.

Sources: Economic Survey of India 2007-08; Ministry of Agriculture; UBS Securities India.

investing in Jain. "It had a great underlying water asset, and I was really confident that the Jains could pull through. They had their name on the door, so failure was not an option for that family."

It was a long haul back. The loss-making divisions were either sold or shut down, and the debt the company owed to some 50-odd banks was consolidated and paid off. "While we focused on getting the finances in order and introducing a culture of cash-flow management, we let the Jains do what they knew

best—make and sell their products," says Jacob, now a partner at Richard Branson's renewables-focused Virgin Green Fund in San Francisco.

Aqua doubled its money in three years, selling in 2005 to a group of investors, including Temasek. "But we sold too early," says Jacob ruefully, noting that Jain Irrigation's market capitalization has since jumped to almost \$1 billion.

As for the Jains, those unsuccessful ventures are listed as "failings" in their corporate history. "It's all right if we lose money. But we must never lose the lesson we learned," says Bhavarlal, adding that the word "profit," which was never part of his vocabulary, was subsequently incorporated into the company's mission statement.

Yet expansion is back on Jain Irrigation's agenda. Anil, who spearheaded the overseas acquisitions drive of the last two years, is targeting the number one position that unlisted Netafim occupies. "India's the world's fastest-growing market for drip irrigation. We'll catch up soon enough," he says confidently. UBS estimates an annual 30% growth in the company's revenues until 2010, driven by the ongoing reforms in India's long-neglected agricultural sector.

The Jains want to leverage their water expertise beyond agriculture. They feel that transforming Jain beyond irrigation is the logical next step. To that end they have recently forged an alliance with Mekorot, Israel's state-owned water utility. Giora Gutman, chief executive of Mekorot's international arm, says that they will jointly tap emerging public-private opportunities in India's water sector. Jain's youngest son, Atul, who is overseeing this expansion, discloses that they have been evaluating a bid on a tender to supply water to Mysore in southern India.

For his part, Bhavarlal continues to have utopian dreams. He's working on a project to distribute low-cost filtered water to poor villages. His other obsession is renewable energy, for which he's devising a model that combines solar, wind and biogas. As for the core business, Jain foresees a dramatic increase in global food prices in the next three years. This, the patriarch predicts, will give agriculture its due place in the sun: "Our time has come." **F**