

## Four 4 CHANGE

*From simple toys that teach your child the joys of science to open source PCs for Rs 5,000, the tools of empowerment come in infinite guises.*

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### **The hacker lives on**

Sarbajit Roy, now 43, was a bad boy in the 1980s: he wrote viruses at a time when computers were a gleam in Rajiv Gandhi's eye. No wonder Roy doesn't believe he's an "empowerer in the real sense". Today, Roy is the leading manufacturer of programmable logic controls in north India—he writes the software that runs the plastic-moulding models of auto companies. "Then, we wrote neater, tighter code that used less power, less money. Now, my work does the job at 60 per cent lower cost than proprietary models, and I have a dedicated fan following of customers who come only to me."

### **A pellet of forest**

Surat's plague is a distant memory, but Mumbai's recent monsoon nightmare has once again highlighted the health hazards of poor urban infrastructure. That's why our town planners should contact vermiculture expert Uday Bhawalkar. It took this IIT Mumbai chemical engineer 30 years of research to put all the benefits of an acre of forest into small pellets. Also used as a spray, Bhawalkar's Biosanitizer starves germs that feed on rotting garbage. It also cleans water, making it oxy-rich. The product was put to successful use recently to sanitise stagnant water and garbage in Mumbai. Why, then, is this technology not so well-known? "It will have to go to Mumbai via California," replies the 53-year-old germ zapper with a smile.

### **Tinker, toymaker, teacher**

"I am a simple toymaker", says 52-year-old Arvind Gupta, but he is a bit of a missionary too. He is out to spread the love of science and books through toys. "Children are the country's only hope. Nothing beats the sparkle in their eyes when they discover something on their own," says this IIT Kanpur graduate. So he sets them on the path to discovery with toys made of recycleable material—a rubber slipper, pencils and beads become an abacus; a paper sheet transforms into a flexagon; matchsticks and a cycle tube take on geometric shapes. Gupta has come up with 250 educational aids and toys, 92 films, and 12 books; the first, Matchbox Models, has been translated into 12 languages and has sold half a million copies.

### **Open secret**

Deepak Pathak, the engine of the IITs' fund-raising drive from its diaspora, does more than lecture students on how open source code can empower. The IIT Mumbai professor runs Affordable Solutions Lab, which designs computing solutions on the Linux platform. The lab recently developed a diskless PC on an open-source OS. After testing it for three months, LIC picked up 10,000 of them at Rs 14,500 apiece. His next goal: the Rs 5,000 PC.

**Reporting by Pragya Singh, Sudipta Dutta, Aishwarya Mavinkurve and Raghavendra Kamath**