



INDIA TEACHER RESOURCES

SCIENCE

India Launches Unmanned Orbiter to Moon

On Wednesday, October 22, 2008, India launched its first space mission off a research station in Sriharikota, an island off the coast of Andhra Pradesh. Chandrayaan-1, roughly translated as “Moon Craft-1”, is to be a two-year mission, in which the craft will search for natural resources and construct a 3-D atlas of the moon. The craft itself will not land on the moon, but a probe is supposed to be sent. It carried two parts from NASA. India could be helped by this mission economically (i.e. Israel sent a space mission from a launching station in India). India also hopes to establish itself as an emerging power in Asia and match the standards China set, if not surpass them.

Sengupta, Somini. “India Launches Unmanned Orbiter to Moon,” New York Times. 22 October 2008.

Clean-Up

“Manual scavenger” is a brighter term used to describe someone who cleans up the feces from houses that do not have flushing toilets. A law banned manual scavenging and unplumbed toilets in 1993, but the law had a slow execution. Delhi University reported that about 1,000 people in Delhi held an occupation that gave them a title of “untouchable”. Sulabh is a charity founded by Bindeshwar Pathak in 1970. Sulabh created a toilet that was inexpensive and is beneficial to Indian society (by eliminating the need for manual scavengers). The charity helped 60,000 people find new work by teaching them new skills at Sulabh’s training center, “from pickle-making to tailoring”.

“Clean-Up” The Economist.

<http://www.economist.com/world/asia/displaystory.cfm?story_id=11707614>. 10 July 2008.

Thirsting for Energy in India’s Boomtowns and Beyond

New Dehli’s suburb, Gurgaon, represents the growing desire for more energy, while energy consumption is expected to quadruple in the next 25 years and expand the country’s emissions of greenhouse gases. India’s development has resulted in being the fourth largest country with greenhouse gas emissions. However, about 700 million Indians use animal waste and firewood as fuel for cooking, while its per capita carbon footprint is a tiny portion of the industrialized world. On average, an American uses 16

times the emissions of an average Indian. It contributes only 4.6 percent of the world's greenhouse gases and represents 17 percent of the world's population. People in Chakai Haat have no access to electricity, no water heaters, fuel stoves with animal waste, and use bicycles for transportation on rough country roads. Chakai Haat once had a few hours of power, which created positive changes. There were less petty thefts because of villages lighted up, the government installed wells, while rice mills also created jobs. However, strong rains ruined the power lines and the rice mills closed. India must face the challenge of satisfying the people's energy needs, while also preserving the environment and not following what the West has done.

Sengupta, Somini. "Thirsting for Energy in India's Boomtowns and Beyond." New York Times 2 Mar. 2008.

A Special Report on Technology in India and China

Before the 15th century, India and China were ahead of the rest of the world and successful with clock making and were surpassed by Europe after the 15th century. Now China and India strive for technological advances and have tried to turn the clock forward in the past 30 years. India has more engineering graduates than America, but only 24 computers for every 1,000 people. The labor intensity of services is one of the factors that limit the growth in India, while there should be more workers to result in more revenue per person. When dealing with clients, the leading firms are focused on their gains from their services rather than "time and materials." Before 2005, India's patent laws only protected the process of making compounds and not the discovery of them. India would not have to come up with new inventions in order to grow, but must simply catch up with itself. China stopped coming up with new inventions after the 15th century, but has continued to grow. Computers are more popular in Hong Kong or Singapore, while people are skeptical of them in other parts of Asia. Indians have embraced the cell phone, but shrug off the idea of the computer and rely on store-clerks and logbooks. China and India have been wise when it comes to foreign technology and have assembled, copied, serviced, and customized it, but have yet to challenge it.

Cox, Simon. "A Special Report on Technology in India and China." The Economist. 8 Nov. 2007. <http://www.economist.com/surveys/displaystory.cfm?story_id=10053169>.