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## Searchlight South Asia

Monthly Newsletter on Trends in Pro-Poor Urban Development in India, Bangladesh, and Pakistan

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### Feature: Early Detection of Epidemics Using Mobile Phones

**By Usha Ganesh**

#### Introduction

Rapidly spreading diseases such as the Chickungunya and H1N1 outbreaks have recently taken a huge toll in countries like Sri Lanka and India. Given the high population densities of both countries, immediate response is critical to arrest the spread of these diseases. While epidemiology units in India and Sri Lanka receive, and respond to, health information

in a relatively timely manner, their systems lack real-time data necessary for more efficient and effective responses.

Information and communication technologies (ICTs) have the ability to provide instant data on potential epidemics to hasten the dissemination of appropriate information, reduce response times, and, ultimately, save lives. The Real-time Biosurveillance Program (RTBP) was launched in India and Sri Lanka to test the potential of using mobile phones in health data collection. In its initial pilot phase, RTBP sought to establish a mobile-based communications system, introduce the computer-based detection system and implement an e-Health-based surveillance and notification system. The systems were evaluated over a one-year period, and learnings from this phase have informed the scale-up phase.

This project, undertaken in partnership with LIRNEasia, the Indian Institute of Technology – Madras (IITM), Carnegie Mellon University's Auton Lab, the University of Alberta and the International Development Research Centre (IDRC), is unique in that it was the first of its kind to field-test an integrated end-to-end operational system using mobile phones and intelligent software in the area of real-time disease surveillance. It sought to detect outbreak, but also to notify early

warnings at the health center level. The data collection leg of RTBP involved government healthcare workers and used advanced detection algorithms such as Spatial-Temporal Scanning, Bayesian Modeling and Multi-Stream Real-Time Monitoring.

### **Current Epidemic Surveillance and RTBP**

At present, the paper-based disease surveillance system in Sri Lanka and India gathers hand-written patient data from regional and community health centers that then undergoes a cumbersome process. These centers then analyze the data to identify potential disease outbreaks. On finding statistically significant trends, the regional offices issue notifications to local authorities, again using paper-based reporting methods. In the case of epidemics, this process takes two-to-three weeks. “Often, most cases are suspected cases, with fewer confirmed cases. Patients with symptoms are asked to go for further tests, and this takes time,” says Project Director Nuwan Waidyanatha. “By the time a good number of confirmed cases are collected, the disease has spread rapidly. From a public health perspective, this is just not good enough. We need to catch it at the out-patient care level, restrict spread to clusters and deliver a cure before it grows into a wider geographical spread.”

RTBP worked with these existing procedures and added ICT-based components. During the pilot project, health center staff collected patient data using mobile phones, in addition to their routine paper-based work. A software application implemented on mobile phones helped collect patient records and transmit them to a central server using commercial cellular data services. Statistical analysis

was carried out using advanced software developed by Carnegie Mellon University’s Auton Lab. Regional and local health officials could then access the results as electronic notifications through a variety of devices, including mobile phones.

### **RTBP Outcomes**

Over a period of 15 months, more than 130,000 individual patient records were collected in India and more than 330,000 in Sri Lanka. Outcomes of the pilot phase of the project include: development of a Java-based application for collecting patient data using low-cost mobile phones; successful implementation of the Auton Lab’s analytic software and T-Cube Web Interface for analyzing patient records and almost real-time prediction of disease outbreaks; and the adoption and implementation of the Common Alerting Protocol for multi-channel health alerts.

RTBP identified over a dozen instances of potential disease outbreaks with the local health authorities confirming four of them. The project dramatically reduced time taken for outbreak detection and alerting, from the current period of two-to-three weeks to a single day. Importantly, the project also demonstrated how low-cost mobile phones and existing commercial cellular infrastructure and services could be utilized to enable primary health centers to report patient information even as they record them.

The project experience also shed light on some interesting uses for RTBP’s components. The Alerting Protocol was meant for health alert purposes, but it was also being used by health officials to meet other messaging requirements, such as improving efficiency in routine operations.

This finding suggested the need for a more general health notification system using mobile phones.

The success of the pilot phase was due, in large part, to using the mobile phone platform rather than computers. Computers at public health centers remain underutilized often because staff are overburdened with work, patients and a plethora of forms and files to manage manually. Primary healthcare staff are not always comfortable with computers, and the short training programs given to familiarize them with computerized systems are inadequate. “The mobile phone is ubiquitous, easy to adapt and, to a large extent, self-maintained,” says Nuwan Waidyanatha. “In smaller towns, there might be issues with Internet connectivity or even computers and their maintenance parts at the primary health centers, but even a small grocery store will have mobile phone charge cards.”

For health workers, the greatest outcome of RTBP was that the results of their work were being noticed. General consensus among health workers was that the paper-based systems mostly gathered dust and, hence, could be delayed or neglected. The project motivated front-line health staff to improve the quality of data collection.

### **Constraints to Scalability**

The pilot project was very successful in integrating ICT-based systems and shortening time to detection of epidemics and dissemination of instructions to staff on the ground. However, scaling it up to cover a wider area such as a region or even at the national level poses some challenges.

The standard mobile phone numeric keypad is not very convenient for digitizing patient records. Health workers found it difficult to use, particularly when entering large numbers of records, resulting in a small percentage of results that can be reconciled.

The T-Cube Web Interface was found to be useful for supporting long-term planning and the allocation of health resources, as well as regional and national health planning. It was found to be helpful in tracking chronic and lifestyle diseases, such as diabetes. Health officials, however, require greater customization of the product as well as rigorous training for appropriate use.

The project team also found that frontline staff were resistant to adopting the ICT-based system, as this work was being expected of them in addition to their paper-based work. Some of their anxiety also stemmed from the fact that they had to change their routine to digitize data in real time, as opposed to the two-to-three day delay that was more the norm. Schemes to incentivize healthcare staff to integrate the technology in their work may need to be part of the scale-up plan.

Overall results of the RTBP were highly encouraging and the project demonstrated significant efficiency gains in disease reporting, outbreak detection, and health alerting. Cost savings of over 35% was observed in both India and Sri Lanka in comparison to existing systems and costs.

### **Taking RTBP Forward**

Health is a state issue in India. Each Indian state draws up a budget every year and prioritizes certain health concerns. These

will vary from state-to-state. State government support for such projects is critical, points out Suma Prashant, the Project Manager at IITM's Rural Technology and Business Incubator: "The Tamil Nadu Government has been very enthusiastic and supportive of RTBP in the state. For scaling up, this project will need similarly committed partners." Acceptance is another area the team wants to address in its next phase. "Technology has the answers for early detection of epidemics. RTBP delivers strong results in turnaround time to detection and costs, and is good to go," says Prashant. "Once the cultural aspects are addressed, we see it being effectively adopted."

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## Development Initiative: Skills Training for India's Youth

**By Carlin Carr**

Since the liberalization of the Indian economy in the early 1990s, the country has seen incredible economic growth. With that, new businesses, investors and, as a result, jobs have inspired globally attractive terms such as "India's rising middle class," "outsourcing central," or the "Indian tiger." This year alone, the country is expected to hire 10 to 15 million people for infrastructure and manufacturing projects, as well as in the rising export industry. "India's rapid economic growth can be attributed in part to its highly entrepreneurial and rapidly globalizing private sector," reports the AIM group, which toted India and China as the "best places to look for employment." In sectors such as large-scale manufacturing, the job market grew at an average of 10% per annum between 2003 and 2009, when other economies, including those of other "major capitalist countries," were nearly stagnant. The rise in opportunities in "skilled" industries stand in stark contrast to handloom and village industries, which, according to an article in the *Dawn*, have declined in employment opportunities at an annual average rate of 15%, and joint family enterprises declined at an annual average rate of growth of 11.2%.

India's major obstacle to continued growth is also one of its most opportunistic: a need for a trained and reliable labor force. Despite one of the largest youth populations in the world, the country lacks the educational programs, systems and training centers to provide up-to-date

technical, vocational, and literacy and language skills to its ever-growing employable population. In the next 20 years, India will add 250 million people to the working-age population, compared to Brazil's 18 million and China's 10 million during the same period. If the potential of these youth remains untapped, it will not only slow growth, but a cycle of poverty and illiteracy will persist that only further drains society economically and socially.

The biggest hindrances to youth development are poverty, health practices, gender biases, education and employment, among others. India has the highest number of young people in the world at 84.5 million – 44% of the global youth population -- who live in “extreme poverty.” Further, 44 million of India's youth is under-nourished (again, highest in the world) which is 23% of the total youth population. Yet, if given the proper skills to contribute productively and to take advantage of the new labor market, these highly trainable, capable and employable young people could dramatically transform the country's future.

Realizing this potential, the Bhubaneswar Municipal Corporation (BMC) announced last month that it was launching an initiative to train underprivileged urban youth to give them the skills to improve their job prospects. The youths will be trained in a host of areas, including industrial sewing, electrical maintenance and welding and plumbing. Once the two-to-six month training is finished, the students will get a minimum monthly salary of INR 5,000 (~US\$110)—as compared to INR 1,200, the average monthly salary for an unskilled worker—and the institutes will ensure that 70% of trainees find

employment. The local training institutes will receive funding from the BMC.

Training programs have been an emerging trend in India since the Finance Minister announced in his 2008-09 budget speech that “...There is a compelling need to launch a world class skill development program in Mission mode that will address the challenge of imparting the skills required by a growing economy. Both the structure and the leadership of the Mission must be such that the program can be scaled up quickly to cover the whole country.”

The Ministry's resulting initiative was the National Skill Development Corporation (NSDC), an innovative public-private partnership program (PPP) that aims to “facilitate the development and upgrading of the skills of the growing Indian workforce through skill training programs.” The “one-of-its kind” PPP has an equity base of INR 10 crore (~US\$2.23m), of which the private sector has a 51% stake and the Government of India has a 49% hold. “Our primary goal,” says the NSDC, “is to foster private sector and industry participation in skill training and development.” Since February 2010, NSDC has approved 29 projects that, collectively, propose to skill more than 40 million people in different vocations over the next decade. Overall, the program aims to train, or upgrade the skills of, 500 million people in India by 2022.

The NSDC's investment in the skills training sector has catalyzed a growing business. An [Economic Times](#) article earlier this month identified skills training as the latest trend in business. The article highlights a number of top CEOs who have left their corporate posts to be part of an “unusual tribe that is flocking to grab a share of the skills training

market in India, predominately through the National Skill Development Corporation (NSDC).” Their goals are about impact: each of them hopes to reach at least a million disadvantaged youth to offer training or skill upgrades. “From Bharti Airtel’s former CEO Rajiv Sharma to Star News former president Ravina Raj Kohli, ‘skilling’ is turning out to be the latest draw for corporate hotshots,” says an [Indian Express](#) article, calling “skilling” the “latest biz mantra.” And, unlike your typical volunteer-driven after-school-programs, these training centers are operating with viable financial models and developing infrastructure to meet large-scale objectives.

With sheer number of youths and the large supply-demand gap, the movement needs to focus on scale. That’s certainly the goal of Empower, a portfolio company of NSDC, which promises to “provide enduring opportunities” in the private sector for 200,000 disadvantaged youth by 2021. The social enterprise will focus on classroom and on-the-job training for IT/BPO, tourism, hospitality and travel and organized retail segments, and plans to reach scale through a franchise model that will open nearly 600 centers around the country. “We ingrain the 4Cs (communication, confidence, computers and customer service) into our trainees,” says Empower. Initially, the NSDC will extend a loan of INR18.91 crore (~US\$14.21m) and, in return, has the right to a 10% equity stake in Empower with an additional 16% later.

Another NSDC-funded enterprise, TalentSpirit, headed by the former CEO of Virtusa Corporation, provides a 90-day module to train and place graduates in banks and IT companies. Last year, the company trained 1,500 students and took in

INR 6.5 crore (~US\$4.21m) in revenues. While trainees pay INR 40,000 (~US\$890) and increase access for poor youth, banks have agreed to provide loans of up to 90% to students. The government, which fell short of its target numbers last year, hopes loan programs such as these, as well as new marketing campaigns, will boost interest and participation among the emerging workforce.

“Young people can be dynamic agents of social change,” says the World Youth Report (WYR), “...but they must be given the right tools to work with.” Increasing access to jobs will improve their prospects for financial security. The positive economic and social value of this will have ripple effects throughout society. Financial security will increase, children will remain in school longer, families will improve nutrition and overall health, and future generations will continue to build on employment empowerment and choice.

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## Case Study: LifeSpring Hospitals -- Can Specialty Care Facilities Reduce Maternal and Infant Mortality Rates in India?

By Carlin Carr

### Introduction

High women and infant mortality rates continue to burden the developing world. Although international organizations have called for an increased focus on maternal health, more than 500,000 women in developing nations die during pregnancy or childbirth annually. In Asia, one out of every 43 women will die of maternal-related causes, compared to one in 2,500 in the United States. The fifth Millennium Development Goal (MDG) aims to reduce the maternal mortality ratio (MMR) by one-third in the next four years; however, India's efforts—and those of many

developing nations—lag woefully behind. According to [PLoS Medicine](#), between 1990 and 2005, global maternal deaths decreased by only 1% per annum instead of the 5% needed to reach MDG 5. Training programs and technology to dramatically reduce these numbers are widely available, though appropriate funding, infrastructure and resources for maternal health have been lacking in countries that need it the most.

India, for example, has seen tremendous economic growth over the last decade, although government spending on healthcare—less than 2% of GDP ([China spent 5.8% in 2002](#))—has not kept pace. With an estimated [US\\$40 billion market](#) that is expected to grow to US\$80 billion by 2013, India's healthcare sector has seen an increase in private sector investments to fill the quality and supply gap. Currently, private investments account for nearly 80% of the healthcare industry, resulting in a new crop of privately funded and -run hospitals and medical facilities that are changing the face of the Indian healthcare industry.

### LifeSpring Hospitals: Specialty Care for Expecting Mothers

Many new private sector health investments are focused on an emerging trend in the industry: the for-profit, single-care facility, which specializes in a particular area—cataracts, heart disease or liver transplants—to increase quality of services, reduce infrastructure needs and costs, and, ultimately, to provide affordable, niche care to patients. This “small but rapidly growing genre” incorporates the process-driven efficiency and results-oriented approach of a private sector franchise model while simultaneously focusing on improved care

and customer satisfaction. In the maternal and neonatal care arena, LifeSpring Hospitals Private Ltd., founded in 2005, has emerged as a leader in providing routine obstetric care and delivery services for expecting mothers in urban poor areas of Southern India.

LifeSpring Hospitals, a joint venture by Acumen Fund and Hindustan Latex, offer natural births, caesarian sections and hysterectomies, often at costs 30-50% less than local rates. The for-profit network of maternal and neonatal care facilities pre-screens patients to identify high-risk pregnancies for referral to emergency care centers. The focus on low-risk procedures reduces the need for more advanced technology and infrastructure, and has allowed the company to standardize processes and procedures to reduce costs, improve focus-area training for doctors and nurses, and increase the potential for expansion. To date, LifeSpring has launched nine hospitals, with four more being built by the end of June 2011 and two additional planned for the end of the year.

LifeSpring has become “the largest chain of maternity hospitals in South India,” according to Acumen Fund, “treating more than 70,000 patients and delivering more than 7,000 healthy babies.” The 25-30 bed facilities operate with a cluster head that manages all associated hospitals to reduce overhead within the network. Further, the cluster shares ambulances, vendors and doctors, and is strategically situated in close proximity to neonatal emergency care centers, as well as blood banks. Each hospital has one high-end incubator, a basic lab and a partner pharmacy inside, which offer lower, negotiated rates to LifeSpring customers.

“We operate with basic facilities to keep our costs low,” explains Priya Pingali, an assistant manager of monitoring and evaluation at LifeSpring. “But we don’t believe quality and price conflict.”

The company, which targets the working poor—rickshaw drivers, tailors, street vendors, housekeepers—has also devised a number of different schemes to create a trusted brand name in the areas they operate, thus driving demand. Women from the community are hired to go door-to-door on a daily basis to talk about LifeSpring—to mothers-to-be and non-mothers alike—and invite them to attend a free clinic in areas such as nutrition and breastfeeding and also receive a regular check-up.

Strategic marketing is necessary to run a financially viable hospital and to remain a competitor in the market. Women are often hesitant to visit a private hospital, explains Pingali, because they don’t believe they can afford it. Though a price board hangs outside each of LifeSpring’s hospitals, women tend to be skeptical and believe there are hidden costs associated. Currently, LifeSpring—which believes in full transparency—charges INR 4000 (~US\$90) for normal delivery and INR 9000 (~US\$200) for C-sections in the general ward. These costs are up from its founding year, 2005, when the price for a normal delivery was INR 1500 (~US\$30). The company saw the need to adjust the prices, and within 1.5 years the first hospital broke even.

“Our biggest learning,” explains Pingali, “has been with the cross-subsidy model, which we will no longer focus on going forward.” Although the hospital chain originally offered tiered pricing and gave

the option of semi-private and private rooms, few women in their target areas chose to avail of the premium services. Over 90% of LifeSpring patients opt for the general ward, which, unlike crowded public hospital facilities in India, offers a serene, clean setting where each woman has her own area divided by three walls and a curtain. The women prefer the close-knit nature of the general ward set-up. More than 50% of women who deliver their first child at LifeSpring returns for the next child.

### Conclusion

Models such as LifeSpring's are providing much needed, high-quality basic services to expecting mothers, though those most at risk—women with potential complications—are still left out. In all likelihood, these high-risk patients will be referred back into the overburdened public system. While the private sector is filling an immediate gap, the public system simultaneously needs to be invested in and improved. Public-private partnerships are increasingly becoming the focus for alleviating “deficiencies in the public health system” and are also aiming to “reduce economic stress on those who seek services from an expensive, burgeoning and unregulated private health sector.” Higher standards and regulations are needed in the sector to be sure the growing industry remains committed to patients over profit. For now, private-sector models such as LifeSpring are showcasing cost-efficient, financially viable approaches to providing affordable, quality care to the poor. As it expands, their model has the potential to save the lives of millions, and give women the dignified facilities they deserve to bring new life into the world.

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## News Deep Dive: Urban Transport Innovations and Traffic Solutions

By Nisha Kumar Kulkarni

A December 2010 [report](#) by the [Forum for the Future](#) is based on the following thesis: “Cities need to start planning now to radically re-engineer their infrastructure to cope with much larger populations than they currently support.”

In particular, urban transportation systems need to make mass transit accessible to the

urban poor, who very often live in more affordable areas far outside city limits. Satisfying the urban transport needs of cities will continue to be a significant challenge unless urban planners think outside the box and adopt alternative modes of transport.

One such alternative has emerged from [Delhi](#). The Delhi Integrated Multi Modal Transit System Ltd. (DIMTS) and the Transport Department drafted a project report about the pod car system, or personal rapid transit (PRT), a pollution-free transport system that promises non-stop travel to a commuter's destination. "In a pod car system, vehicles are sized for individual or small group travel, typically carrying no more than six passengers per vehicle," explains the report. PRT pods are automated vehicles that run on a grid of custom tracks, and, in Delhi, costs approximately INR 6 (US\$0.14) per kilometer. There are plans to unveil a pilot project of the PRT along the western side of Delhi. Other PRT projects – like one proposed by ULTra-Fairwood in the states of Haryana and Punjab – are also being considered in India.

The PRT is an innovative idea, but it is not without its problems. Its claims of energy efficiency are questionable. ULTra-Fairwood's PRT system uses 25%-50% less energy than more traditional private or public modes of transportation, however, its zero emissions claim is inaccurate. These pod cars run on grid electricity, not biodiesel or solar power. A lot more work needs to be done to ensure better emissions standards. "Until we green the grid, a new electric vehicle plugged into your garage outlet becomes a coal-powered

vehicle," [said](#) Patti Prairie, CEO of Brighter Planet, to *Fast Company* magazine.

Another issue with the PRT system is its affordability, both for a city and for a commuter. The projected cost of a PRT system developed by Hindu Business Line in Amritsar, Punjab, will cost US\$112m for just a two-mile route with seven stations. That is a significant investment for a city to make for what is essentially a pilot run of a new transportation system.

From the perspective of the commuter, especially the urban poor, the PRT fare is not cheap. The per-kilometer cost of INR 6 does not seem like a lot, but that number needs to be put into perspective. [Delhi](#), for example, is 1,483 square kilometers, or roughly 39 kilometers in length. If a person travels even 25% of that distance (10 kilometers), then a one-way fare would amount to INR 60 – an exorbitant sum when the urban poverty line in India is defined as a daily income of INR 20 (~US\$0.44).

The PRT system is an interesting idea, but it is an example of one that may not be the most practical – or scalable – solution for large urban areas. India may want to take a cue from countries in Latin America, where Colombian and Venezuelan cities have adopted a cable car system. The cable car offers a real solution to the transport issues faced by the urban poor in developing countries, as well as heads off growing traffic woes.

Reality dictates that many informal settlements and slums are established on steep hillsides, as can be seen in cities like Mumbai and Rio de Janeiro. These areas are not navigable by car, nor are they in close

proximity to city bus and railway systems. Cable cars can effectively bridge that gap by making it easier for the urban poor to reach other city transportation systems.

According to the [Doppelmayr/Garaventa Group](#), a German cable car engineering company, there are significant benefits to a cable car system. Cable cars are low emission vehicles that require less energy because they are constantly in motion. Because of the cable car's aerial positioning, there is little space requirement for construction and it is therefore more easily integrated into a cityscape. Cable car systems offer a service that has no wait time and no traffic. It is a mode of transport that can be used by all people, including those with mobility constraints due to physical disability. And cable car systems have the potential to be equipped with a wireless connection, which would allow for direct audio/visual communication between cabins and stations.

There are cities already implementing a cable car system for greater ease of transport. In Colombia, the city of Medellin implemented [Metrocable](#) in 2006. It is a gondola lift system that connects the hillside barrios to the rest of the city. A huge advantage to Metrocable is that it is a branch of the city's regular metro system: both services have the same management and can be used with a single fare. Caracas, Venezuela, has a similar system established with its Teleferico service.

If there are many advantages to a cable car system, why aren't more cities adopting a cable car system? The answer may be found on two fronts. For one, the infrastructure needs of growing cities are a constant challenge for urban planners. How can they

capitalize on current infrastructure and build more effective transportation systems that could relieve the burden posed by globalization and bursting populations?

On the other hand, the issue of financial investment cannot be ignored. Developing any sort of transportation system requires significant investment. In the case of a cable car system though, it does seem like the financial investment is less when compared to a project like railway development. Construction of one Metrocable route line over 1.8 kilometers, for example, was US\$26m. If developing world cities like Caracas and Medellin (amongst others in Africa and Asia) were able to manage the investment, other cities tackling urban transport issues have a lot to learn about thinking outside the box, adopting alternative methods and creating new ways of mobilizing its inhabitants.

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## Regional News

### ***Development & Economy***

***India focuses on double-digit growth in its next five-year plan.***

**Next five year plan to aim at double-digit growth**

April 19, 2011

[India] India will focus on infrastructure in the 12th iteration of its five-year plan. The goal is to achieve double-digit growth, especially since the infrastructure deficit is costing the country two-percentage points in GDP. In the 2009-2010 period, India recorded 8% growth. The Prime Minister has estimated that India will need US\$1tn in infrastructure investment and that there is need for a “major overhaul of the policies and procedures to be able to attract such quantum of funds.”

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**Education & Health**

***Bangladesh and India make strides in education accessibility, as well as take a pro-active stance on health-related issues.***

**Haryana to give ID cards to hemophiliac children**

April 18, 2011

[India] Children suffering from the genetic blood disorder hemophilia will receive ID cards so that they can use state government facilities. The Haryana State Blood Transfusion Council will prepare the photo ID cards. The Haryana state government provides blood units free of cost to hemophiliac patients from government blood banks, as well as a free

transport facility for hemophiliac children suffering from the disorder. Hemophiliac children also receive free education through 10th grade in government schools.

**Source:**

<http://igovernment.in/site/haryana-give-id-cards-haemophilic-children-39662>

**Dhaka developing world’s first vitamin-A rich rice**

April 20, 2011

[Bangladesh] Bangladesh is developing the “Golden Rice,” or the world’s first ever vitamin-A rich rice. The rice will soon undergo greenhouse and field-testing before scientists move onto the production phase. If all goes well, Bangladesh will be able to combat vitamin A deficiency in expecting mothers and children within five years via the most-consumed food item in the country. Vitamin A deficiency is the cause of blindness and child mortality in severe cases.

**Source:**

<http://www.punjabnewsline.com/content/dhaka-developing-worlds-first-vitamin-rich-rice/30516>

**India records one-tenth of world’s malaria cases**

April 25, 2011

[India] According to the WHO, in 2009, India recorded 25 million cases of malaria and 30,000 resulting deaths. Ten years ago, the most commonly used anti-malaria drug stopped being effective and forced countries to switch to a second-line treatment. The Public Health Foundation of India has found that only 40% of government hospitals are using the second-

line treatment. As many as 60% of malaria patients are being treated with the older, ineffective drug in private hospitals.

**Source:**

<http://ibnlive.in.com/news/india-records-onetenth-of-worlds-malaria-cases/150116-17.html>

**Bangladesh PM launches online textbooks**

April 25, 2011

[Bangladesh] To prevent hampered learning due to textbook delivery delays, Bangladesh has launched e-book, a digital compilation of primary and secondary textbooks.

Textbooks will be available on [www.ebook.gov.bd](http://www.ebook.gov.bd) for free. The e-book can be read on computers, e-book readers, mobile phones, PDAs, CDs and iPads.

**Source:**

<http://timesofindia.indiatimes.com/tech/careers/education/Bangladesh-PM-launches-online-textbooks/articleshow/8081660.cms>

**India to launch vocational education program**

May 9, 2011

[India] India's Human Resources Development Minister announced that a vocational education program targeting students in grades 8-12 would be launched soon. "Colleges and universities in the country need to develop specialized courses as institutes in India are not producing skilled graduates who can be employed in industries and factories," said the Minister.

**Source:**

<http://igovernment.in/site/india-launch-vocational-education-programme>

**Energy & the Environment**

***India takes steps to improve its pollution monitoring and widens its solar energy efforts. Bangladesh must find ways to improve its gas use efficiency.***

**Pollution monitoring system in six more cities soon**

April 15, 2011

[India] The System of Air Pollution Forecasting and Research (SAFAR) was launched in Delhi last year to ensure clean air during the Commonwealth Games. The Pune-based Indian Institute of Tropical Meteorology developed SAFAR and is ready for it to be replicated in six other Indian cities. SAFAR is a computer model where data like wind, speed and humidity are input and used to forecast pollution levels 24 hours in advance.

**Source:**

<http://www.igovernment.in/site/pollution-monitoring-system-6-more-cities-soon-39650>

**Punjab plans to set up roof top solar power plants**

April 26, 2011

[India] The Punjab government will be installing solar panels on the rooftops of all government buildings in the state to generate power. The state government was inspired by the 1.09-megawatt rooftop power plant installed at Changzhou University in China, which is successfully generating power for the university township. Water heating systems in all government buildings has been made mandatory, in another move towards environmentally friendly practices by the government.

**Source:**

<http://igovernment.in/site/punjab-plans-set-roof-top-solar-power-plants-39709>

**Taking steps to ensure efficient use of gas**  
April 28, 2011

[Bangladesh] Bangladesh's gas reserves are in danger of depleting sooner than projected. Every sector in the country is guilty of misusing gas, which is resulting in severe gas supply constraints. A prepaid system for the domestic use of gas may have prevented misuse in the form of people not turning off their burners, but the Bangladeshi government never tried to seriously implement such a system. It is estimated that if only 1% of efficiency can be achieved via industrial boilers, then 95 million cubic feet of gas can be saved per month. Today, about 6,000 industries consume nearly 1,020 cubic feet of gas per day – 95% of that comes from boilers.

**Source:**

[http://www.thefinancialexpress-bd.com/more.php?news\\_id=133956&date=2011-04-28](http://www.thefinancialexpress-bd.com/more.php?news_id=133956&date=2011-04-28)

**Government & Policy**

***The Indian state of Jharkhand addresses its slum rehabilitation policy.***

**Jharkhand moots slum rehabilitation policy finally**  
April 19, 2011

[India] A committee has been formed to prepare an appropriate policy addressing rehabilitation of the displaced as a result of the Jharkhand government's anti-encroachment drive. The anti-

encroachment drive is the government's effort to eliminate encroachment on public land. The committee will study the slum rehabilitation policies of other states and come up with a solution to address it in Jharkhand.

**Source:**

<http://www.igovernment.in/site/jharkhand-moots-slum-rehabilitation-policy-finally-39665>

**Infrastructure**

***Bangladesh and India work on bolstering its internal and bilateral infrastructure.***

**India, Bangladesh to restore rail links**  
April 25, 2011

[South Asia] Bangladesh and India have agreed to restore railway links that were suspended after the 1965 India-Pakistan war. The proposal includes building a 13km railway line between Agartala in India and Akhaurah in Bangladesh. Renewed railway links would be a way for both countries to boost bilateral trade and investment, as well as international relations.

**Source:**

<http://www.igovernment.in/site/india-bangladesh-restore-rail-links-39703>

**Mumbai civic amenities to match global standards**  
April 26, 2011

[India] The state government of Maharashtra is working on a plan to upgrade Mumbai's water supply and sanitation department to be on par with other international cities. The Brihanmumbai Municipal Corporation (BMC) will submit a report wherein the

current state of water supply and sanitation will be mapped. The mapping process will involve a survey asking citizens about water supply and sanitation, as well as their suggestions. The report is due to be submitted by June. The mapping process will take approximately one year after starting.

**Source:**

[http://www.dnaindia.com/mumbai/report\\_mumbai-civic-amenities-to-match-global-standards\\_1536206](http://www.dnaindia.com/mumbai/report_mumbai-civic-amenities-to-match-global-standards_1536206)

**India plans a new nuclear regulatory authority**

April 26, 2011

[India] In the next session of Parliament, the Government of India will introduce a bill to create an autonomous nuclear regulatory authority, which will subsume the Atomic Energy Regulatory Board. The government is also working on a compensation package for people displaced by the 9,900 megawatt Jaitapur nuclear power plant in Maharashtra.

**Source:**

<http://igovernment.in/site/india-plans-new-nuclear-regulatory-authority-39713>

**India plans road network near China: report**

May 7, 2011

[India] India will be building a network of strategic roads along the China-India border. The network will be in India's Ladakh region, in Indian Kashmir. The goal is to have most of the roads completed by 2013. Approximately 63% of work on roads in Arunachal Pradesh and 12% in Ladakh is

done. The area in question is in dispute between the two countries: India claims that China is illegally occupying 15,000 square miles of northwestern territory, while China claims 90,000 square kilometers of Arunachal Pradesh in northeast India.

**Source:**

<http://news.asiaone.com/News/Latest%2BNews/Asia/Story/A1Story20110507-277655.html>

***People & Poverty***

***Poverty rates have improved in Bangladesh, but women's issues are key in India and Pakistan, where the former sees a rise in female feticide and the latter invests more in its women.***

**Pakistan puts its money on women**

April 14, 2011

[Pakistan] The Government of Pakistan is committed to empowering women in conservative tribal areas of the country with cash welfare payments that can only be accessed by the female head of household. The government is earmarking US\$750m to provide women with allowances for food, health and training. Eligible women will receive a monthly payment of about US\$12 per month. "This is the first time that there's been the creation of a social net for women and, in particular, women that live below the poverty line," says Dr. Samina Ahmed of the International Crisis Group in Islamabad.

**Source:**

<http://www.radioaustralianews.net.au/stories/201104/3191928.htm?desktop>

## Technology, affluence appear to increase feticide in India

April 26, 2011

[India] The latest census data shows that Indians are aborting more female fetuses now than at any other time in India's history. According to the data, there are now 914 girls for every 1,000 boys under the age of six. Female feticide is not isolated to the poorer classes. Factors for this trend in feticide can be attributed to easier access to ultrasound technology, as well as the reluctance of India's growing middle class to pay dowries. "...As a family gets wealthier, it is unwilling to part with a share of its property to its daughters," says Dr. Ranjana Kumari, Director of the Center for Social Research in New Delhi.

### Source:

<http://www.thenational.ae/news/worldwide/south-asia/technology-affluence-appear-to-increase-female-feticide-in-india>

## Poverty rate now 31.5%

April 30, 2011

[Bangladesh] In 2010, the poverty rate in Bangladesh dropped to 31.5%, an 8.5% drop since 2005. Grappling with hunger in rural areas helped in cutting the country's poverty statistics, as has the decline in hunger in urban areas. On average, rural and urban income and purchasing power has increased. Non-agricultural activities, such as infrastructure development, have helped to reduce poverty and hunger in the country.

### Source:

[http://www.thefinancialexpress-bd.com/more.php?news\\_id=134163&date=2011-04-3](http://www.thefinancialexpress-bd.com/more.php?news_id=134163&date=2011-04-3)

## **Water & Sanitation**

***In the wake of World Water Day, a slew of articles demonstrate the dire needs for India to invest in its water and sanitation issues to prevent future health and social challenges.***

## India, New Delhi: using Facebook and SMS to keep the city clean

April 15, 2011

[India] Earlier this year, the Municipal Corporation of Delhi (MCD) launched its Facebook page and an integrated SMS service to enable public monitoring of garbage collection sites and public toilets. If garbage is not collected or if toilets are not working, citizens can register complaints on the MCD Facebook page. There are 2,078 garbage dumps, 1,033 public toilets and 602 private toilets in MCD's jurisdiction. There is also an MCD hotline for complaint registration.

### Source:

<http://washasia.wordpress.com/2011/04/15/india-new-delhi-using-facebook-and-sms-to-keep-the-city-clean/>

## PAKISTAN: Unsafe water kills 250,000 children a year – government

April 19, 2011

[Pakistan] According to a new study by the Pakistan Council of Research in Water Resources, 82% of water sources tested in 24 of Pakistan's 100+ districts are unsafe to drink. The conclusions are a result of a five-year study that also notes that 250,000 children die each year from diarrheal disease. Issues around access to safe water

include poverty and ignorance. Smaller-scale efforts are in place to filter water, but more wide-scale initiatives are needed.

**Source:**

<http://www.irinnews.org/Report.aspx?ReportID=92518>

**Save water or face connection cut, Bangaloreans told**

April 20, 2011

[India] All residential, commercial and office structures built on a 2,400 square foot area must install rainwater harvesting systems by December 31, 2011, or face total stoppage of water and sanitation services. This move comes after the Karnataka state government's failure to appeal to citizenry via campaigns and warnings. Bangalore's population has grown by three million people in just a decade, which has resulted in a shortage of 350 million liters of water per day. The significant tapping of groundwater has made a large dent in water levels where water is found to be less than 1,000 feet in some areas.

**Source:**

<http://www.inewsone.com/2011/04/20/save-water-or-face-connection-cut-bangaloreans-told/44636>

**India: US\$2bn unused aid for water and sanitation**

April 26, 2011

[India] According to the Comptroller and Auditor General of India, the country has approximately US\$2bn of unused foreign aid for water supply and sanitation. As of March 31, 2010, unused foreign aid for 16 sectors including water and sanitation amounted to US\$23.7bn. In the 2009-2010

period, the Government of India had to pay US\$18m in fines as penalty for not using aid approved by bilateral and multilateral lending agencies – US\$11.8m went to the Asian Development Bank and US\$6.1m went to the World Bank.

**Source:**

<http://washasia.wordpress.com/2011/04/26/in-dia-us-2-billion-unused-aid-for-water-and-sanitation/>

## Events

### World Smart Grid India Week 2011

September 13-16, 2011

Mumbai, India

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

### Renewable Energy World Asia

September 27-29, 2011

Kuala Lumpur, Malaysia

<http://www.renewableenergyworld-asia.com/>

### International Conference on Sustainable Manufacturing: Issues, Trends & Practices

November 10-12, 2011

Pilani, Rajasthan, India

<http://discovery.bits-pilani.ac.in/icsm2011/index.html>

### 5<sup>th</sup> World Aqua Congress

November 16-18, 2011

New Delhi, India

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

### International Conference on MetaComputing

December 15-16, 2011

Goa, India

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

### International Conference on Business and Economic Issues

December 19-20, 2011

New Delhi, India

<http://ijeb.com/>