Newspaper Clips

January 28, 2011

Mail Today ND 28/01/2012 p-18

NEWS SPECIAL REPORT

Aspire EDUCATION SUMMIT 2012 | SRM UNIVERSITY

SIBAL DECRIES EDUCATION POLITICS

HRD minister says states not doing enough to implement central policies

By **Mail Today Bureau** in New Delhi

UNION human resource development (HRD) minister Kapil Sibal on Friday spoke against the politicisation of education in the country. He was critical of the state governments and lamented their reluctance to reform the education system.

Citing the example of 13 key Bills of his ministry that are stuck in Parliament, Sibal, who was speaking at the India Today Aspire Education Summit 2012, made a strong case for distancing politics from education.

"Everybody is thinking of when and how we will come to power. Where is the national vision? Nothing can be done unless political parties come together and realise that education is an area of national importance and should be a priority," he said.

"I want to give degrees to students in the Indian Institute of Science, Education and Research (IISER), but I cannot because there is no political consensus in the House," he added, referring to the non-passage of the NIT Act (Amendment) Bill 2011 in the Rajya Sabha.

This means that the students of IISER in Pune and Kolkata who completed their five-year course in the summer of 2011 are left in the lurch, without any degree.

The minister, who has been on the defensive in the wake of recent dismarging reports (Programme for International Student Assessment and Assessment Survey Evaluation Research) on the state of education in India, went on to illustrate how the central government — even though it attracts the maximum flak for deficiencies in the education system — has little role to play in on-ground improvement.

The biggest challenge, he said, was to get the states to implement the reform policies introduced by the Centre. And any bid to exert pressure is misinterpreted as "interference" in state governance.

"We (the Centre) can introduce policies and allocate funds. But it's impossible for us to monitor if a child is receiving quality education in Bihar or Orissa. The reality is that the implementation of policies happens at the state level," he said.

Calling the task of empowering 20 million children through education "herculean", Sibal said India would not be able to join the ranks of developed countries unless it created a critical mass of youngsters who will pursue higher education.

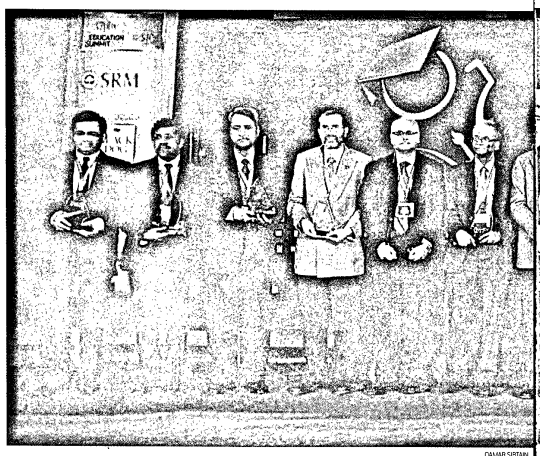
Currently, 16 of every 100 students in India reach university level, whereas the figure is 40 in the developed world. The government aims to increase the number of university-going students from 16 million to 45 million by 2020.

This gap, Sibal said, can be bridged through effective implementation of the Right to Education Act which was introduced almost two years ago. It promotes inclusivity in education and will democratise classrooms.

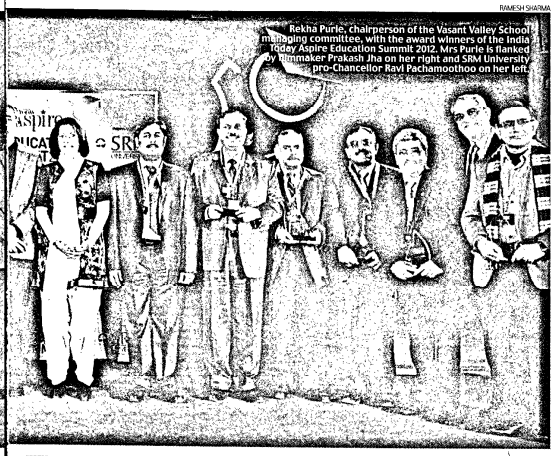
"The Act will create an environment to nurture that critical mass that will go to university by 2020," the minister added.

The Act will lead to efforts to admit and retain more children in schools, which would, in turn, lead to a build-up of pressure at the university level.

The minister also asked the states to increase their budget allocation for education and called on them, as well as the private players, to help meet the need of an additional 1,000 universities in the future.

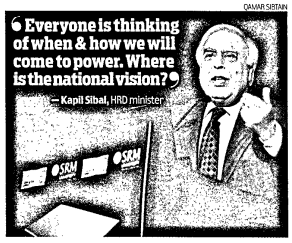


QAMAR SIRTAJ



RAMESH SHARMA

Rekha Purie, chairperson of the Vasant Valley School managing committee, with the award winners of the India Today Aspire Education Summit 2012. Mrs Purie is flanked by filmmaker Prakash Jha on her right and SRM University pro-Chancellor Ravi Pachamoothoo on her left.



Policymakers are finding the wrong solution

OVER 800 scholarships are earmarked for humanities at Benaras University but, according to a faculty member, it ends up receiving barely a dozen applications. Filmmaker Prakash Jha *(in picture)* **pointed out this startling statistic as evidence of the dire state of Indian education. "We have almost forgotten the essence of education, and have started considering it the manufacturing of managers," Jha said at a panel discussion on 'Redefining the Classroom' at the India Today Aspire Education Summit 2012.**

Jha, whose film ***Aarakshan*** **covered the problems with reservations in education, said the policymakers are picking the wrong techniques to attack systemic problems. "With affirmative action, I found dissatisfaction at every level," he said. "The story of reservation never ends... politicians have to plant reservations within reservations."**

He called for the government to ensure that all students have the opportunity to get the education they want. This, he said, needs to be done even if it pushes spending on education from 4 per cent of the GDP to 14.

He also decried the way education has turned almost into a commercial transaction — with teachers as service providers and students as clients. "We have learnt the art of management," Jha said. "There is a huge paucity of good universities with good teachers. People who don't get any other job end up applying for a teacher's job."

As an example of an alternative approach, Jha pointed to Super 30, a Patna-based educational initiative. The organisation, founded by mathematician Anand Kumar, selects 30 talented students from extremely poor backgrounds and prepares them for the IIT-JEE.

Mail Today Bureau

'Need Doon & Mayo for poor'

Shiv Nadar, the founder of HCL Technologies, pointed out the need for an IT revolution in the Indian education system.

THE widening rural-urban divide is one of the biggest challenges for India's education system. India needs another technology revolution in the education system to bridge this gap, Shiv Nadar, founder of HCL Technologies, said on Friday.

"Both the urban child and the rural child have the spark, the ambition, the genius; the only difference is their access to information about the world," Nadar said in his keynote address at the India Today Aspire Education Summit 2012.

"We need a world-class institution which will create leaders out of the children who have not had a good start in life. We need schools like Doon and Mayo for the poor," Nadar said.

This 66-year-old philanthropist-educationist believes the government needs to be more proactive, with a proper vision and action plan, to make good school education programmes effective.

According to him, effective information technology integration with the education system is the only way to bridge the urban-rural and digital divide. That is what policymakers have to work on. "It requires time and vision to make the change possible. Since Graham Bell came up with telephony, it took 100 years for the way the technology has impacted our lives, the way we perceive the world," Nadar said.

It was 35 years ago that Nadar had left his highly paid engineering job at DCM to set up his company in a garage, and no one could have predicted that one day he would head one of India's leading IT companies.

Mail Today Bureau

DU V-C trashes foreign tie-ups

By **Mail Today Bureau** in New Delhi

THE mushrooming of private higher education institutions in the country has made foreign collaboration a significant factor for the institutions when it comes to attracting prospective students.

But how far do the collaborations benefit students in terms of landing better jobs and drawing fatter pay packages? Or is it just an admission gimmick?

Friday's India Today Aspire Education Summit 2012 saw some of the distinguished academics and educators in the country giving a piece of their mind on a topic that has already generated much heat and dust in the academic sector.

While the predominant sentiment among speakers appeared to be in favour of international linkages, Dinesh Singh, vice-chancellor, Delhi University, remained sceptical.

He articulated his reservations rather vociferously, pointing out a rather ineffective collaboration which IIT Delhi had with the Imperial College, London.

Singh narrated his own experience of studying at the Imperial College for his Ph.D, later coming back to India and taking up a teaching assignment at IIT.

"I could see the stark contrast," said Singh about the two institutions. "The programmes at Imperial were outstanding. They met the needs of the society in diverse ways," he said. "Great things have happened at IITs too, but they have not come through tie-ups," he added.

Striking a pragmatic note, the vice-chancellor urged the delegates comprising academics, educationists and university officials to do some soul-searching on the need for a foreign collaboration. "We should look at the issue of why we need a tie-up and the philosophy behind that," he said.

According to him, going for foreign partnerships makes sense only if they benefit the society at large. "The focus of the tie-ups should be on how to solve urban transport, health and sanitation issues in our cities."

Singh also advocated the need to go for more inter-university linkages within the country, such as Delhi University and IIT Delhi having more frequent academic interaction, and professional linkages with Jamia Millia Islamia and Jawaharlal Nehru University.

Vidya Yeravdekar, principal director, Symbiosis International University, Pune, however, did not have any doubt over the merits of an international partnership.

"The staff room ambience changes the moment we have international faculty members. There is a higher level of motivation," she said. "The exposure which the students and faculty members gain from a foreign collaboration is immense."

The time that a student spends on an international campus can also boost his/her resume.

"It is benefiting the students economically," said Vijay Gupta, director of G.D. Goenka World Institute. "Good companies show greater interest in students who have an international study programme." He called for greater public spending on education to raise India's gross enrollment ratio to 30 per cent by 2030.

Great things have happened at IITs, but they have not come through tie-ups
— Dinesh Singh, Delhi University V-C

CURRICULA RESTRUCTURING

Delhi University will begin a four-year undergraduate programme by 2013, Dinesh Singh said, adding that the university was currently in the process of restructuring its academic curricula. But he stopped short of providing details.

He dismissed a comparison that Delhi University was toeing the American model of education, where students have to study for four years to earn their undergraduate degree.

Deemed universities can contribute greatly in lifting standard of education
— M. Ponnavaikko, SRM University

Engaging with diaspora is best way to allay brain drain apprehensions
— Seeram Ramakrishna, National University of Singapore

Technology is liberating. But it is not going to replace the teacher
— Anand Sudarshan, Manipal Global Education

The teacher is not getting credible compensation and the job is not coveted
— Krishna Kumar, ex-NCERT chairman

World class education should mean that students are employable
— S.S. Mantha, AICTE chairman

What we need is hands-on training. It's important to nurture their creativity
— Suneet Galgotia, Galgotias University

The skill inequality in India is worse than infrastructural inequality
— Ashok Reddy, IIJT

We are training people in stuff they don't need and very badly at that
— Sanjeev Bikhchandani, Naukri.com

Economic Times ND 28/01/2012 P-1

SIDDHARTH YOG JOINS INDIA INC ELITE

Harvard Gets $11m Dakshina from a Little-known Indian

The India Way of Giving

$10 million

Anand Mahindra gave in October 2010 to Harvard's Humanities Center

$5.2 million

NR Narayana Murthy's family gifted in 2010 to publish 'The Murthy Classical Library of India'

$50 million

The Tata Group gave to HBS in 2010 for a new academic and residential building

Siddharth Yog

SAUMYA BHATTACHARYA
NEW DELHI

On the 11th day of the 11th month of 2011 at 11.11 am, Siddharth Yog gifted $11 million as 'guru dakshina' to his professor Arthur I Segel at the Harvard Business School, his alma mater. He added a dollar to that amount as 'shagun', or a token for good luck.

The 38-year-old founder of Xander Group Inc, a global investment company focused on emerging markets that manages over $2 billion of equity capital, follows in the footsteps of prominent Harvard alumni who have given back to the business school that played a major role in moulding them into successful business people. Other Indians to figure on that list include Anand Mahindra, Ratan Tata and Infosys co-founder NR Narayana Murthy.

In early October 2010, the vice-chairman & managing director of Mahindra & Mahindra had given $10 million to support Harvard's Humanities Center; days later, the Tata Group donated $50 million to fund a campus building; and earlier in the same year, the Murthy family gifted $5.2 million to publish 'The Murthy Classical Library of India'.

Yog's gift has its distinctive elements. For one, it figures amongst the single-largest personal gifts an Indian has made to Harvard University. For another, it follows the 'shishya-guru parampara', or the age-old Indian disciple-teacher tradition. "I can never thank Arthur enough for what he has taught me. The gift is to the institute and specifically to Arthur for bringing about a life-changing experience (in me)," said the class of 2004 alumnus in an interaction with this writer during a recent visit to New Delhi to be part of a lunch hosted by Harvard University President Drew Gilpin Faust.

On his 30th trip to India in seven years, the guru, a co-founder and co-owner (between 1982 and 2001) of a private equity real estate development and investment advisory company, is a tad embarrassed by the 'guru dakshina'.

"Teaching is such a joy... but the idea of a gift in my name is preposterous. It is very nice, but unnecessary," says Segel with a grin. Yog convinced the good professor to accept the offering by narrating the story of Eklavya from *Mahabharata*, who cut off his thumb and offered it as dakshina to his guru Dronacharya.

Yog's offering is among the single-largest personal gifts an Indian has made to the Harvard University

So why is this maverick — who now rubs shoulders with the likes of Tata, Mahindra, Murthy as well as western donors such as David Rockefeller — so indebted to Harvard University? Well, it's thanks to the university, and to Segel, that Yog turned entrepreneur. Before that, since 1993, Yog was involved in global real estate and infrastructure.

Harvard, Segel Changed Yog's Life ▸▸ 3

Harvard, Segel Changed Siddharth Yog's Life

▸▸ From Page 1

Between 1999 and 2002, Yog was based in Singapore and Hong Kong as founder-director of CB Richard Ellis' (CBRE's) Asia-Pacific strategic consulting practice. Prior to that, from 1994 to 1998, he helped set up CBRE's India operations and led the consulting, valuation and research groups.

He has also worked at Bain & Company in New York, Deutsche Bank Real Estate Investment Management GmbH in Frankfurt, and Feedback Ventures in New Delhi.

But after nine years of working, Yog found himself asking the quintessential mid-career question: where do I go from here? Answer: the Harvard Business School, where he landed in 2002.

Segel recalls his first meeting with his shishya when Yog walked into his office at Harvard; Yog knew only real estate, and Segel taught the subject. "He was among the top students of his 900-strong batch," the professor recalls. Yog went on to write a case with Segel on real estate major Eldeco; Segel still teaches it.

Like most regular MBA grads, whose next destination is a coveted job in the financial services industry, Yog was set to start JPMorgan Chase's private equity business in the Asia-Pacific after graduating in 2004. "But, as they say, life happens," recalls Yog.

Between 1999 and 2002, Yog was based in S'pore & HK as director of CB Richard Ellis' Asia-Pacific strategic consulting practice

In New Delhi to get his visa stamped, none other than Segel prodded Yog to start a business of his own. Yog, with Segel and a clutch of investors in tow, duly founded Xander Group Inc. The private equity business of the group has investments from Lord Rothschild's family, RIT Cap Partners, The Getty Family Trusts, and of course Segel and Yog, who is currently based in London.

Over the past seven years, Xander Group has grown to 75-plus employees with offices in New Delhi, Singapore, London, Boston, Mauritius, Bangalore and Mumbai, among other outposts. The focus is primarily on companies and assets in real estate, retail, entertainment, infrastructure and hospitality.

Yog says the exposure to Lord Rothschild's philanthropy played a big part in his decision to give back to Harvard. "It was a desire to start early. As Steve Jobs said: stay hungry, stay foolish. I did that and I am hungry and foolish again."

The gift of $11 million spans multiple Harvard schools and focuses on innovative science, educational access, public service and academic-public policy collaborations. The financial aid and fellowships have an India and emerging market focus, says Yog.

To be sure, India is top of mind for Yog. "The company is named after Alexander the Great, who first tried to marry East and West...The idea is to create an ecosystem between the East and the West and to tie back the opportunities in India specifically along with other emerging markets."

Business Line ND 28/01/2012 P-4

Asia set to overtake US in science, tech research: Report

Our Bureau
New Delhi, Jan. 27

The Asian region may soon overtake the US as global leader in research and development in the field of science and technology, says a new American report.

Sounding alarm bells to the US authorities, the Director of National Science Foundation, the policy-making division of NSB, Mr Subra Suresh, in a release on the findings last week, urged them to "re-examine long-held assumptions about the global dominance of the American science and technology enterprise."

Mr Suresh oversees NSF's $7-billion budget, which funds basic research and education across all fields of science and engineering.

"The largest global S&T gains have occurred in the "Asia-10" — China, India, Indonesia, Japan, Malaysia, the Philippines, Singapore, South Korea, Taiwan and Thailand — as these countries have integrated S&T into economic growth," the report, Science and Engineering Indicators: 2012, released last week says.

THE CRUMBLING CITADEL

Many Asian countries have increased R&D investments relative to GDP, with China almost tripling its R&D to GDP ratio since 1996.

In 2008, only 4% of the world's engineering degrees were earned in the US, while 56% were awarded in Asia, including one-third in China.

The number of natural sciences and engineering doctorates awarded by Chinese universities has more than tripled since 2000.

In fact, China has become the world leader in high-technology trade and, for the first time, Asia has matched the US in R&D investments.

"Between 1999 and 2009, for example, the US share of global R&D dropped from 38 per cent to 31 per cent, whereas it grew from 24 per cent to 35 per cent in the Asian region during the same time", the report says. The European Union's share declined from 27 per cent to 23 per cent.

The report also points out that the US is rapidly losing high-technology jobs as American companies expand their R&D labs in China and other Asian countries.

Since 2000, the US has lost 28 per cent or 6,87,000 high-tech manufacturing jobs. American universities, too, have cut back 20 per cent on public research and 85 per cent of growth in R&D jobs by American companies have occurred abroad.

In China alone, R&D growth increased 28 per cent in a single year (2008-09), speeding past Japan and into second place behind the US.

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Times of India ND 28-Jan-12 P-20

UGC moots 20 universities, 800 colleges exclusively for women

It's a pointless move

The University Grants Commission's 12th Plan document proposes a whopping 20 universities and 800 colleges be built and set aside exclusively for women. Exclusive colleges for women (or men) is a traditional idea that's been around for a long time. If they were conducive to women's education taking a giant leap that would have happened by now. So it's naive to believe that just designating higher educational institutions for women will motivate greater numbers of them to enrol in colleges and universities.

▪TIMES VIEW▪

Higher education must aim for excellence. But exclusively women's (or men's) colleges, by limiting competition as well as the human resources they draw on, have a ghettoising effect and tend to foster mediocrity (with perhaps a few illustrious exceptions). This is the 21st century, it's too late in the day for a segregationist agenda. At the end of the day it will mean lesser opportunities for women, thus defeating the very purpose for which women-only colleges are set up. If one isn't talking about fundamentalist states such as Saudi Arabia, it's very rare now for public funding in any country to be devoted to single-sex colleges and universities. As usual, the UGC has missed the wood for the trees.

If the issue is harassment of women or lack of gender sensitivity in mixed colleges, surely there are better ways of tackling this. One can ensure safe campus environments, better security, training in gender sensitivity, sufficient toilets for women, etc. If colleges and universities are meant to prepare students for the workplace, one can't ensure workplaces will be gender-segregated. Surely part of education is preparing young people to deal with the opposite gender as well. Segregation is certainly not going to bridge the gender gap, it merely expresses a ghettoising sentiment. The UGC's latest proposal, alongside many others emanating from that august body, is cosmetic rather than well thought through.

Will ensure gender equity

The UGC proposal for a substantial increase in the number of higher educational institutions for women is a bold move towards greater equity in higher education. Though gender-based education may be perceived as a very conservative policy at first glance, a more considered view indicates that it is just the continuation of an effective policy which factors in social realities to overcome prejudices and open up more higher education opportunities for women. It is empowering, since it expands choice by allowing women to enrol either in co-educational or exclusive institutions rather than merely confining them to any particular segment. It is a win-win scenario, as many of the 2,000-plus women's colleges currently working have done phenomenally well and given an overall fillip to higher education.

▪COUNTERVIEW▪

Pyaralal Raghavan

Increasing higher education opportunities for women is crucial now, as the Sarva Shiksha Abhiyan has ensured greater gender parity in school education, raising the share of girl students enrolled to about four-fifth of all school-age girls. But the proportion continuing with higher education in the 20-24 years age group is still very low, at just around one-eighth. Only a substantial increase in the number of college seats and courses will allow the growing number of girl students completing school to continue with higher education courses of their choice.

Most of the 6.6 million women in colleges are currently enrolled in arts, science and commerce. Their share in more specialised faculties like law, medicine, engineering and management, which provide greater employment opportunities, still remains very low. The new universities and colleges planned should focus on the latter disciplines and should be mainly located in states like Bihar, Madhya Pradesh, Orissa, Rajasthan and West Bengal, where the women enrolment ratio in higher education is much lower than the national average.

Times of India ND 28-Jan-12
P-15

IIT-B to have new research centre

IIT-Bombay has decided to invest into biosciences and bioengineering research and threw open a dedicated centre for it on Friday. The money for the research school—$5 million came – from Romesh Wadhwani, founder of the Symphony Group and a former alumni. The Wadhwani Research Centre, will try to understand the mysteries of cells and proteins, of deciphering cell motility and cancer invasion. TNN

Publication: The Times Of India Delhi;Date: Jan 28, 2012;Section: Front Page;Page: 3;

Twitter offers to block illegal posts

'Idea Of Freedom Not Uniform Across Nations'

Javed Anwer | TNN

New Delhi: Twitter — a hugely popular social networking site for microblogging — has said that "if required by the law", it can block tweets in a particular country. In a post titled, "Tweets Must Still Flow", Twitter, which has around

▶Eye on China, P 19

300 million users, wrote on its official blog, "Starting today, we give ourselves the ability to reactively withhold content from users in a specific country, while keeping it available in the rest of the world."

In the wake of the government's recent run-in with internet sites like Google, Yahoo! and Facebook over certain user-generated content, this was interpreted by many as Twitter's accommodation of a rising concern of several governments on the need to regulate user-generated content on social networking sites, and seen to be contrasting with the "stubborn" stand of Google and Facebook.

However, some experts wonder whether Twitter's position was really different from that of Google or Facebook. "Google and Facebook have said that they would remove content if ordered by the courts, and Twitter too is saying that it can block tweets if required by the law," said an expert. "Where laws are codified, as in Germany and France about pro-Nazi propaganda, Twitter can block pro-Nazi tweets proactively. But in countries like India, where the laws are not that specific, this will be done reactively on the basis of court orders. That's all Twitter is saying."

In its blog post, Twitter said it has added a feature to block content depending on the region because it will enter "countries that have different ideas about the contours of freedom of expression".

NOT SO TWEET ANY MORE?

- Twitter will use new technology to **remove tweets breaking any law in any particular country only in that country;** the tweet will not disappear throughout the world as it used to
- Once a tweet is erased, Twitter will post a **censorship notice.** It will also post removal requests from govts, companies and individuals at **chillingeffects.org**
- Twitter says tech will help it enter "countries that have **different ideas about the contours of freedom of expression**"
- Move seen as pursuant to **Twitter's alleged plan to enter China,** which has highest number of internet users

Angry Birds

- *No connection between twitter's announcent to selectively censor based on national needs and a $300m investment by a Saudi Billionaire, eh? @exiledsurfer*
- *I've decided to join #TwitterBlackout Protest of new #Twitter Censored policy. I will NOT tweet on Sat. Jan 28 @khaledmhakim*

Publication: The Times Of India Delhi;Date: Jan 28, 2012;Section: Times Nation;Page: 21;

Twitter's censor move with eye on China?

Javed Anwer | TNN

New Delhi: Explaining the logic of offering to block posts in particular countries "if required by law", micro-blogging site Twitter has said the idea of "freedom of expression" varies from place to place. It cited example of Germany and France: "Some countries differ so much from our ideas that we will not be able to exist there. Others restrict certain types of content, such as France or Germany, which ban pro-Nazi content."

Twitter claimed if "we are required to withhold a Tweet in a specific country, we will attempt to let the user know, and we will clearly mark when the content has been withheld." It will also post detailed information about blocked content on the website of Chilling Effects, a joint project of the Electronic Frontier Foundation and law departments of several leading American universities.

However, the move is most likely prompted by Twitter's alleged plan to enter China, a country with highest number of Internet users. The service is banned in the Asian country since 2009. With its new technology, it might be able to block tweets that Chinese government deems offensive without raising hackles with its global audience.

Twitter said that so far it has not used its new technology. "But if and when we are required to withhold a tweet in a specific country, we will attempt to let the user know, and we will clearly mark when the content has been withheld," the micro-blogging website said.

Pranesh Prakash, a senior official with Centre for Internet and Society, termed the move a step towards the "Balkanization of the web". "The region-specific blocking was already being used on video hosting websites like YouTube and Hulu, where due to the wishes of copyright owners many videos are not available in India. Twitter is extending this technology to its tweets," he said.

Twitter's move is most likely prompted by its alleged plan to enter China, a country with highest number of Internet users. With its new technology, it might be able to block tweets that Chinese government deems offensive without raising hackles with its global audience

As governments seek some regulation of the web, the demand for region-specific content filtering and blocking has grown. Last month, asking Google and Facebook to filter "offensive material", Union telecom minister Kapil Sibal said, "We have to take care of the sensibilities of our people. Cultural ethos is very important to us."

Twitter became a household name in India last year as thousands of protesters used it to spread word about Anna Hazare's anti-corruption movement. In countries like Egypt and Tunisia, it was used by protesters in their fight against oppressive regimes. Prakash added that in the past, the website had resisted attempts to censor tweets. "Last year when US government sought detailed information about a user, Twitter challenged them in a court," he said.

Financial Chronicle ND 28-Jan-12 P4

Venture fund in search of a billion Pitrodas

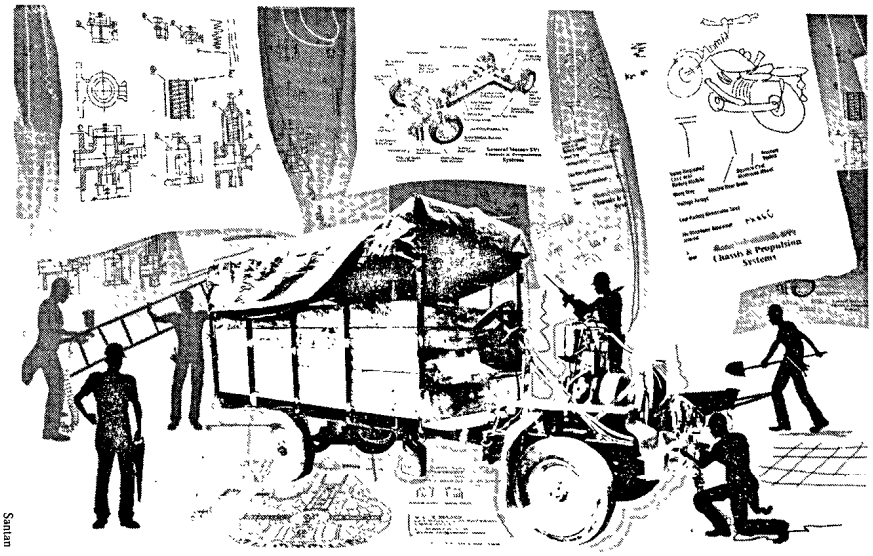
Social innovations not a sure-shot recipe for success but rewards could outweigh risks

KUMAR SHANKAR ROY
New Delhi

SEEN in different light, the government's dream of a $1 billion venture fund to promote social ventures focused on innovations that help the poor, is the ultimate tribute to jugaad, a term that initially denoted simple rustic answers to complex mechanical problems but has come to signify a quick-fix solution to any problem anywhere.

Those who have travelled through rural north India may be familiar with the most ubiquitous of all jugaad, the tractor-cum-truck-cum-minibus powered by a water-pump motor, the four wheels under a simple part-wooden-part metal frame that passes for chassis, body and cabin.

First devised in the sixties, the origin of this jugaad is lost in obscurity but it still works as well on the wheat field as on the village mud strip or on the asphalt road to the nearest mandi. It could also double as a passenger vehicle. Born out of necessity, jugaad was the best example of rustic innovation and cost very little to build. The farmer already had a water pump, wood was plentiful, and all he needed was a good mechanic to put the contraption together.



Santan

- India has been ranked the sixth most innovative country in GE's annual global innovation barometer
- Grassroots innovator Vivekanandan's pin pulveriser did not garner sales beyond a point
- Swami Manohar, who led scientists working on the Simputer, says money backing is of essence

Marketing professor Baba Shiv of Stanford Graduate School of Business sees in jugaad the very Indian inventive approach to managing scarcity. It has fathered many innovations. More often than not, jugaad arose out of one family or one village's needs. So, commercialisation of a jugaad idea was never considered. Some of those ideas could well have been implemented on a larger scale, for the betterment of a larger group of people. That would have needed the backing of money, often in absence of which promising ideas die.

According to Vineet Rai, co-founder of Aavishkaar, one of the earliest and largest micro- venture investors, all mainstream capital that has gone into this space in the past decade would not exceed Rs 500-600 crore across all enterprises.

Either innovators have not come forth with enough workable ideas or, simply, they missed the crucial connect with funding agencies. The National Inclusive Innovation Fund, led by Sam Pitroda, 69, will try to establish this missing link.

A washing machine that churns lassi will probably not make the cut with Pitroda. But what may is Balubhai Vasoya's stove that can use both electricity and kerosene and save 70 per cent of the cost of LPG to make the same dish, or Sorin Grama and Sam White's milk chillers that make expensive cold chains redundant. Shilpi Kapoor's BarrierBreak Technologies that provides products to aid people with visual, mobile or learning disabilities belongs to a higher level of jugaad that can help a wide cross-section.

> Many countries have funded innovative start-ups in the hope that these will stimulate overall economic growth in the wake of global financial crisis

Funding is no charity

The Simputer, a hand-held computer launched in 2002 in India, was envisioned as a low-cost alternative to personal computers. The hope was that 50,000 of these machines could be sold. But less than half the number has been taken so far. Swami Manohar, who led the scientists working on the Simputer, says money backing is of essence. No one wants to fund an experiment, but some may put money on the table after a successful pilot.

The Amida Simputer was brought to the market by PicoPeta Simputers in 2004, three years after the prototype was developed. The time gap was long, the main reason being lack of capital. No VC was willing to bet on a hardware venture at that time.

"The original Simputer vision was to provide services to citizens. It has taken 10 years to reach this stage, with no government or VC support," says Manohar, who co-invented Simputer while at IISc.

No fund was willing to take a technology risk. Everyone likes an instant success and has no time or money for an innovation 'in the works'. It is often forgotten that a good innovation proves its differentiation only on a large scale. It takes time to reach that scale.

Turn to P5

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PPP isn't always a blessing

Continued from P5

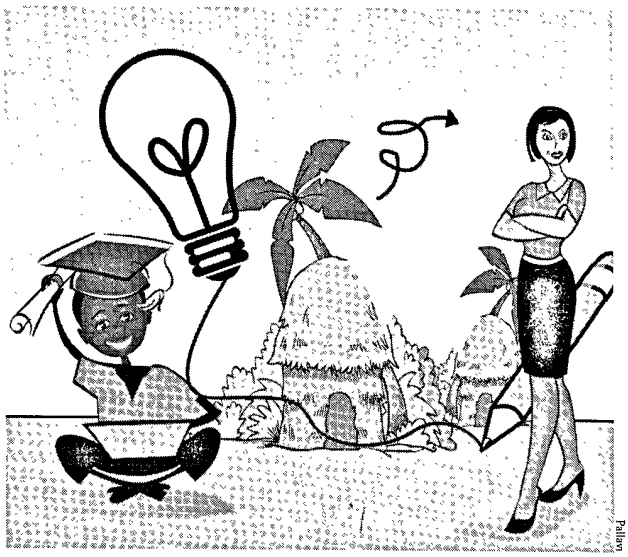
No grants please

Most government-backed research in India has been financed with grants. Grants do not always work because there is no obligation on the recipient to show results. Pitroda has done well to shun the easy route and opt for the venture capital model in proposing the $1 billion initiative. Government-funded start-ups aimed at helping the poor have faced problems for a variety of reasons, the worst manifestation of which are the bureaucracy, red tape and poor legal documentation, according to lawyer Ramanuj Mukherjee, founder of iPleaders and Intelligent Legal Risk Management Solutions.

Mukherjee, who seeks to protect the interests of start-ups, tells the story of a start-up in Kolkata backed by two venture capital firms: "When it took a seed loan of Rs 20 lakh from a government incubator, the investment agreement made the incubator joint owner of its intellectual property. No investor would have agreed to invest in a software company whose intellectual property is partly owned by a government body. This caused an eight-month delay and could have been fatal for the company."

Lesson learnt? Public-private partnership (PPP) in a start-up is not necessarily a blessing. Yet, government help can make or mar start-ups, depending on how the bureaucracy perceives a project. Bindeshwar Pathak founded Sulabh that has given over 1.4 million toilets to homes and over 8,000 public toilets.

"Way back in the 70s the first contract I got was to build two toilets in Ara in Bihar. The government grant required was Rs 500. The IAS officer questioned my intention. It was only after a low-ranking official gave a guarantee that the IAS officer saw reason," says Pathak, whose NGO now has an annual budget of Rs 300 crore but takes no external aid. "If I patented the technology and joined hands with businesses, I could have made billions. It's a careful line mixing social objectives with business," says the 68-year old.



Pallavi

Even so, grants are eagerly sought. Shilpi Kapoor's BarrierBreak Technologies has raised money but still wants government grant to subsidise the technology cost of products that give a certain degree of independence to disabled people. Over 25 million people are disabled in India, a number indicative enough of the scale required to help them. Hence Kapoor's plea for government help to lower the final product cost.

Innovation can address poverty as well as inequality issues, underlines RA Mashelkar, chairman of the National Innovation Foundation. Towards that end the finance minister on November 14, 2011 announced the government intention of a Rs 100 crore start-up fund. "Others will contribute to (the fund) nurture innovations in various technologies that can bring about great changes in the lives of the poor and empower them," says Mashelkar.

A shot in time

Without timely funding, an innovation can die a premature death. Capital is like oxygen for start-ups, points out Ganesh Rengaswamy, partner in Lok Capital which manages $85 million in two bottom of the pyramid funds. "It is important to seek out innovation and then back it continuously. Capital will be required at regular intervals, not just once or twice," he notes.

Social ventures are even more vulnerable to sporadic or half-hearted funding. Balubhai Vasoya's stove may have faded away as we could not locate one nearby. Nor could FC locate the innovator who was feted by media when the stove was announced. But Grama & White's milk chilling machine seems to be doing fine. They have the support from Villgro.

Nursing innovations is the centre's job alone. For all-round development ideas and innovations from every corner of the country must be nurtured and developed. The states' role in this cannot be overemphasised. Some states have woken up and created special funds for the purpose. Alas, with little success. The initiative came mainly through state finance corporations and state industrial development corporations, which gave seed money in the shape of equity or mezzanine capital. None, except Sicom of Maharashtra which incubated a few large companies in Navi Mumbai, could recover their investments, let alone earn a profit.

Rai of Aavishkaar has three reasons why bottom-of-pyramid companies struggle even with the best technologies/ innovations – shortage of money, lack of talent, and nil or slow growth. Mainstream businesses also face the problems. But at the bottom of pyramid the challenge is multiplied because of poor rural infrastructure support in low-income states and even some developed states. "The ecosystem needed to provide support to such enterprises is non-existent. It calls for massive investments," says Rai.

It is possible that innovations and idea will come forth more frequently if some of the basic needs of the rural folk are met. M S Unnikrishnan, Thermax managing director and chief executive officer, lists these needs in three groups: a) reliable and cheap energy for agricultural pumps, b) abundant water for cultivation, drinking, domestic needs and live stock and c) community cold storage and mini warehouses.

The first could be met with solar power combined with biomass energy generated locally. In turn this can help meet the second and third need groups also. Indeed, some global companies have done some work in this regard. Possibly India's first solar-powered fridge, eKOCool, is one such innovation.

The genesis of the cooler is interesting. Atul Singh, CEO and president of Coca-Cola India, was visiting a village market in Uttar Pradesh. He found that several shops selling Coca-Cola beverages did not have refrigerators and used ice-boxes instead. Refrigerators were not an option because power supply was limited and erratic. Ice-boxes meant travelling some distance once or twice a day for fetching ice. This added to the shopkeeper's cost.

Upon returning to Delhi, Singh asked his technical team to come up with a solution. Asim Parekh, technical vice-president of Coca-Cola India, narrates the rest of the story. The technical team set out to develop a solar cooler in 2009 and thus the eKOCool was born. The prototype was a success. Now several Coca-Cola units around the globe procure these coolers.

Jugaad with a global impact.

(with inputs from Michael Gonsalves in Pune and C Shivkumar in Bangalore)

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- Grants do not always work because there is no obligation on the recipient to show results
- Government-funded start-ups for poor have faced problems due to red tape and poor legal documentation
- Social ventures are even more vulnerable to sporadic or half-hearted funding

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Finding the innovation key to million problems

From cars to vaccines, companies are busy introducing a slew of cost-effective products

SRIRAM SHANKAR

INDIA'S image in the eyes of the world undergoes a major shift in every 30 years or so. From Independence to the import of PL-480 wheat, it was one of abject poverty and utter helplessness — of a nation unable to feed itself.

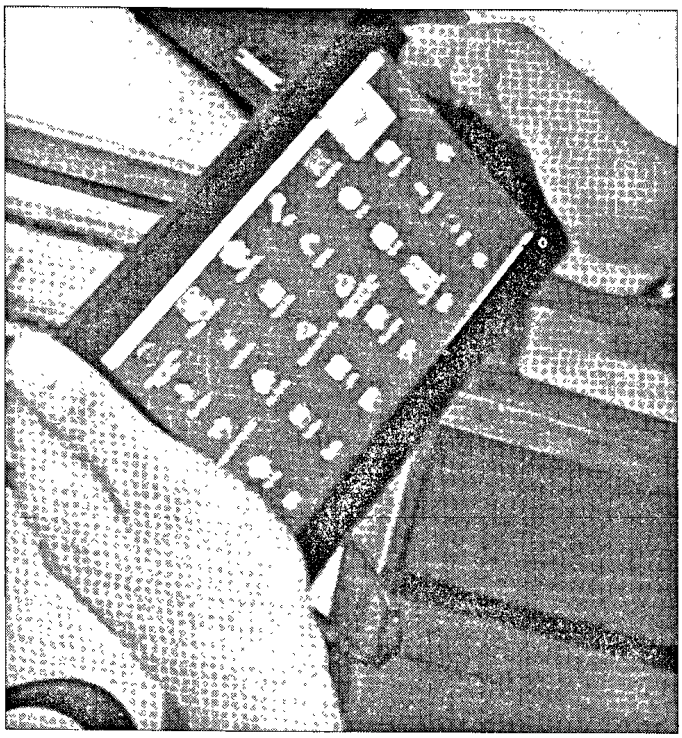
Post the economic liberalisation, there was this image of the IT or tech support person answering queries from half a world away, which led to the creation of "Bangaloring" of jobs that has been seared onto the consciousness of many around the world.

Now, another image is taking root. That of a country that has moved from solving others' problems to one that is trying to solve its own problems, and often in innovative ways that cost much less than what it takes in the west.

Cost-lowering innovation seems to have become the mantra of the past half-decade or so. From the world's cheapest car, the Nano, to the low-cost vaccines pioneered by Shantha Biotechnics, Indian companies have been busy introducing a slew of products that cater to people who otherwise would not have even registered on the radar as customers — real or potential.

India is one of the youngest countries in the world today. With a working population of almost 526 million, slated to increase to a staggering 653 million over the next 20 years, for marketers, it translates to people willing to spend more on improving their lifestyle.

Though incomes have risen, it still does not translate into a rush for the nearest Armani store. In practical terms, it means that the average Indian consumer who earlier used a cycle, can now actively consider buying a bike, a bike-owner can now consider getting a car.



INNOVATION LEADS THE WAY : By focusing on innovation that lowers the cost of their products, firms have started reaching out to these customers. Seen in the picture Aakash tablet, India's own low-cost product

The Indian consumers' quest for bettering his lot through upward social mobility on a limited budget has been noted by companies across product classes. Eager to make a profit through sheer volumes, companies are innovating on products and business plans to reach out to a customer traditionally thought to be "beyond the pale".

This is in stark contrast to the established ways of doing business in the west. Companies spend huge sums of money on R&D for bringing a costly product into the market. They then market their products as "aspirational" (meaning only a few can afford), wait for incomes to rise for consumers to come to them. By focusing on innovation that lowers the cost of their products, companies in India have started reaching out to these customers.

There is no dearth of success stories on low-cost innovation.

Tata, one of the world's largest conglomerates, has surely taken the lead. The availability of potable water is one of the central problems plaguing Indian cities. Often mixed with sewage water, it poses severe health problems to residents who have to use it for cooking and cleaning. Alternatives, such as bottled water or boiling, are expensive and impose other costs, either on the wallet or on the environment.

Tata came up with Swach, a water purifier that does not need running water or electricity and can cleanse water of most disease-causing microorganisms and impurities. Using a replaceable bulb-like device for purification, it has a capacity of purifying almost 3,000 litres before the material in the bulb is exhausted, upon which the entire purifier is rendered ineffective, an excellent safety mechanism for preventing impure water from being consumed. Available at less than Rs 1,000, it has brought down the cost of purified water to about 10p/litres. Swach also represents a classic study of a conglomerate such as Tatas, with diverse business interests, leveraging its capabilities in fields as diverse as chemicals and telephony to deliver a low-cost product for use by the masses. (Also see report on Swach)

While Tata Chemicals developed the bulb-like purifier, Titan supplied precision engineering know-how and Tata Teleservices provided customer support solutions. The Nano, also a product of the Tata group, is another example of the ability of low-cost innovation to create markets. Development began in 2003 as a promise by Ratan Tata, who delivered on it in March 2009, by announcing the sale of the Tata Nano at a price of Rs 1,00,000.

The emphasis on cutting costs while meeting pollution and safety standards led to a number of innovations on the different sub-systems, most of it carried out within India. There are now plans to begin exporting the Nano to other countries such as Europe, where it will be marketed as the Pixel.

Primary healthcare in India is seeing an increasing interest from industry giants. GE, a worldwide leader in healthcare, has set up labs in India to focus on low-cost medical technology. Innovation to lower costs can also save many lives.

Continued on P8

- Though incomes have risen, they still do not translate into a rush for the nearest Armani store
- Consumers using a cycle, can now consider buying a bike, a bike-owner can now consider getting a car
- Eager to make a profit through sheer volumes, firms are innovating on products and business plans

Times of India ND 28-Jan-12 P-11

Maha leads in filing patents

Kounteya Sinha | TNN

New Delhi: Maharashtra beats all other states hollow when it comes to filing patents.

But it is Delhi that records the best leverage ratio (percentage of patents being filed against the percentage of GDP of the state) at 4.81%, followed by Karnataka (2.24) and Maharashtra (1.95).

Between 2006 and 2009, Maharashtra had filed 5, 533 patents, while its nearest competitor Delhi filed 2,815. Karnataka and TN had filed 2,282 and 1,493 patents, respectively.

Kirti Joshi, a scientist from the Uttarakhand State Council for Science and Technology, explains, "Our research shows that though Maharashtra has the highest number of patents filed and is way ahead when it comes to individual GDP, its leverage rate is poorer than Delhi." Joshi and her colleague from National Institute of Science, Technology and Development Studies, Avinash Kshitij, have published a study that compares patent portfolio in terms of geographic distribution in an edition of the journal "Current Science".

The paper says, "The maximum number of patents was filed from Maharashtra (31.61%) between 2006 and 2009, which also has a maximum GDP share of 16.23%. However, the leverage ratio of these percentages is just 1.95. Maharashtra is the hub of many industrial units as well as academic institutions, yet the ratio puts it in the third place. Delhi, which has many institutes of repute, lies at the top on the leverage basis."

Eastern India, once known as India's research hub, has fallen far behind in the patent race. WB had filed 905 patents during the same period. When compared against its GDP ($76.9 billion), its leverage rate stood at 0.73. Odisha had filed lesser patents (53) than Bengal, but recorded a leverage rate of 0.10.

The experts said, "Patents are a reflection of the technological capability and depict the scientific and industrial strength of a nation. To measure proficiency of states in terms of patent filing for a three-year period, data was extracted from the Indian Patent Office."

They added, "It seems that the patent output has a bearing on the vicinity of the patent office as well as the presence of patent-oriented industries. The states housing patent offices are among the top rankers as well, with West Bengal being an exception."

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We're not alone in low-cost quest

Continued from P7

A stranglehold of the big pharmaceutical companies over production of vaccines for Hepatitis B ensured that WHO's recommendation for getting all children vaccinated against Hepatitis B remained a pipe dream in the poor nations of the world. Prices of the vaccine, at $23/dose meant that it remained out of reach of most people in third-world countries, where Hepatitis B had a fatality rate of 1-2 per cent and caused liver complications later in life.

Enter Shantha Biotechnics, a pioneering biotechnology firm founded in 1993. The company's founder, Dr KI Varaprasad Reddy, saw the urgent need for innovating on processes relating to the manufacture of the vaccine to bring down its price. Innovations and novel processes were developed that brought its cost down to $1/dose. Mass vaccination programmes taken up by Unicef further ensured its reach to millions of poor people in Africa and other corners of the globe.

In 2009 alone, Shantha Biotechnics shipped more than 120 million doses of the life-saving vaccine. Long accustomed to living off the riches from patent royalties, large pharmaceutical companies were introduced to the highly profitable and socially important role of innovations to lower the cost of critical drugs.

According to some studies, almost a third of the food that is consumed in India goes waste because of spoilage and other such avoidable reasons. This is a body blow for the poor, for whom spending on food forms a very large percentage of their meagre incomes. Given the spotty record of the government in connecting a large portion of the population to the grid and also at making sure that electricity is available, refrigeration of food was a luxury easily taken off the list of possible solutions for prevention of food wastage. Until now, that is. Godrej, a leading manufacturer of, among other things, electrical appliances, has come up with the ChotuKool, a small (40 litre capacity) refrigerator with minimal electricity requirements. Based on the Peltier effect, it works on the principle of transfer of heat from one junction of a couple of well-chosen metals to the other — a thermodynamic process that keeps one end cool while the other hot. Priced at Rs 3,500, it is expected to rattle markets and established players.

ENVIRONMENT FREINDLY : New products like the Simputer in picture, developed using low-cost technologies require less electricity and other resources required to run conventional products

Not be outdone, an enterprising potter from Gujarat, Mansukhbhai Prajapati, has come up with a refrigerator made from clay, appropriately named "MittiKool". Pots of clay have been used since time immemorial for keeping water cool using evaporation, removing heat from the substance being cooled and transferring it to the surroundings. The fridge, with a capacity of 50 litres, uses two water tanks for cooling and is equipped with a cabinet to hold vegetables and other food items.

Running without electricity, Prajapati claims that "food items like vegetables can be stored up to six days, while liquid milk can be stored up to three days".

Feminine hygiene is an area that receives very little attention, mainly because of people's attitudes that seek to hush things up. It is even worse in rural India. Women often use cloth rags, old newspaper or even dried leaves during their menstrual cycles. These unhealthy practices lead to infections, complications in childbirth and have even been shown to cause cervical cancer. The solution, of course, was to provide all rural women with subsidised sanitary napkins. Made with cellulose derived from wood fibre, machines used to make the fibre cost more than $500,000 a piece, ensuring that multinationals like P&G and Johnson&Johnson dominate this space.

Arunachalam Muruganatham, with no formal education beyond the 10th standard, worked for almost four years to create a simpler version of the machine and finally came up with an acceptable solution that works with electricity and foot-pedals. The machine breaks down the cellulose, turns it into the shape of a sanitary napkin and sews it with a fabric. This innovation has brought down the cost of sanitary napkins to about Rs 12 for a packet of eight. Muruganatham has refused to hand over the patent of this machine. Many states, such as Uttaranchal and Punjab have sought to replicate his machine. This surge in low-cost innovation is not unique to India alone. China has a number of companies whose cost-lowering technical innovations have garnered for them a large share of the global market. A prime example is the company BYD. A battery maker, it has taken the worldwide lead in producing low-cost lithium batteries. These batteries are now being used to manufacture cars with hybrid power systems. Cost of lithium cells, often the major hurdle in adoption of this green technology, is being lowered on the back of innovations pioneered at BYD. The resulting hybrid cars, reportedly now being exported to the US, will cost less than half the $40,000 price tag of the Chevrolet Volt. Other examples include the setting up of biogas-based latrines in the markets of Nairobi (Kenya), which help maintain hygiene and also provide biogas and fertiliser to farmers.

DESI TECHNOLOGY : Mansukhbhai Prajapati, has come up with a refrigerator made from clay, named "MittiKool"

According to some studies, almost a third of the food that is consumed in India goes waste because of spoilage

- In 2009 alone, Shantha Biotechnics shipped more than 120 million doses of the life-saving vaccine
- Godrej, has come up with the ChotuKool, a small refrigerator with minimal electricity requirements
- A number of Chinese firms' cost-lowering technical innovations have garnered a large global market share

Continued on P9

Major Indian think tanks are global minors

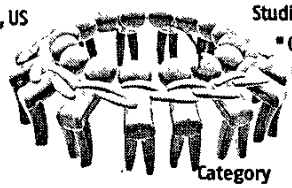
WHERE THEY STAND

GLOBAL TOPPERS

- Brookings Institution – US
- Chatham House, Royal Institute of International Affairs, UK
- Carnegie Endowment for International Peace, US
- Council on Foreign Relations, US
- Center for Strategic and International Studies, US

ASIAN TOPPERS

- Chinese Academy of Social Sciences, China
- Japan Institute of International Affairs, Japan
- Centre for Strategic and International Studies, Indonesia
- Centre for Policy Research, India
- Lowy Institute, Australia



Where India stands?

Ranking	Institute	Category
34	Centre for Civil Society	Top-50 think tanks worldwide (non-US)
4	Centre for Policy Research	Top-30 think tanks in Asia
15	Indian Council for Research on International Economic Relations	Top-30 think tanks in Asia
17	The Energy Research Institute	Top-30 think tanks in Asia
18	Centre for Civil Society	Top-30 think tanks in Asia
24	Institute for Defence Studies and Analyses	Top-30 think tanks in Asia
24	Centre for Development Alternatives	Top-30 international development think tanks
19	Ashoka Trust for Research in Ecology	Top-30 environment think tanks
20	The Energy and Resources Institute	

Source: University of Pennsylvania listing

DILASHA SETH
New Delhi, 27 January

India has the highest number of think tanks in the world after the US and China; yet, not even one finds a place in the top 30 worldwide listing by the University of Pennsylvania. In the list, excluding those in America, only one entity from India figured in the top 50 -- the Delhi-based Centre for Civil Society (CCS) is at 34th position.

However, in Asia's top 30, we have Centre for Policy Research (CPR) at fourth place, Indian Council for Research on International Economic Relations at 15th, The Energy and Resources Institute (Teri) at 17th, CCS at 18th and Institute of Defence Studies and Analyses at 24th.

The Think Tanks and Civil Societies Program at the University of Pennsylvania annually ranks think tanks around the world through an eight-month process through expert and peer institution feedback on their scope, performance and influence.

Parth J Shah, founder and president of CCS, says the global ranking is based on the issues taken up, which are of universal concern. "For example, we are working on education, livelihood, governance, environment and rule of law," he noted. Shah said the ranking also factors in whether the entities take their research to the targeted audience. Besides, the rankings also assess whether the bodies are working on multiple issues and not just a single one.

However, some experts in the field questioned the measure. "There is mystery surrounding the rankings, as CCS appears in the top 50 list of worldwide think tanks (excluding the US) but in the Asia list, its ranking is 18," notes Pratap Bhanu Mehta, president of CPR, which is ahead at fourth in the Asian list.

India has 292 think tanks, the highest after the US and China, which have 1,815 and 425, respectively. The larger issue remains of Indian think tanks' lack of global presence.

According to Mehta, the number of Indian think tanks is highly misleading. "The average size is very small," he said, adding the lack of government funding was the major constraint. "Looking at the top three think tanks in the Asia list, they are from China, Japan and Indonesia, respectively, working with an annual budget of $50-70 million. There is a major drop at the fourth place, i.e. CPR, working with an annual budget of $2-3 mn."

He points to how Singapore and China have invested heavily in research institutes, while Indian government funding is very low. "Though we (CPR) are big in India, we are minuscule if you put us on a global platform," Mehta says. The Indian Council of Social Science Research's annual budget is just ₹30-35 crore, he adds as an example.

Also, India has no tradition of private philanthropy, as in the US, to fund good research projects, some experts say. Another thing India lacks is a vigorous university system that develops a good research base. "We do not have universities like Yale or Princeton. This weakens the entire ecosystem for research," says Mehta.

Some slam the rankings altogether. "They are just looking at the new liberal world and are missing out on others. CCS is a liberty institute that advocates no competition law or benign capitalism. The list is based on a very narrow study," said Pradeep Mehta, secretary-general of CUTS International.

Times of India Chennai 26.01.2012
P-7

Adi Dravidars to get free IIT-JEE training

Govt Allocates ₹2.64 Cr To Benefit About 5,000 Students

TIMES NEWS NETWORK

Chennai: In a bid to bridge the digital divide between different sections of students in the state, the state government on Wednesday allocated Rs 2.64 crore to train children from Adi Dravida community to crack national competitive examinations such as IIT-JEE and AIEEE.

The allocation is part of the Rs25 crore set aside by state to implement welfare schemes for beneficiaries under the Tamil Nadu Adi Dravidar Housing and Development Corporation Limited (TAHDCO). As many as 5,910 students are expected to benefit from the scheme.

Academics welcome the initiative but are doubtful about the impact of the scheme. Experts feel the focus should be on helping students understand concepts in maths, physics and chemistry, rather than stressing on competitive exam coaching.

Education consultant D Nedunchezhiyan said, "All India entrance tests are based on class 11 and 12 syllabi. Many students skip the class 11 subject content and memorise the Class 12 textbook in an attempt to gain admission to professional courses. This trend must end. Only then will Tamil Nadu send more students to IITs than it currently does."

Engineering and medical colleges in Tamil Nadu consider only class 12 board exam marks for admission to professional courses. However, admission to Indian Institutes of Technology and National Institutes of Technology and deemed universities are based on entrance exam scores.

The scheme also includes a move to handpick 385 Adi Dravida students from across the state and admit them to a reputed residential school from Class 6 to 12.

> Many students skip the class 11 subject content and memorise the class 12 textbook to gain admission to professional courses. This trend must end. Only then will Tamil Nadu send more students to IITs than it currently does
>
> EDUCATIONAL CONSULTANT

A total of 1,540 students will be admitted at an expense of Rs 5 crore by the government. Under the scheme, Rs 6.13 crore will be spent to train more than 5,500 beneficiaries in computer skills.

The scheme will also benefit 42,444 converted Adi Dravida Christians without hostels and 28,296 students in hostels as their monthly maintenance allowance has been raised. The government will spend Rs 3.53 crore on this.

In tune with TAHDCO's policy of improving the income-generation capacities of people from poor socio-economic backgrounds, the scheme will train 50 beneficiaries in telecom-related sectors at Rs 25 lakh.

As much as Rs 2.58 crore will be used to teach driving to 2,350 members of the community. Training will also be given on how to operate construction equipment, in plastic, footwear and leather production and to become technicians in the film industry at a cost of Rs 2 crore. Technical institutes in the state will train more than 1,500 members in food production at a cost of Rs 1.3 crore. Adi Dravidar youth will also be trained to improve their spoken English and other soft skills, an official release said.

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DOING MORE WITH LESS

Continued from P8

This method of innovation, often called "frugal engineering"is used to solve what are often serious problems affecting the quality of life of the average citizen. It has resulted in innovative and homegrown solutions engineered with Indian needs in mind.

Often derided by some as compromising on quality, safety and other parameters that have "traditionally" gone into the creation of a great product, cost reducing innovations are definitely "disruptive" if nothing else.

Coined by Clayton Christensen, a Harvard Business School professor, "disruptive innovation" refers to the introduction of a new technology, product, or a new version of an existing product that discovers new markets, sometimes changing its very contours and often transforming manufacturing or marketing processes completely.

To take an example, in the run-up to the launch of Nano, prices in the second hand car market in India were depressed by 20-30 per cent and prices in the new car market were also depressed by 20 per cent. Such price reductions ultimately help consumers get better value for money.

The intense competition in the mobile telephony market in India has seen call rates drop consistently over the past decade. With outgoing calls at 1p/second, the Indian mobile telephony market is one of the deepest in terms of penetration and sophistication and cheapest in terms of cost to the consumer. Not every technology designed to benefit the masses reaches them, not every innovation succeeds.

Government laboratories have pioneered research in innovations leading to lowering costs, but little of it has managed to enter the market or find mass acceptance. Private players and industry too, have had their fair share of failures. The Simputer was for long touted as the answer to most of India's shortcomings in the education space. Expected to breathe life into moribund classes and bridge the divide between the digital haves and have-nots, it has not lived up to its promise. Expected to have sold about 50,000 units until 2005, it is said to have sold only 5,000.

High-cost of the devices (priced at Rs 12,500 then) and availability of cheaper and more capable smartphones are some of the reasons given for its commercial failure. Aakash, the new tablet launched as part of the government's digital education policy, has also faced trouble on compliance.

As we move away from the labs at conglomerates and established research institutions to the villages, we see a whole world of such low-cost innovations open up. Known colloquially, and now internationally, as jugaad, it is the name given to the uncanny ability to make-do with what one has, often improvising a solution until it just-works.

The best example is perhaps the vehicles we see on many rural roads transporting grain and even people. With a body made of scrap metal, an engine that once belonged to a tractor and a drive train fashioned from a water pump, this modern day chimera is illegal according to the Indian Motor Vehicles Act. Representing ingenuity and an anything-goes culture in equal measure, it raises serious questions about safety and implementation of regulations.

While Harvard Business School may have devoted case studies to the phenomenon of jugaad, fashioning it as the next in-thing in business thinking, more fundamentally, it takes root in an environment where one is desperate to survive. In the "complexity" of modern India, jugaad is a necessary, even welcome trait. When jugaad is taken to mean anything-goes culture towards people and their lives, it acquires dangerous dimensions. The sooner we do away with this sort of jugaad the better. In a socially dynamic country like India, with hundreds of millions of people at the bottom of the pyramid but striving to move up, there are fortunes to be made by serving their needs and wants.

Low-cost innovation and cost-reducing innovation can both be made to work to better people's lives. The massive pool of engineering talent in the country, coupled with a can-do ('jugadoo') ethic has successfully engineered solutions to many problems once thought of as impossible. Marketing those same solutions, however, leaves a lot to be desired.

Often treated as giveaways by the government, these patents and products do not unleash the entrepreneurial energies of people associated with them. IITs and other research institutions seem to have taken note of this need for better marketing and commercialisation of innovation. Start-up incubators, rapid prototyping centres and extensive partnerships with the industry are coming up at a rapid pace and can today be found at most, if not all, government and private institutions of higher learning and research.

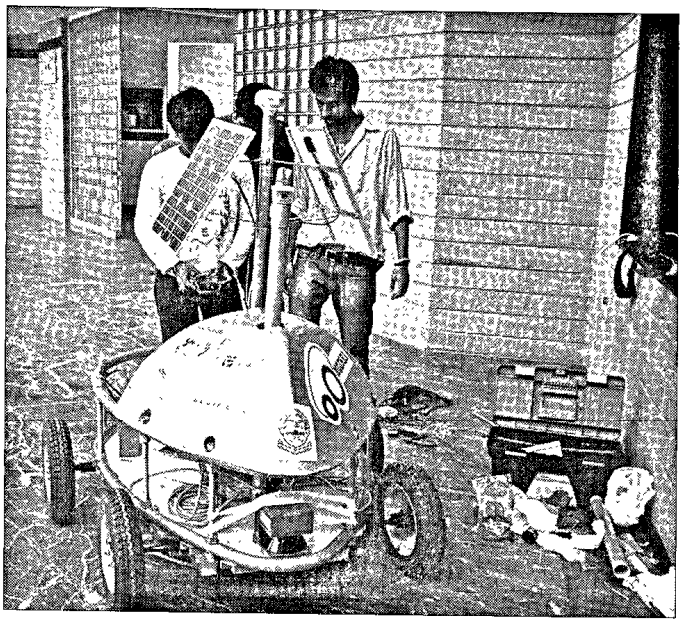
By giving space at economical rates to budding entrepreneurs, entrepreneurship is supported and encouraged. Through rapid prototyping, products can be introduced and tested in the market quickly. Extensive partnerships with the industry allow access to better funding and larger R&D networks. There are signs that the government may be entering this space by setting up a $1 billion VC fund, in cooperation with other venture capitalists to increase financing for rural innovation. All the ingredients for making India into an innovation and economic powerhouse are present. What is needed is better commercialisation.

Management guru CK Prahlad, in a book of the same name, had said, "A fortune lies at the bottom of the pyramid". Bottom of the pyramid, for a country like India, means hundreds of millions of people, often many times over the entire market size of many countries put together.

Given the sheer numbers then, it makes economic sense for companies to focus on them. With rising economic prosperity, disposable incomes and favourable demographics (a larger spending population), more and more companies, big and small, are making products that represent high value to the customer, while keeping costs low.

From refrigerators to cars to water purifiers to vaccines — low-cost innovation is no longer limited to sachets of shampoo and soap, and to government laboratories.

(The author is an engineer involved in developing technologies such as speech recognition and text to speech systems for Indian languages)



NEW HORIZONS: As we move away from the labs at conglomerates and established research institutions to the villages, we see a whole world of such low-cost innovations open up

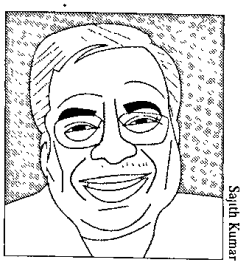
Low-cost innovation and cost-reducing innovation can both be made to work to better people's lives

- When jugaad is taken to mean an 'anything-goes' culture, it acquires dangerous dimensions
- Aakash tablet launched as part of the government's digital education policy, has faced compliance troubles
- Often treated as govt giveaways, patents & products do not unleash entrepreneurial energies of people

Financial Chronicle ND 28-Jan-12 P11

Bharat craves for innovation

Attempts for rural technology incubations have been small and somewhat sporadic so far



Sajith Kumar

BY INVITATION

ASHOK JHUNJHUNWALA, PROFESSOR, IIT-MADRAS

- An immediate remedy for the malaises in India, is the creation of large social support programmes
- Tensions can only dissipate if growth is accelerated in sectors and the sections that have been left behind
- New steps must penetrate the grassroots at a deeper level to solve the problems of the under-privileged

AS THE Indian economy grew rapidly over the past 20 years, it generated wealth for its citizens. However, the rapid economic rise has been accompanied by high differential growth in prosperity of the people — as incomes of certain sections have grown much faster compared with others.

While urban India innovated to grow fast, rural India and the sectors that dominate it the most — farm, water, healthcare, rural & cottage industry, and education — have enjoyed limited success.

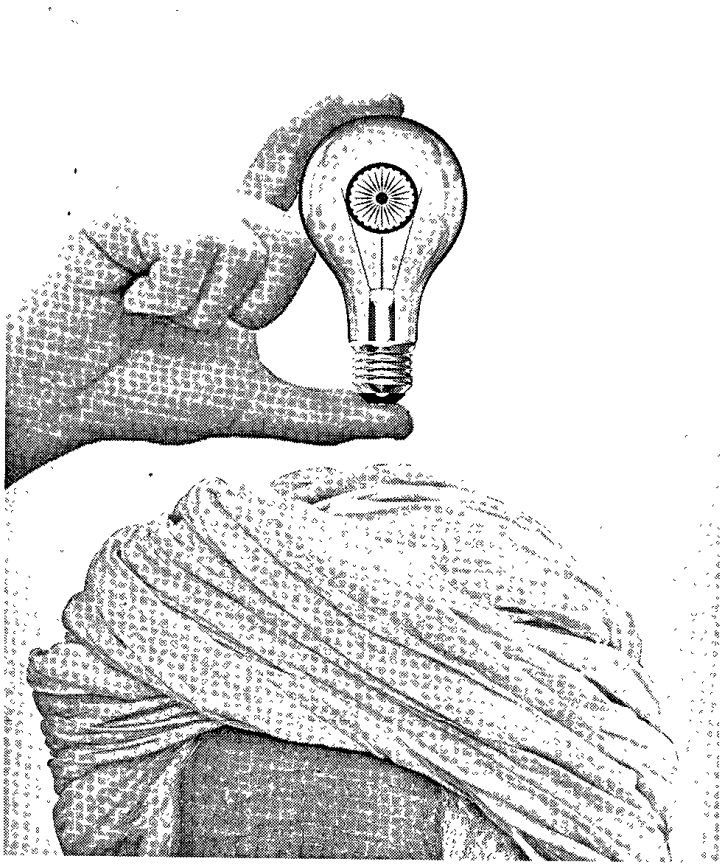
Such large differential growth normally accentuates tensions within society, and in a democratic set-up, impacts stability and consistent policy making. This is precisely what seems to have happened in India over the past few years.

An immediate remedy to such a malaise is the creation of large social support programmes. India has seen several poverty alleviation measures in recent times, with National Rural Employment Guarantee Scheme (NREGS) taking a lead in blunting tensions created by uneven growth.

However, true solutions lie beyond immediate balms. Tensions can only dissipate over the longer term if growth is accelerated for sectors and sections that were left behind. Science and technology, innovation and entrepreneurship, all of which have played a major role in the rapid growth of modern urban sector, should now focus on these sectors.

Several attempts have been made in this direction over the past few years, including those by Rural Technology and Business Incubator (RTBI) at IIT Madras. But these attempts have been small and somewhat sporadic, with limited policy and venture support.

Over time, the government has realised that innovation in areas such as agriculture, water conservation, rural energy, rural healthcare and education and livelihood would go a long way in strengthening the Indian society.



ECLIPSED: While urban India innovated to grow fast, rural India and sectors that dominate it the most — farm, water, healthcare, rural industry and education — have enjoyed limited success

It has, therefore, decided to provide policy-support to such efforts as well as set up a Rs 5,000 crore public-private venture fund to convert innovation in these areas into drivers of viable commercial enterprises.

These enterprises would attempt to introduce new services and products with venture fund support, promising to bring about a sea change in the lives of the poor. Such strategy could indeed be a gamechanger for the nation.

However, setting up the venture fund can only be a first-step. This alone will not result in a large number of initiatives spawning commercially successful ventures.

At the same time, it must be ensured that the supported enterprises actually attempt to benefit those left behind. With 80 per cent of the capital proposed to be drawn from private venture funds, start-ups must focus on the business end of their ventures to make them commercially viable.

Yet, such businesses must significantly impact the lives of the poor. Substance rather than hype has to be the motto of such an enterprise.

Such ventures cannot be built without careful nurturing and without significant participation from larger sections of the academia and R&D institutions, nor without involving those who have had long and rich experience in working in the social sector.

S&T initiatives must penetrate the grass roots at a much deeper level to solve the problems of the under-privileged. Such efforts will be more complex than what scientists pursue today; and would almost always involve combining expertise in multiple disciplines in addition to taking significant inputs form the social sciences sector.

All this cannot be done overnight and would require sustained efforts, funded by different ministries and lead by the department of science and technology. Such an effort would lay the groundwork for creating ventures that could tap the fund to build successful businesses that benefit the poor.

Fortunately, many youngsters today are excited about working in such sectors and they would certainly tap the fund. However, the next generation is often driven by the hype of "social entrepreneurship" emerging from the west, which rarely goes deep enough.

To succeed, youngsters must have deeper understanding of rural India and sections that have been left behind in our rapid drive to modernise our society and economy. They must understand their strengths and weaknesses, their constraints and their desires. At the same time, they must be willing to think out-of-the-box and innovate to come up with new services and products.

The proposed venture fund is a great step forward for India. Several more steps need to be taken.

(Ashok Jhunjhunwala has been teaching at IIT Madras since 1981 and leads the telecommunications and computer networks group (TeNet), which works with industry in the development of technologies relevant to India, and has incubated 35 companies over the past two decades. A Padma Shri awardee, Jhunjhunwala chairs Rural Technology and Business Incubator (RTBI) at IIT Madras and Mobile Payment Forum of India (MPFI), besides being a member of the prime minister's scientific advisory committee. He is also on boards of several companies including TTML, Polaris, 3i Infotech, Sasken, Tejas, Tata Communications and Exicom)

Business Line ND 28/01/2012 P-8

'Low adoption of information technology tools in education sector is a major challenge'

Interview with Mr Anil Goyal, Director (Strategy and Business Development), Mexus Education

L.N. Revathy

Coimbatore, Jan. 27

Even while stating that technology has come to play a vital role in the education space, Mr Anil Goyal, Director (Strategy and Business Development), Mexus Education, admits to the low adoption of ICT tools in the education sector in the country.

Mr Goyal says that the focus should not be restricted to academics alone but on juggling resources and developing the capacity in terms of technology.

Mexus Education, an education venture of the Bilakhia Group has been hosting Iken Scientifica – a science competition, giving students across the country a chance to rediscover science and redefine their approach towards learning and understanding. "Deviating from the norm of learning application after concepts, Iken Braingym inculcates learning of concepts through understanding its applications," Mr Goyal told *Business Line*.

Excerpts from an interview:

How do you foresee the 2012 outlook on the K-12 education segment and the role of technology in the education sector?

The prosperity of the private sector in India coupled with the increase in the purchasing power of the average Indian family, we are seeing more and more people (parents) showing a preference for private education for their children, a trend which is expected to continue over 2012.

According to the 2011 KPMG report on the education Sector in India the K-12 segment would grow to $34 billion in 2012. The growing recognition of Indian education on the global front is expected to drive more foreign collaborations and rapid growth of international institutions and companies catering to the need of K-12 education. More schools are expected to adopt hybrid teaching methods to improve the effectiveness of teaching and to increase the focus on delivery of quality through adoption of technology. Also, portability of educational aids and mobility of learning techniques would be enhanced by technology in the K-12 segment.

However, the major challenges that are expected to continue through 2012 are low gross enrolment ratio (GER) and high dropout rates as well as low penetration of technology and multimedia content in government aided schools.

Technology can be integrated into the learning process to make it more interesting, enjoyable and personal.

Mr Anil Goyal, Director - Strategy and Business Development

How do you envision the role of the Government in the education sector?

With an annual government spend of $30 billion and private spend of $43.2 billion, education is one of the largest capitalised sectors in India (The Marketing Whitebook).

The sector is undergoing rapid transformation with increasing support for private participation. The Government, cannot but do without taking initiatives to enhance the quality of education, develop skills to orient students and adjust with ever-evolving skills sets.

However, the deep digital divide in education system and resource constraints limits the initiatives that governments can undertake. Inviting sophisticated forms of private involvement in education through PPPs (Public Private Participations) initiatives such as capacity building initiatives, educational services from private schools considering that a large number of schools run on Government grants are unable to opt for digitisation because of resource constraints, provision for infrastructure – which can be achieved with the government providing the basic facilities like classroom infrastructure, electricity etc. and the private sector managing and upgrading the schools.

Strategies undertaken by Mexus Education for promoting ICT-enabled digital content for K-12 education in India?

With the growing expectations of parents and students, the deliverable and role of schools have undergone a complete turnaround. The focus is not only on academics but also on juggling resources and developing the capacity in terms of technology.

We are trying to introduce global connectivity through digitisation whereby Iken schools will be connected to reputed global schools. The idea is to encourage sharing of ideas and information.

Mexus has also been connecting with schools in Tier III cities through Eduvate, a platform which brings together academicians for a discussion on the sector and possibilities to improve the standards of education. Pooling in inputs from academicians, educators and principals to customise the content in accordance with the teaching style and comfort zone, pre- designing the lesson plans, building video conferencing and online connectivity in the classrooms are a few features planned for integration this year.

Mexus is also planning to introduce complete support for Pre-school set up within the Iken schools.

Overview of K – 12 segment in the education industry?

There is a growing need for skilled and educated workers in the country. But due to failure of Indian education system to provide high quality education and growing willingness amongst the middle class to spend more, has transformed Indian education sector into an attractive and fast-emerging market.

The Indian Education Sector, as reviewed in CLSA Report on Indian education, is valued at $40 billion, of which, the market for K-12 sector is valued at $20 billion.

The market is still nascent with the largest spend being school fee and the second largest expenditure being tuitions. With educational reforms, better career avenues and innovation, this market can be developed into an experiential market. Technology can be integrated into the learning process to make it more interesting, enjoyable and personal.

Educational reforms in the traditional system of education are a must to drive research, development and innovation.

Times of India ND 28-Jan-12 P-11

Former Isro chief gives up IIT post

Hopeful Of Getting Justice Through RTI

Surojit Gupta | TNN

New Delhi: Former ISRO chief G Madhavan Nair, who has been barred from any government work for his alleged lapse in the Antrix-Devas deal, on Friday voluntarily stepped down from the post of chairman of the board of governors of the upcoming Indian Institute of Technology, Patna.

The government decided to bar Nair and three other ex-ISRO scientists from any government work for their alleged lapses in the Antrix-Devas deal.

"I came here to say goodbye. I am voluntarily stepping down. This college is very close to my heart and it's my moral responsibility to give them the message. I have nothing to do with the government. It has hurt me very badly. I have not been told anything by the government so far," the top space scientist told TOI on phone from Patna.

Sources said Nair refused to chair the meeting of the board but was persuaded to stay on as he was associated with the planning for the college for a long time. Nair said he had filed an application under the RTI Act and had sought the two inquiry committee reports. "I am sure the government will not refuse it. After studying the reports, we will take appropriate action. It's a question of my prestige and it has to be restored," he said.

PRESTIGE ISSUE: G Madhavan Nair

"We do not know what were the terms of the committees, what are their recommendations. We do not know what processes they followed to secure such an unilateral decision from the government," he added. In February 2011, the UPA government scrapped the controversial contract between Antrix Corporation and Bangalore-based Devas Multimedia for the lease of space segment in S-band. The government had said it could not grant S-band spectrum to anyone including Antrix due to strategic reasons.

The controversy over the deal surfaced at a time when the government was battling corruption charges over the allocation of 2G spectrum. The government promptly appointed two committees – one headed by former cabinet secretary B K Chaturvedi and another by former central vigilance commissioner Pratyush Sinha — to probe lapses in the deal.

Nair said the Chaturvedi panel allowed them to present their case but the Sinha panel only sent a questionnaire, suggesting that they were denied the right to be heard. "We answered all the questions and sent it to them but we have not received any reply," the ex- ISRO chief said, adding that government's decision to bar him from official work was against the process of natural justice.

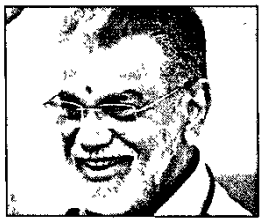
Devas Multimedia has moved the International Court of Arbitration to settle the issue but Antrix has not responded favourably to the arbitration. The SC is expected to hear Antrix's petition on the issue early in February. The ICA has appointed a three-member panel to go ahead with the arbitration proceedings. Former CJI A S Anand has been appointed as one of the members of the arbitration panel.

'Radhakrishnan knew of Antrix-Devas deal'

Prashanth G N | TNN

Bangalore: Indian Space Research Organisation chairman K Radhakrishnan's appointment to inquire into allegations of procedural lapses in the Antrix-Devas deal has led with murmurs of protest with officials calling it a "case of conflict of interest". They say the space scientist was a member of the Antrix board in 2007-08 and aware of the deal's details and even reportedly consented to it. The Centre has annulled the deal and blacklisted ex-ISRO chief Madhavan Nair and three others in connection with it.

"How can he be part of the five-member High Level Team that finds fault with the deal when he was party to it?" an official asked. Radhakrishnan is said to have been aware of the contract, which received all government approvals, as the board member. "Why did not the chairman raise any doubts between 2005 and 2009? Why did the chairman get doubts only in December 2009? How can the approver and inquirer be the same person? Who appointed him as part of the team is not clear though indications are the directive came from the PMO," the official told TOI.



ISRO chief K Radhakrishnan

Radhakrishnan had said that a review of the contract was necessitated as Isro had not explicitly mentioned to the Union cabinet in 2004-05 that two Isro satellites would be exclusively used by a private company, Devas, at a presser in New Delhi in February 2011.

TOI tried to reach Radhakrishnan on Friday, but he was unavailable for comment. An Isro spokesperson said he would respond to various issues when he thinks "it's appropriate". "As of now, the statements and views of the minister of state in the PMO (V Narayanasamy) are final."

Times of India ND 28-Jan-12 P-21

Found: 26 planets, 11 solar systems

In 2 Years, Nasa's Kepler Telescope Has Discovered Over 60 Planets

Washington: Planetary scientists at Nasa have announced that the US space agency's Kepler telescope has discovered 26 new planets spread among 11 solar systems.

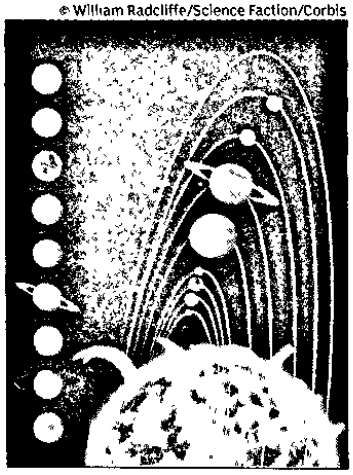
"Prior to the Kepler mission, we knew of perhaps 500 exoplanets across the whole sky. Now in just two years staring at a patch of sky not much bigger than your fist, Kepler has discovered more than 60 planets and 2,300 planet candidates. This tells us that our galaxy is positively loaded with planets of all sizes and orbits," the US media quoted as saying Doug Hudgins, Kepler programme scientist at Nasa headquarters.

Some of these newly discovered planets are only 1.5 times the size of Earth, while others are bigger than Jupiter. Fifteen exoplanets are between Earth and Neptune in size, say the scientists.

The Nasa team is, however, yet to determine whether any of these planets are solid rocky bodies like Earth, Venus, Mars and Mercury or are only made of gas like Jupiter, Saturn, Uranus and Neptune.

The scientists have also claimed that the 26 planets orbit their stars between every six and 143 days.

"By precisely timing when each planet transits its star, Kepler detected the gravitational tug of the planets on each other, clinching the case for 10 of the newly announced planetary systems," said Dan Fabrycky, an astronomer at the University of California, who authoured a paper confirming four of the planetary systems, known as Kepler-29, 30, 31 and 32.



OLD AND NEW

Other newly confirmed planetary systems — Kepler-25, 26, 27 and 28 — are described in a paper with Fermilab's Jason Steffen as lead author, while Kepler-23 and 24 was the focus of research led by the University of Florida's Eric Ford. Ford told the media the transit timing variation method "dramatically accelerated" the pace of planetary discovery. PTI

Deccan Herald ND 28.01.2012 P-6

Pilotless target aircraft Lakshya II tested successfully

BHUBANESWAR/NEW DELHI: Lakshya II, the indigenous pilotless target aircraft, has been tested successfully off a test range in Balasore, the Defence Research and Development Organisation (DRDO) has said.

Flying at a sea-skimming height of about 15 metres at the DRDO test range near Balasore, about 200 km from here, Lakshya II demonstrated its full capability during the tests, a Defence Ministry release said. In a flight lasting over 30 minutes, Laskhya II was made to dive from an altitude of around 800 metres to just 12 metres and made to maintain the required altitude for a specified time, before demonstrating auto climb-out, the release said.

"The entire flight was pre-programmed and was totally successful. It demonstrated various technologies and sub-systems including software correction to auto rudder scheme done to prevent loss of mission, engaging and flying in way point navigation mode while carrying two tow targets," the release said.

This was the 10th flight of aircraft. Lakshya II has been designed and developed by the Bangalore-based Aeronautical Development Establishment (ADE), a premier DRDO laboratory specialising in UAVs and flight control systems. ADE also conducted the flight trials of micro and mini air vehicles — Black Kite, Golden Hawk and Pushpak — at Hoskote near Bangalore.

The three micro air vehicles measure 300 to 450 millimetre in length, and weigh between 300 grams to 500 grams, with an endurance of 30 minutes, while carrying a miniature daylight video camera. Two more mini unmanned aerial vehicles — Imperial Eagle and Sly Bird — weighing under two kg and carrying either a daylight camera or thermal/night vision camera as payload, were also tested.

Agencies

Times of India Jaipur 26.01.2012 P-1

This Raj student scored 100 percentile in CAT

Shoeb Khan | TNN

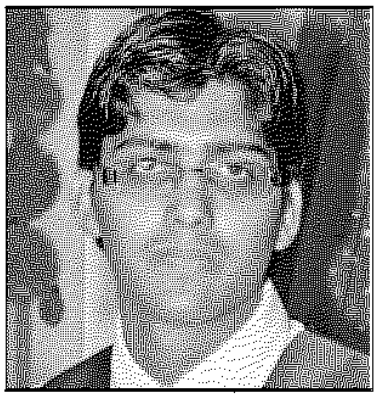
Jaipur: Two weeks after the CAT results were announced, it came to light that a Jaipur boy created history by scoring 100 percentile in the examination. Twenty-year-old Aashish Gupta, a graduate in mechanical engineering from IIT-Delhi, has again proved that if you're determined to achieve something, then sky is the limit. His score

▶'Not complicated', P 3

was shared by nine students out of 1.85 lakh candidates appeared in the examination last November.

Gupta is working with Indian Oil Corporation at Abu Road. For first two days after the result, he wasn't even aware that only nine students had scored 100 percentile, including him. "I was very busy in handling a project. But later I learnt from friends that I am among the top nine students," said an elated Gupta over phone from Abu Road.

"I could not share my success with others as I was on a company tour," he said.



SKY IS THE LIMIT: Aashish Gupta

CAT is not a complicated exam: Topper

Shoeb Khan | TNN

Jaipur: The CAT is not at all a complicated examination if your concepts are clear, said Aashish Gupta, who scored 100 percentile in the exam. "Divide your time and start preparing well in advance, then nothing can stop you to bell the CAT," he said.

A meritorious student throughout his academics, he always aspired to become an engineer. He achieved his aim and got into IIT after scoring 650 All India Rank in 2006. Even his performance in Class XII and X was phenomenal, always above 90%.

"Proficiency in English is needed to clear CAT which wasn't difficult for me. I overcame my shortcomings by reading English newspapers and watching English news," he said. He said that his proficiency in maths also helped him. He will be returning to Jaipur next week, he said.

He attributed his success to his family who has always understood his needs and supported accordingly. "My father always says that small dream is a crime. I am so lucky to have caring parents and three elder sisters who provided me a conducive environment that helped in my personal growth," said Gupta.

He felt the need of having a management degree during his job. "I have realized that management degree would be a value addition in your career," Gupta while adding that he aspires to open a consultancy which requires a blend of both technical and management education.

Hindustan ND 28/01/2012
P-12

उच्च शिक्षा प्रवेश में दिल्ली है टॉप पर

नई दिल्ली | मदन जैड़ा

मानव संसाधन विकास मंत्रालय ने हालांकि वर्ष 2030 तक उच्च शिक्षा में सकल प्रवेश दर (जीईआर) को 30 फीसदी पहुंचाने का लक्ष्य रखा है, लेकिन देश में दिल्ली और उत्तराखंड दो ऐसे राज्य हैं जो इस लक्ष्य को पहले ही हासिल कर चुके हैं।

उच्च शिक्षा पर मंत्रालय द्वारा कराए गए सर्वेक्षण के अनुसार देश में उच्च शिक्षा में प्रवेश दर 13 फीसदी से बढ़कर 17.1 पहुंच गई है। कुल 11 राज्य ऐसे हैं जहां यह दर 20 से अधिक दर्ज की है। दूसरी तरफ उत्तर प्रदेश, बिहार जैसे बड़े राज्य इस मोर्चे पर काफी पिछड़े हुए हैं।

सर्वेक्षण के अनुसार दिल्ली में जीईआर सबसे अधिक 47.9 है। दूसरे शब्दों में कहें तो दिल्ली में 18-23 वर्ष की उम्र के सौ में 48 बच्चे उच्च शिक्षा के लिए दाखिला ले रहे हैं। दिल्ली की दर विकसित देशों जैसी है। दूसरे नंबर पर उत्तराखंड है जहां यह दर 36 है। महिलाओं के जीईआर के मामले में उत्तराखंड दिल्ली से भी आगे है। दिल्ली में पुरुषों का जीईआर 50.7 और महिलाओं का 44.9 है। वहीं, उत्तराखंड में उच्च शिक्षा प्राप्त कर रही महिलाओं की दर दिल्ली से थोड़ा ज्यादा 45.2 है। दूसरी तरफ, बड़े राज्य इस मामले में फिसड्डी हैं। उत्तर प्रदेश में जीईआर बेहद कम 10.9, बिहार में 11, राजस्थान में 9.6, पश्चिम बंगाल में 11.9 तथा उड़ीसा में 11.3 है। यह राष्ट्रीय औसत से काफी कम है।

कौन आगे-कौन पीछे

- उत्तराखड में उच्च शिक्षा मे महिलाओं की प्रवेश दर देश में सबसे ज्यादा
- यूपी, बिहार, राजस्थान, उड़ीसा सहित कई बड़े राज्य फिसड्डी साबित हुए