Dream to see Pune as international education & IT hub, says Padma awardee Bhatkar


Sunday was a day of double celebrations at computer scientist Vijay Bhatkar’s house. It was his youngest daughter’s wedding and a few hours before the busy day came to an end came the news of him getting the Padma Bhushan. Bhatkar was too busy even to take congratulatory calls.

“So many people have been calling me since the news came out in the media. The biggest joy for me is to see that my achievement makes others so happy. Also, it’s a day of double blessing for me as this is the day my daughter is getting married,” said Bhatkar, known for his role in developing country’s supercomputer Param.

Last year, Bhatkar was appointed chairman of the Board of Governors of the Indian Institute of Technology (IIT), Delhi. Bhatkar is an alumnus of IIT-Delhi and did his PhD from the institute in 1972. He is also the founder executive director of C-DAC, India’s national initiative in supercomputing. He has also been on the Scientific Advisory Committee to the Cabinet of Govt of India and Governing Council Member of CSIR, India. In 2000, the Government of India honoured him with Padma Shri.

Bhatkar, a father of three, said he owed a lot to the city and it was his dream to see the city shine at international level as an education and IT hub.

“Undeniably, the city has given me a lot. I came here in 1987, when we established C-DAC. Since then I have stayed here and loved it. Many of my projects were started and realised here and it has been supportive of each of them. It’s my dream to see this city come out on the international platform as an educational and IT hub,” said Bhatkar.

- See more at: http://indianexpress.com/article/cities/pune/dream-to-see-pune-as-international-education-it-hub-says-padma-awardee-bhatkar/#sthash.JXo1cXvC.dpuf
**युवा वैज्ञानिक आए सड़क पर**

देश में कंकाल वैज्ञानिकों की कमी का लोग रो रहे हैं और यहाँ 92 युवा वैज्ञानिक सड़कों पर आ गए हैं। 35 हज़ार से जबधा हज़ार वोटक एंडवर्कस के निदेशक एण्डोम और इंडस्ट्री के बाद चूँच गए इन वैज्ञानिकों को सड़क पर लाना का यह कर्तव्य था। इन वैज्ञानिकों को सड़क पर लाना का यह कर्तव्य था।

इन वैज्ञानिकों ने कहा था कि इनका आकर्षण ऐसा है कि अगर ये देश का सभी वोटक एंडवर्कस ईण्डस्ट्री अभी सड़क पर लाना चाहता है।

किसी के किए में फंस कोई और

पूर्व साइंस एंड टेक्नोलॉजी अमिनिस्टर जयपुरा रेडी और

CSIR के पूर्व डायरेक्टर जनरल समीर राहरू और

सीआइईएसएम असोसिएट डायरेक्टर जनरल ने इसी बात पर जवाब किया।

लाखों की सैलरी छोटी आए हैं।
IIT-Bombay may get Rs 100 crore aid to form DRDO-like body


New Delhi: The Central government is considering funding IIT- Bombay to set up a Centre of Excellence. The Rs 100 cr project will cater to the demands of internal security forces.

The National Centre of Excellence in Technology for Internal Security (NCETIS) is already in the research stage and more options are being looked at to make this feasible.

The project has already been approved by the ministry of communication and information technology. The main difference between the Defence Research and Development Organization (DRDO) and the new body will be that will DRDO looks after the demands of the Indian armed forces, the new body will provide the technological requirements of Central Reserve Police Force (CRPF), Central Industrial Security Force (CISF) and Railway Protection Force (RPF).

The body will develop world class technology for the forces like advanced communication system, and video analytic equipments.

The director of IIT-Bombay Devang V Khakar said that the action plan for the new body is already prepared and are looking forward for getting the necessary grant to take the project in the next level.

Underpass plan sent to IIT for nod


NOIDA: The Noida Authority has sent an estimate of Rs 30 crore for a proposed underpass on the 30-metre wide Faridabad-Noida-Ghaziabad (FNG) expressway to IIT-Delhi for vetting.

Officials said that a Detailed Project Report for the 45-metre long underpass, which will be located near Bahlolpur village, has already been developed. The underpass is expected to provide relief to thousands of commuters and will shorten the distance between Faridabad and Ghaziabad.

According to officials, this will be the first underpass on the FNG expressway. "The expressway construction is underway and for this, Noida phase-III has been divided into two parts. The underpass will connect these two parts," said KR Verma, who is in charge of work circle-4.

Verma said that once work on the underpass is completed, it will provide connectivity to several sectors and villages in the vicinity of sector 63, 69. "The sprawling Transport Nagar located in sector 69 will also be easily accessed once the underpass project is completed," he added.

IITs to widen field to help more start-ups bloom

Business incubators to be expanded to help entrepreneurial ventures

Buoyed by the success of alumni, who have floated marquee new-generation companies like Flipkart, Commonfloor.com, Housing.com, Snapdeal among others, the Indian Institutes of Technology (IITs) are planning to give entrepreneurial ventures of their students a harder push.

While IIT Bombay is planning to expand the capacity of its business incubator SINE (Society for Innovation and Entrepreneurship) threefold, IIT Kanpur is also doing the same and expanding the capacity of its incubator to 100, up from 33. IIT Madras plans to add more built-up space to cater to more entrepreneurs.

"We are planning to increase the capacity at SINE threefold. The benefits through innovation are very large to the economy and our main interest is to nurture the incubator and entrepreneurs," said Devang Khakhar, Director, IIT Bombay.

Currently SINE has around 18 companies incubating. Tripling the capacity means taking it up to 54. SINE provides subsidised infrastructure to the companies incubating on campus. These include fully furnished offices at a nominal cost, personal computers, printers, telecom facilities and internet connectivity. Entrepreneurs are also extended business and mentoring support along with access to professionals with legal, financial, accounting, IP, and industry expertise.

SINE, which traditionally believed in investing in only technology-based companies, is now waking up to companies in other segments also. SINE, which has annual revenue of Rs 70 lakh-1 crore, is part of IIT Bombay and is a financially independent entity. IIT Bombay picks up 3% stake in the startups and dilutes one-third of the same when the start-ups raise funds.

At IIT Kanpur, SIDBI Innovation and Incubation Centre (SIIC) was started in 2000 in collaboration with Small Industries Development Bank of India (SIDBI) to foster innovation, research and entrepreneurial activities in technology related areas.

The centre is constructing a new building which will have at least a 100 companies incubating against the present 30. The centre receives almost five applications every month with new business ideas.

"We have at least 33 companies graduating and 33 companies incubating any given year. That number will go up post expansion," said Professor B V Phani, Associate Dean, Innovation and incubation.

Unlike other IITs, IIT Kanpur allows non-IITians also to approach it with a viable business idea and provides them with the facilities to incubate.

If the incubatee is a student, the institute picks up 3% stake in the venture though there is no revenue sharing. The institute provides the entrepreneur with a mentor who is allowed to pick up 17% stake in the start-up.

If the start-up is by a faculty member, the institute picks up 13% stake in the venture. "Faculty members have access to various resources on campus. So the stake that we pick up in their ventures is higher," adds Phani. IIT Kanpur helps students with seed funding to the tune of Rs 25 lakh.

IIT Kanpur has seen a few of its companies being acquired by larger companies. For instance, its startup, GeoKno Private Limited was acquired by GMR two years ago.

The institute provides the startups with subsidized services charging them every quarter. "We wait till the startups begin making money," adds Phani.
At present IIT Kanpur holds equity in about 40 companies and says the valuation of the same could be around Rs 30-40 crore. The money IIT Kanpur realizes through sale of its equity, is added in the corpus. Currently it holds a corpus of Rs 10 crore.

At IIT Madras, the IIT-M Research Park in Chennai not only invites leading companies to establish their research centres but also houses incubators and startups. It currently has around 30 to 40 companies incubating and expects to house 150 companies in the next five years.

However, some companies incubating at these institutes want the IITs to be more adapting to the current changes. An entrepreneur at IIT Bombay's SINE says the facilities provided are good but very limited.

"SINE provides us with 16 chairs for our staff. If you wish to expand beyond that, you have to seek approvals. That is a very bureaucratic way of working. Any company with a valid business proposition will grow beyond 16 staff members in three years. Housing.com, though a company by the IIT alumni, has grown beyond 100 employees in less than three years. SINE has to be more prudent and consider such aspects," said a Housing.com official.
HRD to set rules for ‘adjunct’ faculty

Brajesh Kumar
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NEW DELHI: The government could soon set rules for hiring professionals from the industry as ‘adjunct’ faculty in higher educational institutions, including Indian Institutes of Technology (IIT).

The rules, the sources said, will make clear the qualifications required, salary to be paid and duration for which the faculty has to be hired. “A draft of consolidated instructions on the hiring of adjunct faculty has been sent to all higher educational institutions for their comments,” a senior HRD ministry official told HT.

A successful practice abroad the idea of adjunct faculty is aimed at helping students get industry experience. While most institutions have provisions to hire adjunct faculties, they have sparingly utilised them due to lack of clarity, the official said.

The draft is likely to make a masters degree (instead of PhD) as the minimum educational qualification to teach in institutions.

The move will address the problem of huge number of vacancies in IITs and other universities.
Higher education to aid rural growth

NEW DELHI, IANS: Aimed at encouraging higher education institutions to engage with problems of rural India like sanitation and hygiene, the Unnat Bharat Abhiyan (UBA) can lead to transformational change in the country if technologies are “relevant, robust and affordable”, experts say.

The programme was launched Nov 11, 2014, National Education Day, which also marked the birth anniversary of Maulana Abul Kalam Azad, India’s first education minister.

“What is being attempted is rural development with appropriate technology intervention. To the extent that the technologies are relevant, robust and affordable, they will lead to transformational change. This is what happened with the mobile phone revolution too,” Bhaskar Ramamurthi, director of IIT Madras, one of the implementing agencies, told IANS.

Elaborating, S K Saha, coordinator, Unnat Bharat Abhiyan Cell (UBAC) at IIT Delhi, told IANS: “The main aim is to take already developed solutions to the rural people and how to create links with them so that problems faced by them can be taken up by the IIT community as their academic problem or otherwise.”

Under UBA 18 institutions of higher education have been roped in. These include IITs at Bombay, Delhi, Gandhinagar, Bhubaneswar, Guwahati, Hyderabad, Indore, Jodhpur, Kanpur, Madras, Khargpur, Mandi, Patna, Roorkee and Ropar, BHU Varanasi and also Indian Institute of Science Education and Research, Bhopal, and Malviya National Institute of Technology, Jaipur.

Developing solutions

“Unnat Bharat Abhiyan will connect our institutions of higher education to develop technical solutions to address challenges in rural India,” Human Resource Development (HRD) Minister Smriti Irani said at the launch.

According to UBA’s website, 70 per cent of India’s population lives in rural areas, engaged in an agrarian economy with agriculture and allied sectors employing 51 per cent of the workforce but accounting for only around 17 per cent of the GDP.

Each institute has adopted villages where it will work. While IIT Delhi has adopted 32 villages across Haryana, Rajasthan, Uttar Pradesh and Madhya Pradesh, IIT Bombay has adopted 27 villages and IIT Madras 11 villages.

“The villages were selected based on earlier interactions with some of the faculty members of IIT Delhi. It is emphasized here that the technical solutions whenever available with any IIT will be taken to a village or a cluster of villages that have similar requirements or demands,” Saha said.
Govt outlines vision for education sector

Policy to evaluate ways to finance education, raise India’s spending on higher education and focus on R&D

By Prashant K. Nanda
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The new government has outlined its vision for the education sector by releasing the themes of a new national education policy in the works.

The broad contours of this policy, under 33 themes, were uploaded on www.nygoin, the official website that crowdsources ideas and suggestions on important policies from the public.

Though this is not the final draft of the policy, it sets the ball rolling on efforts to create a new national education policy, India’s first in 29 years.

In a posting on the website, the government said it “would like to bring out a national education policy to meet the changing dynamics of the population’s requirement, with regard to quality education, innovation and research, aiming to make India a knowledge superpower by equipping its students with the necessary skills and knowledge and to eliminate shortage of manpower in science, technology, academics and industry.”

The new policy, uploaded on www.nygoin, suggests, will also evaluate public-private partnerships (PPPs) to finance education, seek ways of upping India’s spend on higher education to 1.5% of gross domestic product (GDP) from less than 1% now, and emphasise on research and development (R&D).

The government also sought suggestions on ways to rework the examination system for better assessment of students, restructure education regulators such as the University Grants Commission and the All Indian Council for Technical Education (AICTE) as “present regulatory systems tend to sway quality and growth of our institutions.”

An official of the human resource development (HRD) ministry said it expects feedback from both India and abroad, from academia and industry, and from administrators and common people.

“PPPs in education have not shaped up well over the years but we understand these will be key to education financing,” added this person who asked not to be identified.

“Higher education cannot sustain only through public funding. While PPPs in higher education have been pursued as a strategy, not many have shown successful results. Hence, the PPP models need to be revisited so as to allow more meaningful collaborations. A critical analysis of PPP in IIE (higher education), the existing legal provisions and which viable models are possible need to be carried out,” the upload on www.nygoin said.

A final policy could be ready as early as six months from now, the official said.

India got its first national policy on education in 1968 when Indira Gandhi was prime minister. The second policy came in 1986 under Rajiv Gandhi’s leadership.

The 1968 document established the 10+2+3 education model, and the 1986 one focused on access and equity.

The year 1992, saw some minor tweaks, but no new policy was released.

The government also sought ideas on improving the ranking of Indian colleges, an issue of some concern to policymakers, academia, and even students.

“There has been a growing concern on the poor performance of our universities in world ranking and global ratings. What changes could be suggested in the accreditation systems of our country so that our higher education institutions acquire better global rankings,” it said in the upload.

It also called for reducing regional disparity in access to higher education, a point that perhaps drove the Modi government to announce around 20 top higher educational institutes including 11 Indian Institutes of Technology (IITs) and Indian Institutes of Management (IMs) within two months of coming to power.

Another key area the new policy will focus on is ensuring learning outcomes in elementary schools. “Several studies have shown schoolchildren do not seem to acquire age appropriate skills in reading, writing and numeracy. There is a need to explore various approaches to improve teaching-learning at the elementary stage. The objective of this theme is to understand the issues of low learning achievement levels in elementary schooling, assess the system, and suggest ways and methods of improving the learning outcomes,” the document on the website said.

A recent Annual Status of Education Report (ASER) released by education non-profit Pratham said over the last 16 years, although access to schooling has improved significantly, learning outcome remains a challenge. In one of the indicators, ASER found every second Class 5 student in rural India can’t read texts of Class 2 level.

Parth J. Shah, president of think tank Centre for Social Society, said though a new policy is a good idea, the biggest challenge is the way “we think about education and its regulation.”

He said the government’s approach of standardizing the education sector so as to achieve quality and equity has not done much good to the sector and warned that unless this approach is changed, “standardization and uniformity formula” could be the undoing of the new policy as well.
Focus on higher education to improve states' economy

Anu Bhargava
New Delhi, 26 January

If individual states want to improve their educational situations, they should concentrate and invest in the higher education sector.

In a report on the annual status of higher educational universities and colleges in India, data analysis shows a very direct link between states that have higher "knowledge direction" and the state of their economies. In other words, states that lay more emphasis on the quality and depth of their higher education are economically better placed than those that do not.

Establishing this direct link will encourage states to come forward to invest in higher education. This is what the Centre and the Ministry of Human Resources Development hope.

Rohini Kapoor, senior manager, Deloitte India, who has worked on this report for two years, said: "The strength of correlation between education and economy is startling. States with superior knowledge direction have in general superior economies."

The Centre has allocated almost 990,000 crore under the Rashtriya Uchchatar Shishya Abhiyan (RUSA) for improvement in higher education institutes, especially in infrastructure in the 12th and 13th Five-Year Plans. Of this, the Centre is to provide 669,878 crore and states are expected to contribute 320,122 crore.

The states are required to contribute financially to make the scheme a success. But states have so far in the past been reluctant to invest generously in the sector. Unless the states recognise the relevance of investment in education, the state of colleges and universities cannot be improved.

Further, at a macro level, to attract foreign investment in the education sector, the government needs to clear the foreign universities Bill but it also needs to amend and align the way different arms of the government treat foreign direct investment (FDI) in the education sector. Also, different wings of the government prescribe different things. The Department of Industrial Policy and Promotion (DIPP) says 100 per cent foreign investment is permitted in the education sector. This is one arm of government. Then, the All India Council of Technical Education (AICTE) says no foreign investment is allowed, directly or indirectly, in setting up a technical institute in the country. So, FDI is out. The University Grants Commission (UGC), a third aspect, simply does not recognise foreign universities, so that rules out foreign investment totally.

On the other hand, the government has to realise that it cannot solve this problem on its own.

The number of institutes that can be set up through philanthropy will always be limited. "You can build a regulatory mechanism that has a strong monitoring and quality control process," there are companies in the US that run very high quality colleges and are firms listed on the stock exchange. This model can be replicated here too. A crystal clear regulatory framework will help eliminate the fly by night operators or those who are in it just for a quick buck," explains Kapoor.

At a country-wide level, issues like enrolment and gender disparity have been addressed to some extent over the years. "The new issues are poor quality of teaching and staff. Our focus needs to shift altogether. Some of the softer issues need to be addressed far more seriously," says a former member of the Planning Commission. He argues that what works for the developed world may not work for India.

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"The different wings of the government need to echo the same voice. The UGC Act 1966 needs to be amended urgently. At present, it does not recognise foreign universities. It does not define it. So, it clearly cannot regulate it. If you do not recognise something, how can you regulate it?" As a result, so far, India has only got 4,900 crore of foreign investment in the education sector — not in formal education but in skill development, training schools and so on. The government has to realise that it cannot solve this problem on its own.

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The HRD ministry is now trying through the setting up of an Indian Institute of Technology (IIT) and an Indian Institute of Management (IIM) in each state. For one, there is such a high demand for seats in these institutes; this will make them more accessible for everyone. Two, there is expected to have a ripple effect on other educational institutes in the state. They will act as a role model, so to speak, for other colleges in the region to emulate.

But there is already a 40 per cent shortage of teachers at the existing IITs and IIMs. It is possible that retiring faculty from the IITs and IIMs might be asked to mentor staff at the new institutes.

At a micro level, there are several problems across states that need to be fixed. For instance, 40 per cent of enrolments in all colleges are for humanities, social sciences (even higher than engineering and medical) yet, in India, there are hardly any liberal arts colleges or even courses on offer, which would allow students to sample all the liberal arts before choosing what they specialise in.

Then, non-teaching staff in colleges in some states is way too high. So, in states like Delhi (where jobs are typically hard to come by), the average non-teaching staff per college is 171 instead of the national average of 34. States such as Bihar have a very high pupil-teacher ratio of 87 against the all India average of 15.3.

Gender disparity, which is not as sharp as one would expect in enrolments (55 per cent male and 44 per cent female), in teaching staff, however, remains significant. Sixty-one per cent of the teaching staff is male and 39 per cent is female. This drops further when one looks at the non-teaching staff with the percentage of males at 73 per cent.
UGC for raising tuition fees, other charges in public varsities

30-point recommendation sent to President
http://www.thefinancialexpress-bd.com/2015/01/26/77806

The university regulator, UGC, has put forward a 30-point recommendation including hike in regular academic fees and related charges of the public university students to ensure state of art schooling for the prospective graduates.

The recommendations also include increasing budgetary allocation, reducing academic gridlock, increased financial assistantship for the students, ensuring transparent teachers' recruitment and their accountability, and complete implementation of the Private University Act 2010.

The University Grants Commission (UGC) made recommendations through its latest annual report submitted to the president and chancellor of the universities M Abdul Hamid recently.

The university regulator in its report said the existing state allocation for the country's higher education is very insufficient to meet the minimum funding of the institutes, resulting in unexpected outcomes from the graduates.

"Presently, budgetary allocation for the country's higher education is only 0.65 per cent of the national budget that couldn't meet the minimum required funding," the regulator said.

It said the government is unable to meet the necessary funding for the public universities. In this situation the universities should increase their own sources of income.

"Increase in tuition fees and other charges of public universities' students could be a realistic approach to meet the required funding," the UGC said adding that presently education at these institutions is almost free of cost.

The university watchdog also sought the government support to implement the proposed hike in tuition and other fees of the universities. The regulator has blamed the university authorities' insufficient efforts to hike fees and other charges.

The watchdog also strongly suggested increased allocation for the poor but meritorious students to support their schooling expenditures.

"Although tuition and other academic fees are nominal, a group of students couldn't meet their living expenses," it said adding that the amount of existing scholarship is very meagre for them to support the schooling expenses.

The commission said because of insufficient support from the government, the students are forced to go for private tuition, leaving their own study neglected causing delay in the regular exams of the university.

"Private tuition of the students is one of the major causes behind the academic gridlock in many public universities including the Bangladesh University of Engineering and Technology and Dhaka University," the regulator said.

Regarding the hike in tuition and other charges, Chairman of the Association of Universities of Bangladesh (AUB) Prof Md Ruhul Amin said the universities are working to rationalise the fees as per the regulator's suggestion.

"Presently, relatively newer universities are taking comparatively higher fees than that of the older universities like DU
and BUET," Professor Amin, also vice chancellor of Hajee Mohammad Danesh Science and Technology University (HSTU), said.

He, however, expressed the apprehension of students' unrests, if the authorities take such initiative for increasing internal incomes abruptly. He suggested slow and steady measures in this regard as the issue is very sensitive.

AUB chairman also suggested a subsequent increase in financial assistantships for the poor but meritorious university students to support their schooling expenditures.

**Varsities fail ‘Shodhganga’**


Though the A.P. and TS governments have been emphasising on the quality of research, universities aren’t living up to expectations. So much so, that only a single State university finds a place in the top 20 in the Shodhganga project of the University Grants Commission (UGC).

Shodhganga is a national repository of the Electronic Theses Dissertations (ETD) hosted by the Information and Library Network (INFLIBNET), an autonomous body promoted by the UGC. Uploading the Ph.D thesis submitted by students in the repository is mandatory since 2009 to root out plagiarism and share knowledge. JNTU Hyderabad is placed at 20th position among the registered varsities with 373 dissertations submitted so far followed by Acharya Nagarjuna University (ANU) at 25th position with 332 dissertations and Andhra University (AU) at 31st position with 243 dissertations. Osmania University with submission of just 171 dissertations is at 38th position and JNTU Anantapur at 42nd position with 148 dissertations. However, Hyderabad Central University (HCU), which is not a State university, is at 9th position with 744 theses uploaded. The top five include JNU (4,433), Anna University (2,344), Mahatma Gandhi University (1,987), Bundelkhand University (1,769) and Cochin University of Science and Technology (1,428). The Dean, UGC of Osmania University, Prof. Ravindranath said that there was a delay in uploading due to various reasons including the Telangana agitation. “Since submission of thesis in electronic format is mandatory now, we will expedite the process,” he said.

But officials, unwilling to be quoted, admitted that varsities are not showing any interest.
$200b needed by 2020 to boost education infra

SANGEETHA G
Chennai

In order to plug the gaps in educational infrastructure, India needs around $200 billion of investment by the year 2020, says a study by Technopak Advisors. In a study, it found that the investment requirement was the highest in college and university education followed by schools and then vocational training centres.

Around $100 billion is needed to set up an additional 35,000 colleges and 700 universities, almost the similar number of institutions that exist today. This will cater to the educational requirements of an additional 20 million students.

College-level education will also require the services of 1.7 million faculty members by 2020, the report said. Currently, the university-level education accommodates 20 million, with 5 million freshers every year.

Similarly, the K-12 system has 264 million students and 16 million new students joining every year in 1.5 million schools. There is an additional requirement of 40,000 schools and two million teachers for which a total of $60 billion is required. The 22,000 vocational training institutes in India also have enrolled around 4.5 million students. This segment of education requires $40 million by 2020, says Technopak.

According to Karan Khemka, co-head of management consultancy firm Parthenon’s businesses need solid planning targeting geographies and price points to support rapid and profitable growth.

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Soon, we could rocket to space on solar power

Craft To Test Tech Of Harnessing Sunlight In May

Kenneth Chang

To sail on winds of sunlight has long been a dream of rocket scientists. The Planetary Society, a nonprofit that promotes space exploration, announced on Monday that it would send the first of two small spacecraft testing the technology of solar sails into orbit this May, tagging along with other small satellites on an Atlas 5 rocket.

"We strongly believe this could be a big part of the future of interplanetary missions," said William Sanford Nye, the chief executive of the organization. "It will ultimately eventually take a lot of missions a long, long way."

When photons — particles of light — bounce off a shiny surface, they impart a tiny bit of momentum, an effect that comes directly from the equations of electromagnetism published by the physicist James Clerk Maxwell in the 1860s. In his 1865 novel, 'From the Earth to the Moon', Jules Verne appears to have been the first to realize that this force could be harnessed for travel through the solar system. The bombardment of sunlight over a large area can gradually but continuously accelerate a spacecraft.

On launching, the Planetary Society’s craft, LightSail, is about the size of a loaf of bread — 4 inches by 4 inches by 1 foot. In orbit, the spacecraft will undergo a month of testing before it extends four 13-foot-long booms and unfurls four triangular pieces of Mylar, less than 1/5,000th of an inch thick, to form a square sail that spans almost 345 square feet.

The May flight is to check that the sail deployment and other systems work as designed. But at the altitude that LightSail will be flying — the Planetary Society cannot say how high, because the Atlas 5’s main payload is a military satellite — the drag of air hitting the sail will be greater than the pressure of light, and the spacecraft will drop out of orbit and burn up in a few days.

Next year, a second LightSail is to be lofted higher, to an altitude of 450 miles, by a Falcon Heavy rocket from Space Exploration Technologies Corp, or SpaceX. That flight is to be the first to demonstrate controlled solar sailing while in orbit around Earth.

"The idea ultimately is to be able to tack like a sailboat on each orbit," said Nye, better known as Bill Nye the Science Guy. Both LightSails were built for less than $4 million, financed entirely by private citizens, Nye said.
Modi’s musketeers dine with US counterparts

Hindustan Times (Delhi)

NEW DELHI: Three Modi ministers Monday held a dinner meeting with their US counterparts at ITC Maurya to take forward the dialogue process on some of the issues plaguing ties between the two sides.

Environment minister Prakash Javadekar, human resource development minister Smriti Irani and MoS in the ministry of commerce and industry Nirmala Sitharaman attended the meeting that lasted for an hour, sources said. The US side was represented by commerce secretary Penny Pritzker and senior functionaries of the departments of energy and public policy.

Official sources confirmed that the two sides met but said it was “courtesy extended to the guests”. There was no agenda for the meeting, they said. The general issue of discussion were Indo-US relations, one of the ministers told HT, refusing to elaborate.

The meeting assumes significance in view of Sunday’s joint statement by Prime Minister Narendra Modi and US President Barack Obama where they committed to continue talks on climate change, allowing US universities in India and the prickly issue of intellectual property rights (IPR).

Sitharaman and Pritzker were likely to discuss trade, IPR issue and totalisation agreement, which will allow Indian workers in the US to bring back contributions they make to the social security system on their return to India, in a one-to-one meeting planned for Tuesday, sources said.

Obama, who has cut short his India visit, leaves for Saudi Arabia in the afternoon to pay respects after the death of King Abdullah.

HRD minister Smriti Irani & water resources minister Uma Bharti have 100% attendance; score over male counterparts


NEW DELHI: They might be outnumbered by male counterparts but women ministers in Team Modi seem to attend Cabinet meetings more than their colleagues.

Information accessed by ET through Right to Information (RTI) Act shows that unlike Congress-led UPA regime, BJP's allies are more involved in the decision-making process at the Centre with ministers regularly attending meetings.

The top performers as far as attending Cabinet meetings are concerned are human resource development minister Smriti Zubin Irani and water resources minister Uma Bharti who have not missed a single Cabinet meeting since the
Modi government assumed power and held its first Cabinet meeting on May 27 last year. Chemicals and fertilisers minister Ananth Kumar and agriculture minister Radha Mohan Singh finish a close second missing only one meeting so far.

The two BJP ministers are followed by science and technology minister Harshvardhan, minority affairs minister Najma Heptullah, civil aviation minister Ashok Gajapathi Raju and consumer affairs minister Ramvilas Paswan. Worst attendees are urban development minister Venkaiah Naidu, heavy industries minister Anant Geete and home minister Rajnath Singh. Though data on attendance of ministers is not separately maintained by the Cabinet Secretariat, the public authority where ET filed an RTI application, the public information officer (PIO) allowed this correspondent file inspection of only the attendance sheet of the confidential Cabinet meetings files.

The data was collated for meetings held between May and December 2014. It reveals that BJP’s allies are far more conscientious in attending Cabinet meetings than some of BJP’s own ministers. Paswan (Lok Janshakti Party), Ashok Gajapathi Raju (TDP) and Harsimrat Kaur Badal (SAD) fare better than BJP ministers including Venkaiah Naidu, home minister Rajnath Singh and tribal affairs minister Jual Oram.

**Unnat Bharat Abhiyan to improve rural India**

**New Delhi:** Aimed at encouraging higher education institutions to engage with problems of rural India like sanitation and hygiene, water, health and education and to provide appropriate solutions for them, the government’s recently launched Unnat Bharat Abhiyan (UBA) can lead to transformational change in the country if the technologies are "relevant, robust and affordable", experts say.

The programme was launched Nov 11, 2014, National Education Day, which also marked the birth anniversary of Maulana Abul Kalam Azad, India's first education minister.

"What is being attempted is rural development with appropriate technology intervention. To the extent that the technologies are relevant, robust and affordable, they will lead to transformational change. This is what happened with the mobile phone revolution too," Bhaskar Ramamurthi, director of IIT Madras, one of the implementing agencies, told IANS.

Elaborating, S.K. Saha, coordinator, Unnat Bharat Abhiyan Cell (UBAC) at IIT Delhi, told IANS: "The main aim is to take already developed solutions to the rural people and how to create links with them so that problems faced by them can be taken up by the IIT community as their academic problem or otherwise."

Under UBA 18 institutions of higher education have been roped in. These include IITs at Bombay, Delhi, Gandhinagar, Bhubaneswar, Guwahati, Hyderabad, Indore, Jodhpur, Kanpur, Madras, Kharagpur, Mandi, Patna, Roorkee and Ropar, BHU Varanasi and also Indian Institute of Science Education and Research, Bhopal, and Malviya National Institute of Technology, Jaipur.

"Unnat Bharat Abhiyaan will connect our institutions of higher education to develop technical solutions to address challenges in rural India," Human Resource Development (HRD) Minister Smriti Irani said at the launch.

According to UBA's website, 70 percent of India's population lives in rural areas, engaged in an agrarian economy with agriculture and allied sectors employing 51 percent of the workforce but accounting for only 17 percent of the GDP.

Each institute has adopted villages where it will work. While IIT Delhi has adopted 32 villages across Haryana, Rajasthan, Uttar Pradesh and Madhya Pradesh, IIT Bombay has adopted 27 villages and IIT Madras 11 villages.

"The villages were selected based on earlier interactions with some of the faculty members of IIT Delhi. It is emphasized here that the technical solutions whenever available with any IIT will be taken to a village or a cluster of villages that have similar requirements or demands," Saha said.

Explaining how the institute will help "address development challenges through appropriate technologies", A.K. Sharma, professor of sociology and co-principal investigator of RuTAG (Rural Technology Action Group) at IIT Kanpur, told IANS: "This will be done by identifying problems in rural areas which need technical solution. However, we think that rural development requires both technical and social scientific solutions. Therefore, team work will be required."

How exactly will the model work and what will be the role of the village and IIT community?

"There is no one model for making each project work. For example, the affordable housing technology project using what has been developed by IIT M is being implemented by the Kerala government. The rural ATM developed at IIT M is being supplied by an IIT M startup to banks operating rural branches," Ramamurthi said, explaining the work being carried out by IIT M.

The UBA also aims to foster a new dialogue within the larger community on science, society and the environment and to develop a sense of dignity and collective destiny.

While highlighting the role industries can play once the challenges are identified and solutions demonstrated, experts said that the biggest achievement of the programme would include linking knowledge to field;
technology transfer and technology development; solving small technical problems of rural artisans; and interventions in education, health, irrigation, and agricultural innovations.

Agreed Ramamurthi, who said: "A corollary gain will be orientation of students towards rural transformation and social enterprise."