



# Y-Point

*the webZINE of the IIT Bombay Alumni Association*

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**Send comments and suggestions to .**

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**IIT Bombay**

सु. पां. सुखात्मे

निदेशक एवं

प्राध्यापक, यांत्रिकी अभियांत्रिकी

**S. P. Sukhatme**

Director and

Professor of Mechanical Engineering

MESSAGE FROM THE DIRECTOR

Dear Friends,

It is about five months since I last wrote to you in this forum. A lot has happened since then and I want to take this opportunity to inform you about some of the important activities here.

As many of you know, we had started the construction of a new building for housing the School of Management, a Lecture Room Complex and the Industrial Research and Consultancy Centre. The work on this building is progressing well and it should be ready for occupation by the end of the year. The School of Management and other new activities have necessitated an immediate expansion of our hostel capacity. Towards this end, we have started constructing 100 double rooms as an extension to Hostel 4. The number of girl students has also been steadily increasing on the campus, and to accommodate them, we are planning an additional wing to Hostel 11. Our work of repairs and renovation to the academic and hostel buildings continues despite a funding crunch.

You may be aware that Indian I.T. exports have been growing at over 50% annually and there is a dearth of well-qualified personnel. In keeping with our practice of assuming a leadership role in state-of-the-art technology areas, we are planning to start a new School of Information Technology. A preliminary proposal has been well received by our Senate and a Committee under Prof. N.L. Sarada is working out further details. If all goes well, we hope to admit our first batch of graduate students next year.

You will also be glad to know that support for these activities has been coming steadily and is growing. Much more is, of course needed and I am sure our alumni will continue to help us on this count.

It is heartening to note that "Y-Point" is fast achieving the status of the mouthpiece of the IIT Alumni in USA and of the activities of the IIT Bombay Heritage Fund. We are in the process of revamping our own web-administration here so as to further support this effort through timely new updates. I would urge all of you help consolidate our alumni network. The Alumni Day this year has been planned on Sunday, 27<sup>th</sup> December. I hope to see many of you with families on that day in the campus.

With all good wishes,

April 16, 1998

*Suhas P. Sukhatme*  
(Suhas P. Sukhatme)

Editorial: The State of the IITs

by [Ram V. Kelkar \(B. Tech. \(EE\) 80 / H2\)](#) / Editor-in-Chief, Y-Point

" ... a persistent resource crunch, like an army of termites ... eating away into the edifice of ... the IITs ... why are they killing all these premier institutions ..." - these are the quotes that caught my attention from an article in India Today which you can read below in Y-Point. In concluding the article, the authors say that "the magic sheen of the IITs is slowly fading".

As a proud alumnus of IIT Bombay, it came as a shock to read about the extent of the decline in the infrastructure, even though I had some sense of it from my own visits and based on comments from friends and classmates who had visited Powai in recent years. Hostels in disrepair, laboratories with obsolete equipment, libraries cutting back on journals, students being asked to live off-campus or double up in tiny rooms ... why are these elite institutions of engineering education being allowed to deteriorate so rapidly ?

The simple fact of the matter is that the decline is inevitable given that funding was frozen at Rs. 200 crores for all the IITs based on nominal 1992-93 levels, with no adjustment for inflation. While hiking fees and increasing enrollments can help fill a part of the shortfall, the hard reality is that the IITs have to change to the American model of a university that depends on industry and alumni to build world class educational facilities.

A key requirement if the IITs are to make a successful transition to this new way of making ends meet is to have a strong focus on industry and alumni relations. Asking academicians and researchers to do double duty and manage these matters while carrying on with regular teaching and research responsibilities will not work. The IITs must take steps to establish Alumni Affairs and Industry Relations departments staffed with professionals who have a private sector business-like mindset to fund-raising.

Universities in the US - especially business schools - do an excellent job of tapping into the experience, knowledge and pocketbooks of their alumni, regularly contacting them for contributions and drafting them into Advisory Boards. Many IIT alumni are now holding senior positions in universities and private sector companies across the world. The IITs should consider establishing a Board of Advisors consisting of such alumni who can give valuable advice to the Director and Board Members in making the transition to the brave new world of self-sufficiency.

The above discussion is especially relevant in the context of the appointment of Prof. S.L. Narayana Murthy as the next Dean for Resources Development for IIT Bombay, who has taken charge from Prof. Phatak as of April 2, 1998. Prof. Murthy has been a faculty member in the Chemical Engineering Department since 1964, and he has previously served as the Head of the Chemical Engineering Department as well as the Dean of Research & Development. I would like to congratulate Prof Murthy on his appointment and would welcome his comments on the State of IIT Bombay and his plans for the future in the next issue of Y-Point.

In the meanwhile, please take a moment to send in your tax deductible contributions to the IIT Bombay Heritage Fund. All it takes is a check and a first-class stamp ... the address is Treasurer, [IIT Bombay Heritage Fund](#), 10489 Rampart Avenue, Cupertino, CA 95014. As alumni who have gained so much from IIT Bombay, we should not sit by and "see the magic sheen of the IITs ... slowly fading".

Interview

**Sabeer Bhatia - Founder of Hotmail**

*by Madan Mohan Rao*

New York, March 6, 1998

*This interview first appeared on the Planetasia.com Webzine (<http://www.planetasia.com/>), and has been reprinted with permission.*

His education began in Bangalore and Poona, and continued in California (CalTech and Stanford); he then worked at Apple Computers and a Silicon Valley start-up. "I did not want to do just another job; I wanted to create something which would change the world," recalls Sabeer Bhatia, who started the Web-based free e-mail service called Hotmail in 1996.

Hotmail's acquisition by Microsoft was acknowledged at Jupiter Communications' recent Online Services Summit in New York as one of the hottest Internet media property deals in the last 12 months. In an exclusive interview with Madanmohan Rao (madanr[!]planetasia.com), Principal Consultant at Planetasia.com, Bhatia shares his initial vision of Hotmail's contribution to the Internet community, some future growth areas, and some strong recommendations for the Internet environment in India.

Q: In just a couple of years, you have managed to create one of the most successful and well-recognised brands on the Internet. What are some key requisites for creating powerful brands on the Net?

A: Speaking from our experience with Hotmail, I would say that what helped us succeed in creating such a powerful brand was the reliability and convenience of the service. The key was a universally accessible e-mail service based on the World Wide Web. When we came up with the concept, there was no other service which served such a basic need. We also decided to keep the service free, which allowed us to grow rapidly. One of the best ways for a brand to succeed is by word or mouth among the user community. Since we provided online e-mail services for a communications-based community, word spread very rapidly. We also had a great first-mover advantage. We managed to slip under the radar screens of big companies, and had no competition for over six months - that gave us a fantastic lead. Finally, we showed a sense of responsibility to the Internet community by taking strong stances on issues like spamming. We sued 8 spammers who were abusing the privileges of our e-mail service.

Q: How many subscribers do you have today, and how many do you expect by the end of the year? What is the breakdown by country?

A: We have 13 million subscribers today, and expect to have 25-30 million by the end of the year. That is a big and significant subscriber base, bigger than the audience of the Seinfeld show, which is the biggest U.S. show for TV advertisers.

Among our users, about 55 per cent are based in the U.S. and Canada. Sweden, Australia, Britain, Malaysia and India are the next big sources of subscribers. We have about 300,000 users in India.

Q: Some critics have suggested that your current user base is demographically very diverse, and thus does not constitute an easy base to target via advertisements. How would you respond to such concerns?

A: I would counter this position by saying that we actually can offer very precise targeting for advertisers since we gather 15 pieces of demographic data from each user - such as age, profession, location, income group, and number of children. We have developed our own ad targeting software, so that we can target, for instance, males in Bangalore between the ages of

18 and 35 who use our service. We can also control the time of exposure to each ad, and the frequency of delivering ads.

Our approach has been quite successful, though I cannot reveal any figures. Our advertisers include Pacific Bell, Bank of America, Netscape, Microsoft, as well as companies wishing to target specific demographic groups like women.

Q: What are the top three assets that Microsoft brings to the table as a result of your recent acquisition?

A: Their resources and expertise, their Web-savvy content sites like Expedia and CarPoint, and distribution of our service through partner sites. To these I would add their big budgets - after all, Microsoft is Microsoft!

Q: How do you plan to internationalise your service to new markets? What strategic considerations apply in selecting partners for new markets?

A: We are looking at localising our service for international markets, for instance, by offering it in multiple languages. We will begin with countries for which the Internet advertising market is quite mature in terms of ad revenues. European countries like Sweden, Germany and Britain are top on our list. In Asia, we are looking at Japan, since some of the world's largest ad agencies are in Japan.

We may not necessarily host our site in these countries, since bandwidth is not as affordable as in the U.S. We don't want to drive up the cost of our datacentres. We are looking to partner with companies that have a strong set of technology skills, and who can also leverage online and offline media for promoting our service in their countries.

Q: How has your organisation grown since you started it in 1996? Where do you see it headed?

A: Hotmail consisted of two people when it started early in 1996.

Today, we are 75 people strong; by the end of the year we will have 125 people.

In addition to internationalisation, we also plan to add a messaging platform next quarter which will allow real-time communication between users. We plan to add personalisation features as well.

I must say that we have also been the first of the companies funded by our venture capital firms to deliver a finished product on the exact day we promised to finish it - on July 4, 1996. We intended to keep up this professionalism.

Q: How did you initially conceive of the Hotmail concept? How do you stack up against the new competitors?

A: Well, we clearly saw the need for a universally accessible e-mail service. We called it Hotmail since it was intended to be based on HTML (from where we got the consonants for the name). But as our marketers pointed out, the name has a nice meaning of its own, even for users who don't know anything about HTML!

We have seen no dip in our usage even after competitors entered the game. The Juno freemail service does not compete directly since it is a separate dial-up service not based on the Web.

Q: What potential do you think the Internet market offers a country like India? How does India's Internet environment compare to that of the U.S. or other emerging economies like Brazil and China?

A: The Internet offers a level playing field for India. I think it is the single most important technological advance I have seen in the past 20-30 years, more than the

PC itself. It is changing the distribution model for commerce. For instance, goods like computers in the U.S. and Japan are being sold via the Net. For software companies, it is a dream come true, and the Net offers Indian companies the last hope to become truly global players in the product market. I think Indian companies should stop thinking of themselves as just software shops for the U.S. or re-sellers of U.S. products.

Take a look at a country like Israel - companies such as CheckPoint, Vocaltec and ICQ are now developing world-class software brands for the Internet. Indian companies should also come up with such ideas and develop and market them. This needs not just good infrastructure but good motivation and good role models. My friends in the Draper India fund tell me that there is definitely talent in India, but no great ideas for new products - which is where the value and money lie.

Silicon Valley in the U.S. has not just great infrastructure but a great business culture of risk-taking, rewards, and role models - just look at Steve Jobs, HP, Fairchild Semiconductors, and Andy Grove.

More fundamentally, our education system itself should be restructured to not just have students repeat what they have been told, but to be more creative. In fact, I had to unlearn a lot of things when I came here ten years ago in 1988!

But the first step has to be the Internet environment. Countries like China and Brazil have much better penetration and utilisation of the Internet even though India has better software skills - because they have a better Internet environment. I have always insisted that the Indian government should privatise the Internet infrastructure market to bring better quality and prices to Indian consumers and businesses.

Just think - Hotmail could just as easily have been based in India, but the conditions turned out to be more favourable in Sunnyvale, California!

Q: Any other parting comments or message to our readers?

A: Yes, I would encourage people to take risks. The biggest risk in life is to take no risk at all! The entrepreneurial spirit has to live. And smart Indian entrepreneurs have a tremendous amount to gain if they have a favourable Internet environment; for this, Indian government agencies and software companies need to gear up for the Internet age.

I would like to think of myself as a motivator and role model for Indian entrepreneurs in this regard.

**News from IIT Bombay****August 1998**

August newsletter ... Mayur Datar is awarded the President of India Gold Medal at the 36th Convocation on July 11th. 281 BTech, 331 MTech and 93 PhD degrees were awarded at the convocation. Please click [here](#) for all the news ...

**July 1998**

July newsletter ... the Industrial Design Centre, IIT Bombay and the Nehru Centre jointly organized the 8th Design Show on May 29th ... a Xerox Centre is now operational in the Main Building ... copies cost 70 paise per copy. Please click [here](#) for all the news ...

**June 1998**

June newsletter with campus news ... read about Gabbar Singh's retirement !! Please click [here](#) for all the news ...

**May 1998**

May newsletter with news about the appointment of Prof. S. L. Narayana Murthy, Department of Chemical Engineering as the Dean ( Resource Development ) for a period of 3 years from 2nd April 1998. Also, a "Wadhvani Chair Professor in Entrepreneurship" is to be established at IIT Bombay. Please click [here](#) for all the news ...

**April 1998**

April newsletter with update on the 39th Foundation Day of the Institute which was celebrated on March 10, 1998. Mr. P.S.Deodhar was the Chief Guest on the occasion. This year, seven alumni were presented a scroll with citation and a memento consisting of a spiral golden sculpture on a wooden base. Please click [here](#) for all the news ...

**March 1998**

March newsletter with news on "Eclipse '99". Eclipse '99 is a project about using computing technology to connect up communities located in different parts of the world. The aim is to interact, exchange, share ideas and work together synchronously in spite of being located in different parts of the world. Various activities have been planned between communities located across Europe and Asia on the direct line of trajectory of a solar eclipse predicted for the eleventh of August 1999. Please click [here](#) for all the news ...

**February 1998**

February newsletter with news on Techfest '98, a two-day IITB student-organised Technology Festival which was held on 24th & 25th January 1998. It was sponsored by Advanced Micro Devices of K6 chip fame, and Techfest had participation from over 3000 visitors/participants over two days. Please click [here](#) for all the news ...

## January 1998

January newsletter with news on Alumni Day 1997 and Mood Indigo. Please click [here](#) for all the news ...

"The spirit of IIT" was very much in evidence during the IIT Alumni reunion in December, which, this year was a two day programme packed with activities. The Spirit of IIT Run It started very early on 20th December morning.

December is also MI, when close to a thousand collegians descended on IIT campus for 5 days of fun & competition. This year December 26 to 30 saw 45 outstation teams, besides the many Mumbai teams participating in MI in its silver jubilee year. A fashion competition "Style 97" of growing popularity, the aqua games and "Informals" were added attractions. The organisation this year had "on-line" help of a computer system with a net of pentium PC at strategic places. The professional nights were popular - beginning with classical night with Master Shashank and Ustad Amjad Ali Khan and son. The Ghazal night featuring Jagjit Singh, tried to break the crowd participation records of Live wire. Live wire had "Parikrama" , a Rock band, a spectacular laser show and an audience in dancing and screaming frenzy. Certainly a MI to remember.

Article

**OKBaba's Ashram**

by Hemendra Godbole

San Jose, March 15, 1998

*Preface: Each generation of IITians has looked back at a golden period of their lives when they dodged the splats on campus roads.*

*The following is from an old guy (EE'85), and was written primarily 'coz Ram Kelkar was holding a gun to my head for not writing any articles for the web-zine. Read on at your own risk, and if the younger IITians are offended by my writings, don't just get mad, do something ... get a (cultured) life !!*

:-) :-) :-) :-)

IIT Bom..err..Mumbai Culture

It was time to rejuvenate my soul. A visit to OKBABA's ashram would scrub away the layers of grime built while commuting on I-880 to and from the inanities of the "valley" life, here in the heartland of hi-tech !

I had just received an "Oh! is this what IIT is all about ?" e-mail from one of the current H4 inhabitants. At my age these days, I am in an "advisory frame of mind" -- it is the earliest sign of male mid-life crises for shy, introverted IITians in their mid-30's. It was the right time to visit OKBABA before I responded to the eternal question: \*\*\* "What is this thing called IIT-B culture ?!" \*\*\*

However, since no good story is complete without a look at the past ...  
Flashback to mid'95 --

As my steps drew me closer to the warden's office and H4, I heard echoes bounce off the walls - from a bygone era when yelling "Oay! Saaanay!" was a way of telling the world you have made it past this day. The silence was deafening as I turned towards the mess.

I witnessed a horrible sight - about fifteen clean pajama-clad individuals were engrossed in their reading while Morey dished out the idli-waada tiffins.

The mess-workers were like the eternal undying fans of a sports club. They stayed on through the years, and were the only true repositories of what 'culture' used to be in these hostels. I was welcomed and offered free food, as well as the good-old chocolate milk-shake by Vishnu. Like long lost friends, we caught up with a bunch of things. And then there was a long pause. Vishnu's eyes had a crinkle as he told me what I had suspected all along - "This place is dead now, saheb - nothing like what it used to be". I was cautioned not to talk to the adolescent looking crowd playing carrom, but the cold shock of the whole thing had not registered yet.

I asked (actually, requested) a neatly dressed kid his name. He looked lost and dazed, and stuttered as he replied with something like a Ganesh or a Rajesh, and hastily added that he had only 20 mins to get to LT for a lecture. Stunned by his fears, I told him to sit down and chat with me for the next five minutes! I mean, it should have been the other way around, with him \*wanting to talk to the old-hats ... while this was going on, one of the braver ones playing carrom walked up to us and said to Ganesh "If you want to go, you can. He cannot rag you now !!". Picture this well folks, I mean the ones who understand me when I talk of the IITB 'culture'. Amazed as I was while I looked into this new arrival, I wasn't ready for the climax to follow next.

I stood up and eye-balled this new thing, could see his neurons come to a dead stop, and in a gravelled voice asked of him what I used to ask of freshies "What do they call you here, Son ?". His reply ? "Umm .. errr.. you cannot rag me, I am a second year-ite" ! KHALLAS, Finito, The End. I saw it written on the blank notice boards outside the mess, heard it echo through the corridors as feet shuffled silently. Vishnu asked of me "Do you believe me now ?".

At that single kshaan (cute, isn't it ? "kshaan" instead of moment), anyways, at that moment, everything that spelled "home" to me about H4 vanished. The feeling was worse than looking for my EE-grades, more devastating than losing to H3 in the inter-hostel basketball final, deadlier than watching my Sophia's girl with another guy at Mood Indigo!

A living entity had been sucked out of this so-called second yearite. Like zombies devoid of life (culture), they walked the life of the wakeful dead. I crawled out of the place. Flashback mode off.

Deeply disturbed, I summoned the one-and-only OKBABA. He was an ex-techno-nerd, J.Krishnamurthy, Balaji(R), etc. rolled into one. Graduating from the chanshaa-school on the banks of Vihar, he had also held numerous lectures at RLC to sounds of "Thomas! Ek pachaas". Today, he was stirring some egg-burgee in his camper by the Russian River.

He grunted a welcome for me, and poured out some chai. And then, the question - how could one best define the IIT-B 'culture' ? It was the rite of passage for a confused 17-year old. It was the only true compass that helped identify one with the oneness around one. Either one had the culture with him or didn't. The cultured would forge lasting friendships that spanned decades. Well, barring the few that resorted to tearing out pages from reference books in the library. Those few are probably teaching at Saskatchewan or Nebraska, doing Amway-on-the-side.

So, were all those inter-hostel rivalries, the socials, the Bhaang after holi, the false medical-certs, the collective mug-sessions an abstraction of this thing called 'culture' ?

We pondered upon these while we gazed at the Redwoods outside OKBABA's camper. Lately it seems, freshies have been segregated to avoid ragging on campus. I asked OKBABA about this - I mean, one one hand, at best we could expect IIT-Bombay studs to look more like the IITB-wannabes (eg. the IIT-M crowd). On the other hand, what would this segregation mean from a 'preserve the endangered culture' perspective ?

OKBABA sipped silently and succinctly summed his thoughts as follows - "If culture was this sleeping King, and 'ragging' took the form of an irritating fly, this measure was like giving a monkey an axe to get rid of the fly".

Will we see the king alive ? Or would we be condemned to live the rest of our lives talking about "sightings of the King" eternally ?

OKBABA probably knew, but did not want to give it away. Instead, he asked me if I had ever wondered - "Why do sane, pretty women marry IITians ?"

Now that, my cultured friends, is another story.

Article

**Confessions of a Vagrant Engineer**

*by Madhavan "Mad" Thirumalai*

San Jose, April 2, 1998

*Preface: I worked for a company called Silicon Graphics Inc in Mountain View, California from 1990 to early 1996. SGI grants its employees 8 weeks of sabbatical every four years. This is an imitation of a tradition of American Universities; I guess the idea there is for the academicians to have time to do pure research, investigate whatever captures their fancy without the mundane pressures of University life. Few SGI employees, however, spend any time in front of a computer during their sabbaticals. For mine, I went to Europe and this is a true story from a series that I wrote.*

On the 24 th, 1995 of August, I caught the night train from Barcelona to Milano. The dining car opened at seven and I went in a few minutes after. The other passenger in the car was drinking a cognac and reading a book. He looked up and nodded at me and I nodded back. The waitress came to my table and I ordered beer and dinner.

I would have been content to drink my beer and look out of the window and think my thoughts but the man began to talk to me. He tried Italian first and then German and I shook my head each time and said, "No comprendo."

"Parla inglese?" he said finally.

"Si," I said.

"I was reading because I was alone," he said, "but I would be glad with your company."

"Would you like me to join you?" I said, comprehension came to me slowly, it is not very often that a stranger asks me to join him at his dinner table.

"Yes please, please," he said.

"I would be delighted to," I said and picked up my beer, and went over to his table. We did the handshake thing. His name was Karl, he said. He looked like he was about fifty five and he had been drinking.

"Why did you think I might know Italian?" I asked when I sat down. "You first began speaking to me in Italian."

"At a distance, you looked like you might be from Sicily," he said.

"But now I think you are too dark. Americano?"

"Only a little bit," I said. "I live near San Francisco in beautiful Silicon Valley; I am an engineer. But I grew up in India."

"Where are you going? Are you on vacation?"

"Yes," I said. "I am going to spend a day in Milano, then I'll go to Venezia to join a bicycle tour group. Are you going to Milano too?"

"No, my coach is going to Zurich," he said. "Then tomorrow morning I will catch a train to Berne. I was on holiday in Portugal for two weeks but Portugal was too hard, too difficult, so I go home early."

"Difficult?"

"Yes, nothing worked. Nothing. I traveled alone." The memories of Portugese inconveniences seemed to upset him. Or had he gotten lonely?

"You'd better not go to India if you couldn't deal with Portugal," I said.

We drank, people drifted into the dining car, our dinner arrived.

"Did you visit Madrid?" he asked me as we began eating.

"I spent a few days there. I have a good friend who lives there - a rather hot headed senõrita actually."

"I stopped in Madrid too," he said. "I visited my wife. My first wife. She lives there now and teaches German."

"How long were you married?" I asked.

"Seven years."

"And how long have you been divorced?"

"Three years," he said.

"So you are still friends. You know, I've never met anybody who was divorced and still friends enough with their ex-spouse to visit them."

"To me," he said, "it is impossible to spend seven years with somebody and then never want to see them again."

"In America," I said, "when people get divorced, they try and take each other for as much as possible, the lawyers wind up with all the money, and the couple end up hating each other and never wanting to see each other again. That is the American way, by God."

"That is not good," he said.

"No," I said. "By the way, you mentioned that that was your first wife. Did you marry again?"

"Yes," he said, "my wife is on vacation in England with a girlfriend."

Why didn't they vacation together, I wondered. But this was a new and strange continent.

"Where did you meet your wife?" I asked.

"On the street," he said. "She was walking down the street one way, and I was walking the other way. So I looked at her and said, 'Would you like to have a drink?' and she said 'Yes', so we went and had a drink."

"Just like that?" I said.

"Just like that."

"That wouldn't work in America," I said. "People are scared stiff of each other, there are a lot of

crazies about. You just can't go to a strange woman and start talking to her. But do go on."

"She stayed with me, then we got married because she is German and wanted to stay on and work in Switzerland. Immigration laws... Are you solo?"

"Yes," I said, "I'm single."

We both got another drink. I looked around and saw that the dining car had filled up. A lot of people were smoking and the air was thick.

"About a year ago I stopped drinking so much," he said, "but in Portugal I began again. It is better to live life properly and die before I am fifty, than to live until seventy or eighty and not enjoy life."

"How old are you?" I asked in alarm.

"Forty five," he said. "And you? You have thirty years?"

"Yes," I said.

"You know it is nice talking to you," he said. "For the last three days, the only people I have talked to have been taxi drivers and putas."

"Whoa," I said. "Wait a minute. Wait a minute. Back up there. Did you go to a prostitute in Barcelona?"

"Many," he said.

This, I thought to myself in delight, is why I came to Europe.

"This is really none of my business, but how does your wife feel about that?"

"Oh, she understands," he said. "You see, sex and love are two different things."

"I am completely intrigued," I said. "I would not be having this conversation in America. I have never met a married American male who admitted visiting a prostitute." (Though to the last man, they all complain that after they get married their sex life comes to a complete halt.)

"Ah the Americans," he shook his head sadly. "Very repressed and moralistic people. You know Mitterrand, the last French President, had a mistress while he was in office."

"That would never happen in America."

"But you see, he was quite a good President. What did having a mistress have to do with how good a President he was?"

I nodded.

"And the French President before that had an illegitimate child while in office. And he was a good President too."

I nodded again. "Pardon me," I said, "I don't mean to harp on this but this thing about your wife being ok about you visiting prostitutes. Is that a European value or is it Swiss or is it just you and your wife."

He thought about that. "Just me and my wife," he said. "I don't know if that is common, but I do know other Europeans who think this way."

"Wow," I said. This was great stuff.

"Where is your family?" he asked me after a while.

"I have a sister in the States and my mother lives in India."

"Where do you work?"

"A company called Silicon Graphics," I said. "Have you heard of us?"

"Yes yes," he said. "Of course. You must make a lot of money in Silicon Valley."

"The money is good for an engineer anywhere in the valley," I said.

"You must make 10,000 dollars a month?" he said.

"No where near that," I said, "though a lot people in my company who make a lot more."

"How much do you make?" he asked.

I thought of all the personal questions I'd asked him and told him how much I had made.

"That's how much I make too," he said.

"You will like my wife. She has thirty one years," he said. "You should come and visit us in Berne. Will you ride your cycle in Switzerland?"

"Yes," I said. "First, I am going to bicycle in Austria for two weeks and then I'll spend one week in Switzerland."

"Leave your bicycle group when you are in Switzerland and come and see us," he said.

"All right. I'll give you a call when I am in Switzerland."

"Do you have a paper," he asked.

I gave him a business card and he wrote his address and phone number on the back.

"My wife likes sports. You should take her with you for bicycling."

"Sure," I said, "I'll take her for a bike ride."

"Have you ever had a Spanish brandy?" he asked?

"No," I said. And I didn't particularly want one. I was beginning to feel the beer and I had blown my daily budget.

"But you must have one. It is a very good drink."

"No, no," I protested weakly but my heart wasn't in it.

"Please allow me to get you one," he said, "to celebrate your coming to Europe."

"Ok thanks," I said and he ordered a brandy for me and another cognac for himself.

The brandy arrived. He toasted me and my vacation in Europe. The brandy was brilliant and I put it down quickly.

"Another?" he said.

"What the hell? I am on vacation," I said and waved gaily at the waitress, "but I'll buy this round. That was a great call on the brandy."

"Do you live in San Francisco?" he asked.

"About an hour away, but I go up there all the time on weekends to race sailboats."

"You have a yacht?"

"Yes," I said. I had a 13 foot Laser; I guess you could call that a yacht.

"My wife likes sports," he said, "you should take her on your boat with you."

"Sure," I said, "if you ever come up to San Francisco, I'll take you and your wife sailing."

The second brandy took a long time to drink. He wanted to know more about my extended family and I told him. Later, I would wonder if he was trying to determine if I came from good genetic stock.

The waitress came and he spoke to her in a low voice; I had had too many beers and Spanish brandies to be able to tell the language.

"La cuenta por favor," I said to her when he finished. I had learnt to ask for the bill in Spanish (Also the toilet, beer, and a date.) She came back with a single bill and put it down in front of him.

"No, no," I said. "No, no. I really can't let you pay for this."

"I would really like to buy you dinner," he said firmly. "It would give me great pleasure. This is to celebrate your coming to Europe. But you should promise to come and see us in Berne."

"Ok," I promised. "I am sure I'll be able to get away from my bicycle group for a day or two."

"You should go for a bike ride with my wife."

I nodded but through the alcoholic haze I was having a feeling of deja vu, like I had read something like this somewhere. Where? Cervantes? No. Joyce? No. Shakespeare? No, it was Penthouse! This wife thing was straight out that jewel of journalism.

"No, no. This cannot be," I said to myself, "Here is this really nice guy who invited me to join him at his table, bought me an expensive dinner and drinks, invited me to visit him at his home, and I am casting all these perverted aspersions on him."

I waited until he had finished his drink.

"Ready to call it a night?" I said, "I have a long day tomorrow."

"You look tired," he said, "so maybe you want to sleep."

"I think so," I said. "Are you going to stay and have another?"

"Yes," he said. "I'll have some more."

I stood up. "Thanks for dinner and the drinks. When I come to Berne, you must let me buy you and your wife dinner."

He got to his feet and we shook hands. Then he winked and grinned and said, "You should have fun with my wife and take her to America with you."

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About the author:

Madhavan Thirumalai (Mad), graduated from the Department of CS and E in 1986. In his first week in Hostel 4, he was given the nickname "Mad". This because there was another Mad in the hostel at that time, Madan Mohan Rao of the class of '85, and the freshie batch decided that they needed a Mad of their own.

*(Ed. note : Fate has brought both the "Mad"s together as Managing Editors of Y-Point - it just goes to show that freshies are very prescient !)*

EDUCATION: IITs

### Will They Swim or Sink?

**Faced with a long-standing resource crunch, these premier institutions find that generating funds on their own leads to skewed priorities in education.**

By **Vijay Jung Thapa, Smruti Koppikar, L R Jagadhessan** and **Avirook Sen**

When Anil Chandra graduated from the Indian Institute of Technology (IIT) Delhi in the mid '70s, he remembers feeling rueful about leaving the place. He classifies those undergraduate years as the "high point" of his life's graph -- spent memorising hydrocarbon chains, cleaning laboratory beakers and watching awesome sunsets on a sprawling campus built on the edge of the tapering Aravallis. Life was good -- the faculty was excellent, the resources great, and that "IIT stamp" guaranteed an exceptional placement. But after his graduation he lost contact, and little nuggets of information coming in about his institute were only vaguely interesting, like reading about a bank robbery in a distant town. Now, however, with two smart sons, one of whom aspires to get into an IIT next year, he suddenly found himself acutely interested in what was going on. Make that horrified.



He found that a persistent resource crunch, like an army of termites, was eating away into the edifice of all the IITs. Most core laboratories -- inundated with obsolete equipment -- needed urgent upgradation. Libraries had drastically cut down on journals. Hostels were crumbling and rooms in short supply. Non-faculty staff was being shed. Loans were being taken to build hostels or fund research projects. And professors, instead of teaching, were busy raising money. Worse, even as infrastructure almost remained unchanged over the decades, students had been steadily increasing. So had the fees. While a student, Chandra had paid only a few hundred rupees as the base fee per year. Last year, the basic fee was hiked from Rs 2,000 to Rs 15,000 and is expected to be Rs 20,000 next year. Add to that the cost of food, books and other supplies and it meant the actual amount his son would pay stood at about Rs 40,000 per year. "So much for so little. I felt a surge of anger on seeing this. Why are they killing all these premier institutions?" asks Chandra.

#### IMPACT

Most core labs are loaded with obsolete equipment. Libraries have been severely affected; big cutback on foreign journals. With increase of students, hostels are crumbling and in short supply, lecture theatres are crowded. Faculty is disheartened and say they are losing the inspiration to teach.

Why indeed? The IITs, called "centres of excellence", were always the crown of the Indian education system, with almost four lakh youngsters dreaming of making it and only the cream -- about 2,000 or so -- actually managing to do so. Exclusivity has always been a hallmark with IITs, and the ongoing higher education resource crunch, one felt, wouldn't really apply to them. But two things went against them. One, the major shift of priorities (read money) in the early '90s to primary education left very little for even the IITs. Second, in an era of liberalisation, economic mandarins -- with World Bank reports under their arm -- suddenly started terming higher education as one of the "non-merit" goods. In simple words, higher education became a commodity from which only an individual derived benefit, and not society as a whole. As a result, a slow, withering resource crunch left the IITs cutting corners wherever they could. It was clear that this couldn't go on for long.

## SOLUTIONS

Must learn to attract consultancy work and research projects from industry. Contract services like labs, libraries to MNCs. Increase overheads on sponsored research, forge joint ventures, tap alumni and admit foreign students. Take soft loans to build infrastructure.

Finally, about three years ago, the IITs themselves took the initiative to stem the rot. If the money from the Ministry of Human Resource Development (MHRD) had dried up, then why not try and make money on your own -- be the masters of your own destiny? Till then, the system of funding involved the IITs working out a budget every year and fighting its case with a tight-fisted MHRD. The little money that IITs made through research projects or consultancy work was subtracted from the government grant. But now, after much thought, a brand new funding pattern was devised. Everyone put on their thinking caps and the way they looked at it, three partners benefited from an IIT education -- the student, the industry and society at large. And really, all three should pay. For the student, the fee was hiked. For society, the MHRD said it would continue

supporting IITs financially, but grant only a fixed amount (what it paid in 1992-93, which amounts to about Rs 200 crore for all IITs). The deficit, everybody decided, would have to come with the IITs wooing the industry for research projects and consultancy work. Added to all this was an incentive. If an IIT managed to also save money and put it in a corpus, then the MHRD, under the new scheme, would give a matching grant. But only the interest from this corpus could be used by the IIT. "It was like a challenge. This new scheme keeps us on our toes and makes us work much harder," says V.S. Raju, director, IIT Delhi.

Challenge or not, it has in the past three years opened up a whole new ethos in the history of IITs. Today, everyone is on the lookout for money. Professors are urged to bring in consultancies (last year IIT Powai made Rs 4 crore this way) and bag research projects (IIT Kanpur earned Rs 11 crore last year). Infrastructure is being rented out -- for instance, inside IIT Delhi, IBM has opened up a Solutions Research Centre and along with doling out donations, pays Rs 70 lakh per year as rent for about 7,000 sq ft of space. Loans are being taken -- both IIT Delhi and Kanpur have taken soft loans from ICICI (Rs 9 crore and Rs 6 crore, respectively) to fund industry research projects. IIT Delhi also plans to take a Rs 4.5 crore loan from HUDCO to build hostels. Fee has been hiked, students increased to bring in more money and foreign students, who pay in dollars, are being wooed. On-campus services like seminar halls, grounds, guest houses are also being let out to outside organisations. "So much so that the IITs have become tent houses," says an infuriated professor who, because of a prime ministerial visit, was asked to open his laboratory for sniffer dogs one Sunday.

But more than angry professors, the new scheme has put IITs in a transitional phase with the pros and cons of the new funding pattern being intensely debated by the academia. "We have to win projects from government agencies ... for which the IITs must create capability and establish credibility," says D.K. Ghosh, registrar, IIT Powai. This entails a widening of horizons, working closely with the industry, learning their constraints and sharpening problem-solving skills. It also means cutting down the flab that has accumulated during years of dependence on the MHRD. To that extent, the scheme comes as a welcome challenge. "But what I fear most is that eventually it could lead to skewed priorities while imparting education," says D. Nagchoudhuri, head, electrical engineering, IIT Delhi. He explains that every subject today has areas which are hot and some which are not so hot. Industry, focused on making a profit, will find only certain kinds of projects in which it sees a prospect of making money. "But what happens to the other areas? Aren't we here to give a well-rounded education?" Already, while specialised laboratories may -- because of external funding -- have state-of-the-art equipment, the core laboratories are close to becoming obsolete.

## CONCERNS

The pressure on professors to generate money hampers teaching. Recessive industry with poor R&D can't support IITs. Fees hiked over seven times in two years leads to bias against poor students. IITs are becoming less attractive to PhD students with a 50 per cent slowdown.

Worse, the social fabric of teaching faculties seems divided among those who can bag consultancies and those who can't. "Almost 80 per cent of the faculty isn't among those who bag consultancy or research projects," says Dinesh Mohan, a professor in bio-medical engineering. With the system projecting those who bring in money as saviours, others feel neglected. Admits K.A. Padmanabhan, director, IIT Kanpur: "This is unfortunate and we are trying to curb it." The constant refrain among those who don't readily get consultancies or research projects is: "Should a teacher be spending time trying to generate funds?" Yes, point out most of the directors, this is a sign of the times. No, say a lot of teachers who feel that in all this rush for money, the basic motivation to teach gets lost.

Yet, the biggest predicament the IITs face is the fear that they can't get enough money from industry. Professors point out that Indian industry largely doesn't have a vibrant research base, preferring instead to buy hand-me-down technologies from the West. Says Nagchoudhuri: "Original ideas do come to us. But we find Indian industry lacks the basic infrastructure to follow up the idea." In the end, very little research work is done for private companies. Much in contrast to the West. In fact, the kind of money that some US technology institutes make from industry is always thrown at the faces of the directors. Points out Mohan: "This is foolish. The US funded their universities completely until they and the industry came up to a certain level. Don't compare them to us."

Money from the industry right now comes from consultancy work. "But even here very little constitutes actual profit," says IIT Kharagpur Director Amitabh Ghosh. Not many companies are willing to pay 15 to 20 per cent overhead charges. As a result, even though IIT Kharagpur bagged Rs 17 crore in consultancy work last year, the money saved was negligible. Then again, while IITs in metropolitan cities attract industry support, places like IIT Guwahati could get left out in the cold. Set up so that a neglected place like the North-east could also get an IIT, this fledgling institute is expected to grow up to a point where it will need Rs 40 crore every year. For that, a corpus of Rs 350 crore is needed. "But with oil and tea being the only industries here, our sources are limited," says Director D.N. Buragohain.

A good indicator, right now, to assess whether industry support to the IITs is coming can be gauged from the corpus that they were supposed to build up in the new funding scheme. MHRD officials admit the figures are below expectations and for most range between Rs 3 crore and Rs 4 crore. Adds a senior official: "We are reviewing this and are trying to work out new schemes for better funding."

The other contentious issue is the hiking of fees and increasing the intake of students. About two years ago, the MHRD decided that "since infrastructure in the IITs was not utilised to capacity" it should increase the number of seats so that in about five years the number of students could be doubled. It would also rake in the money. A recent study conducted showed that if infrastructure - like laboratories, lecture halls and hostels -- was boosted by about 25 per cent, the intake could be doubled. But as students steadily increase, the promise of money to boost infrastructure still hasn't been kept. Says Padmanabhan: "They have yet to keep their part of the bargain." As a result, teachers now complain that classes are overcrowded and unruly. In fact, the faculty forum in IIT Delhi brought out a white paper which complained of huge classes of 85 to 90 where students often stand or sit on the floor, of a blackboard that isn't visible to many and of the teacher's voice not being audible enough. Says a professor: "Earlier, I knew my class individually. Now, it's like teaching a huge crowd of strangers."

The Punnayya Committee report on resource generation for universities talks about hiking the fee to about 25 per cent of the total running cost spent on a student's education. But engineering degrees are expensive -- the money spent on a BTech student every year is Rs 1 lakh which means Rs 4 lakh for four years for a BTech degree. A growing number of faculty members feel the fee shouldn't be increased. True, there are checks and balances to maintain equity. For instance, any poor student who makes it past the joint entrance examination is assured of a fee waiver. But there is controversy as to what defines a poor student. Right now, the rules

categorise any family whose annual income is less than Rs 50,000 as poor. But take a family who earns Rs 1 lakh a year. Spending about 40 per cent of your income on a child is tough, considering there might be other children. Adds Raju: "This needs to be reviewed."

Lastly, there is an overall concern about a huge slowdown (almost 50 per cent) of PhD students in all the IITs. Academics link this to the high fees, low research stipends and the overall lack of good research facilities. But MHRD officials refute this by saying that globally too students have stopped going in for research, opting instead to get lucrative jobs. But in the argument, what gets lost is the elementary objective of the IITs when they were established in the early '60s -- to build institutes that generate original thought. As far back as that, our forefathers had realised the need to bring together the cream of professors and PhD students so they could create technologies that would capture lightning in a bottle. But that ethos is slowly dying. Says C.R. Muthukrishnan, deputy director of IIT Chennai: "Today we are becoming less attractive." And that magic sheen of the IITs is slowly fading.