

Convocation Address by Shri. Manohar Parrikar

on the occasion of the

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Respected Dr. Yusuf Hamied, Chairman of Cipla Pharmaceuticals Ltd., Shri. Dilip Sanghvi, Chairman of the Board of Governors of IIT Bombay, Prof. Margaret Gardner, Vice-Chancellor and President of Monash University, members of the Board of Governors, members of the senate, members of teaching and non-teaching staff, patrons of the institute, friends from the media, parents and mostly importantly graduating students – my greetings to you all. Growing up in a middle class family in a small town in Goa, I never imagined that I would get to graduate from this prestigious institute. And when I graduated from here, I never imagined I would one day be invited to deliver our institute's convocation address. It took me 39 years, to get here and I am very hopeful that it will take much shorter time for many of you to be invited to deliver our institute's convocation address some day.

At a young age I imbibed a deep sense of commitment to discipline, work ethic, integrity, simplicity, and patriotism, and I attribute them to my association with the RSS. However it is IIT that fired up my imagination and opened my vistas of capabilities and gates of

possibilities. I do not know how my life would have unfolded had it not been for the fulfilling, eventful, and adventurous years that I spent here at campus and at hostel four. But I can safely say that life wouldn't have been the same.

On a lighter vein, many people now know that I stayed at hostel four during my IIT days. And now whenever any alumnus of IIT Bombay comes to meet me, the first thing they tell me is that they also stayed in hostel four, irrespective of which hostel they actually stayed in.

The world that I entered as a fresh IIT graduate is vastly different from the world that you are about to enter. While I was in my first year of college, Steve Jobs had not founded Apple, and Bill Gates had just started writing his first software codes using BASIC. But thanks to people like Steve Jobs and Bill Gates, the world you are about to enter is vastly different. The computing power of hand held devices of even the junior most employees in any organization that you may work in, would have blown off even the minds of the senior most scientists at NASA back then. This journey in many ways represents the immense progress that the human race has made in the last forty years. India too has made significant progress in these last forty years.

Technology has changed our lives in unrecognisable ways. It has altered medicine and health care. Doctors can operate on patients sitting miles away from them. Till about twenty years ago, if a person in Mumbai had to speak with a person in Pune, he had to make a trunk call and scream

at the top of his voice. Today we can video chat with someone in any part of the globe, at almost no cost. The way we shop has changed, and so has the way things are sold. The way we bank has changed. The way governments are run, have changed. And in the years to come, all these will further change. And frankly no one knows how the world will be in the next ten years, leave alone the next forty years. Because unlike in the past, it's not just that things are changing but things are changing at an unprecedented pace. And since the world is changing at an unprecedented pace, what is required of professionals is also going to change at an unprecedented pace. Some of the jobs that are in demand today never existed a few years ago and many jobs that exist today will vanish in the next few years. Hence as budding professionals you need to constantly look out for ways to keep developing your skills to remain relevant and competitive.

Such rapid change and disruption has however still left many people relatively untouched, and some age old challenges still persist, while new challenges have emerged. Also, technology penetration hasn't been adequate enough to touch and transform the lives of many people for whom the mobile is still a stuff of magic. If we do not address these challenges and bridge the digital divide, we will jeopardise the very progress that we are all seeking.

India currently has a high school enrolment percentage of 97% among children between the age group of 6 - 14. However, 24% of children in

class V cannot read simple English sentences, and 57% of children in class III cannot read class I text in their own languages. And 74% of our school children in class V cannot solve simple problems involving division. What we provide a child in primary school, determines the future trajectory of our nation. Gaps in learning at a primary level are very hard to fix as a child grows. And such poor learning outcomes plaguing our primary schooling system is in my view India's biggest challenge. This weakens the very foundation of our nation.

The other big challenge facing our nation is our health care. Gandhi ji once said that it is not gold or silver but good health that is one's true wealth. This is not true for individuals alone, but also for every nation.

The physical health of our citizens, women and children in particular needs significant improvement. Malnutrition is rampant in India. As far as diabetes is concerned, India is the undisputed capital of diabetes.

We have the world's highest number of people suffering from diabetes - 50 million and this is more than the population of 206 nations in the world. The World Health Organization estimates that close to 3.4 million deaths happen in India every year due to high blood sugar. All these come at a huge economic and opportunity cost to our nation.

In addition to the above mentioned problems, our nation is also facing challenges in areas such as environment. If you look at the Yamuna river in Delhi, you will enter a state of disbelief and disappointment. If you go to Chennai, you will see a 72 KM long open river carrying sewage water

passing through the heart of city and causing immense damage to the soil and the water table. And in many other parts of India, several of our perennial rivers have become seasonal rivers and some of them have even vanished. Many of our dams are at quarter way mark and reservoirs are filled fractionally, there by resulting in a decline in the per capita water availability from 3000 cubic metres to 1123 cubic metres, as against the global average of 6000 cubic metres.

Air quality in some parts of our nation is way above the danger mark. While I was young, air quality in a metro city was hardly an issue. But when I was in Delhi as the Defence Minister, I saw many people roaming around with face masks to filter the air they breathe. With our depleting water sources, and poor quality of air, how are we going to face the future?

Another major area of concern is the absence of a reasoned and rationale debate on the issue of development. While I was the CM of Goa in 2012, we set-up what is today one of India's best solid waste management plant. And in the next two years, we will be setting up three more such state-of-the-art plants through which all the garbage in Goa will be handled in the most scientific and efficient way. In the place where we have the plant today, there was a huge garbage dump spreading foul odour and polluting the nearby areas for more than two decades. But when we decided to clear the dump, set up a plant and process the garbage, many people protested citing environmental

concerns. How can a garbage processing plant that processes heaps of garbage and generates bio-fuel and bio-fertilisers out of household garbage, be a threat to the environment? Today you will not find foul odour even inside the garbage plant. And every high level dignitary who visits Goa these days visits the plant. Everyday children from various schools in Goa visit the plant.

This is a typical case of how technology can aid in addressing problems that our nation and our environment faces. Resistance to change, due to the fear of the unknown, is quite natural. But we need to educate and inform our people of the transformative power of technology. Technology can also help bridge the rural urban physical and social infrastructure divide. Development is not the birth right of the urban elite alone. Equitable distribution of development is a pressing need of rural India where most of our people live. Carrying out developmental work in rural areas is fraught with road blocks and challenges. Youth in tier-II and tier-III cities have the same aspirations that their counterparts in Delhi and Mumbai have. But it is far easier to carry out development work in metro cities, than in rural areas. While I am all for environmental conservation, people resisting development work in rural areas should realise that inequitable distribution has several flip sides. Today many doctors who are educated using tax payers money are refusing to go to rural areas. According to one study, 2% of doctors serve in the rural areas where 68% of our population lives. Don't people

in rural India need good doctors? Don't they need good infrastructure, roads and other development related initiatives? Such challenges stemming out of the rural urban divide need to be addressed using technology and sound policy making.

Another major challenge facing our nation is the state of our farmers. 47% of our work force is engaged in agriculture, which constitutes only 16.5% of our GDP. And as our economy grows, the share of agriculture in our GDP will only decrease. And if the percentage of labour force engaged in agriculture remains the same, then the inequality between the rich and the poor will only grow further. Many farmers own small tracts of land that makes it expensive and economically unsustainable for them to farm profitably, because they do not have economies of scale. Our Prime Minister has rightly set a lofty and an inspiring goal of doubling farm income by 2022. However, mechanisation of farming will play a major role in times to come, which will make many farm workers redundant. How are we to address their employment needs and aspirations? Most farmers do not own any land and are merely labourers in the land owned by rich landlords. And many farm labourers are engaged in farming because there is no other economic opportunity available to them. Because of the romanticising of poverty and a flawed policy approach towards development, such opportunities haven't been forthcoming. According to the World Bank, today 68% of India's vast

population earns less than US\$ 3.1 a day. How do we pull them out of the economic trap if we do not build models of equitable development?

One of India's biggest strengths is its democracy. But democracy is an art and science that has a certain method to it. And in many failed democracies across the world, we have seen that democracy and development did not go hand-in-hand, resulting in exploitative systems that failed to serve its people. The spirit of democracy has remained uncompromised in the last 70 years in India, barring a two year period of my time here at IIT, during which emergency was promulgated. There have however been many democratically elected state and central governments that compromised on the development agenda at the altar of politics and power. The problems I have detailed above find their origin in abject lack of commitment to development and governance.

There is a price that democracies have to pay for development, and one part of the part is patience. Development is a complex phenomenon where multiple interests, some of which are at cross purpose, needs to be delicately balanced and pursued. The expectations for instant results often derail any reform. When it comes to long term changes, we shouldn't expect instant results. And we should never forget that what comes quickly also goes away quickly.

And let's not forget that democracy is not about politics, politicians and power, as it is often understood. Democracy is about people,

participation, and purpose. People should never cede the central role in a democratic process to politicians, and expect miracles out of them. People should be constantly and meaningfully engaged in the governance process, and this engagement should be a very matured and a pragmatic one that demands accountability and transparency on one hand, while on the other hand provides opportunity, space and support to succeed. Often we think reckless opposition based on political preferences is the same as responsible citizenship – it's not. And in our desire to see a certain political leader or a party fail, we shouldn't inadvertently wish that our nation doesn't succeed.

Another key aspect that throws open a major challenge to our development journey is the social inclusion of marginalised groups. India has many marginalised groups and this marginalisation is way more complex than we think. Today we have reduced marginalisation to religious and caste identities, and have for long equated empowerment to tokenism and identity politics. Instead of solving the problem, such flawed but politically convenient perspective of the problem is further complicating the situation. The truly marginalised sections of the society need to be empowered and this is particularly true of the Dalits and the Tribals. But barring the Dalits and Tribals, who have been historically marginalised, which we first ought to accept and course correct, another way of defining the marginalised group is through the prism of economics. The pain of poverty is agnostic to caste and

religion. The poor, irrespective of their caste are marginalised, and irrespective of their religion are at the receiving end. And such economically marginalised groups need to be brought into the mainstream.

We also need to seek ways and means to integrate our women into every sphere. Women are actually our biggest strength both socially and economically, and like Swami Vivekananda emphasised, the downfall of our nation has been caused due to our discriminatory treatment of women. We need to reverse it, lock, stock and barrel.

While technology is enabling us make advancements, technology is also posing challenges. In the future, cars will become driver less. Factories are using robots and are becoming labour less. Agricultural farms will become farmer less. Surgeries that required 4-5 doctors a few years ago are essentially being done by 1-2 doctors using robotic technology. If doctors can become redundant, almost any professional can. How then are we going to find jobs for millions and millions of youth coming out of educational institutes? What are the social implications of such transformations?

A major issue facing our nation is our population. Currently our population is 1.36 billion, and by 2022, we will be the world's most populous nation. While we have 65% of our nation below the age group of 35, which is a huge force in favour of our nation, the fact remains that much of our population growth is happening in low income

groups, making it difficult for much of the emerging population to have access to quality education, health and other aspects. Irrespective of the income levels, there has to be a conscious effort on part of the people to bring a sense of balance to the population growth. In a nation having just about 2.4% land, but housing 18% of the population, excess population cannibalises our resources allocation and development activities. Hence a certain balance is required and this balance cannot and must not be coerced by the state, but needs to be owned by the people themselves. State coercion through enforcement of policies such as the one child policy has failed. How do we then generate a pan India consciousness on population control, which is entirely bottoms up?

Skill development is the next issues I wish to talk about. Only 2% of India's work force is skilled. Skilled workforce is at 54% in Singapore, 49% in Israel, and 42.2% in the US. A recent report says that 80% of our engineers are unemployable, which means they have no skills. Wouldn't it have been better if some of them had not become engineers, but had developed some employable skills. A degree is not an end in itself.

This also results in a corollary problem – lack of employable skills not only results in unemployment, but also results in companies and factories not finding good talent to serve the domestic and international market. Ask any entrepreneur and he will tell you how difficult it is to find good quality talent for any role. During the earlier

times, skills used to be passed on from parents to children or gurus to their students. Today, we do not have such a system of generating and transmitting skills. Skill development is another area that the Prime Minister Shri. Narendra Modi is also passionate about, and is pushing for reforms. The IITs must proactively play a key role in improving the skill quotient of our nation.

These are some of the most important areas we need to focus on and find workable solutions. And these answers cannot come only from grey haired men working out of the corridors of power. These answers will and must come from young minds like you. And it should not only come through your dinner table conversations and Facebook posts – they should come through the career choices you make. While I have no doubt that many of you will go to some of the top business schools in the world, become technology entrepreneurs, investment bankers, or CEO's of Fortune 500 companies, some of you should also consider less glamorous, perhaps low paying and often thankless but highly impactful and meaningful career paths.

Talking about thankless jobs, I am reminded of my days at IIT when I was the mess coordinator. If things went wrong with the food or menu, students would raise a hue and cry. But when things were good, no one would bother to say a word of appreciation. That is where I realised that public service is a thankless job. However, it is an important one. One

should engage in public service with the spirit of Karma Yoga where we do our best without expecting any reward.

In three days from now, we will enter into the 70th year of our independence. What we do in the next five years will determine the India we will see in its 75th year of independence. I would urge all of you to embark on career paths that will make a profound impact to the social landscape of our nation.

India has many engineering colleges. But most of them churn out engineers with hardly any employable skills. Why can't IIT graduates, who have had the best engineering education in the country, take up to academics and run some of these colleges, and transform their quality? Why can't IIT graduates run schools, and improve learning outcomes in primary schools across India? Let's not forget that teaching is the most important job in any country. IIT graduates must commit themselves to social causes, as part of your career choices. Some of you must even join the Indian Armed Forces. The Indian Armed Forces plays a significant role in the peaceful development and security of our nation, and it certainly requires very bright minds for this purpose.

And some of you must join politics and Government. I am often referred to as India's first IIT educated Chief Minister. While it is a matter of personal pride, it is a cause for concern at an institutional level. How come IITs have not become the training ground for one of the most important jobs in our nation? This needs to change. And if you think

politics is too dirty for you to enter, I would say that this is precisely why you must enter politics.

For people who seek real and deep challenges in their lives and career, this is the best time ever. This is also the most exciting time for young Indians who are willing to contribute to the nation building process. Let's not complain. Every reason that we have to complain is also a hundred opportunities for us to feel excited about one great idea and stay committed to it.

Patanjali Maharishi, one of the foremost teachers of Yoga, said the following in his Yoga Sutra: "When you are inspired by some great purpose, some extraordinary project, all your thoughts break their bonds, your mind transcends limitations, and you discover yourself to be a greater person by far than you ever dreamed yourself to be." So my dear students take up one idea, just one great idea and work on it for five years, if not for life. And see how your work not only transforms the nation, but will also transform you.

There are so many areas where your participation in a determined, intelligent and consistent way can make a difference to our nation and societies. And when you take up to such participation, your actions will not only gather momentum, but will also attract like-minded nationalistic people, and your efforts will slowly become an impactful movement. For instance, in 2012, a young girl from Nagaland, named Temsutula Imsong came to Varanasi, and she was deeply disturbed to

see the filth on the banks of the Ganges. She thus began cleaning it single handedly, and today her lone efforts has become a movement in itself, and many of the ghats, which have been dirty for many decades, have become clean. Now through her organization she is focussing all her energies on creating awareness about source segregation of garbage and the importance of composting.

As part of my Government's commitment towards building a clean environment and clean Goa, we are launching a pilot project of India's first bio-gas bus which will be fuelled by the garbage in Goa. And in two years, bulk of the public transportation system in Goa will be fuelled by the waste that is generated in Goan households. And for all this, source segregation is the key. Every household across India must segregate their garbage at source, because that is the most critical aspect of Swacch Bharat. Hence the work that people like Tamsutula are doing is very important and purposeful. If even 20% of you decide to take up a noble cause in the areas of education, healthcare, environment, governance or any area of public and social importance and commit yourself to innovate in it, then no force can stop India's transformation.

Do not limit yourself to a career path that is obvious and glamorous.

And do not limit your idea of entrepreneurship to high market evaluations, stock options, NASDAQ and Forbes magazine. The idea of entrepreneurship is much more – bring a very powerful social angle to it. The challenges of the world are becoming more and more complex

by the day, and the IITs have a moral responsibility to provide enterprise and intellectual firepower to solve them. And when I say IITs, it is not the walls of IIT but the minds that have been shaped within the walls of IIT which should lead from the front, and create the path. In verse 21 of the 3rd chapter of the Bhagavad Gita, Lord Krishna says, “Whatever actions great people perform, the common people follow. Whatever standards they set, all the world pursues.” Never forget that you are sparks of the greatness that this institute represents. Hence set high standards and pursue them relentlessly.

But these high standards are not something that you will discover and stumble upon so easily. You will have to identify your areas of interest and meaning, and boldly venture into them. It is an iterative process, during which you should take risks, and be ready to fail many time before you succeed. If you look at all the successful people in the world, they have one thing in common - long list of failures. All of us fail. The path to the gate of success is invariably through the streets of failure. So do not be scared of failure.

However, many of us passing out from prestigious institutes are victims of self-created image traps. We think that we are from a reputed institute and hence we cannot fail. This attitude not only makes us less prepared for failures, but also makes us disrespect failure, both of which are wrong. If you have a problem failing, then please set your

goals so high that even failing while attempting such big tasks is considered a success.

Also never forget that being an alumnus of such a prestigious institute should not make us arrogant or egoistic – it shouldn't breed a sense of elitism or superiority. Our association with this institute is our nation's contribution in our life, and this truth should make us humble and responsible.

And lastly I wish to emphasise that for a nation to succeed, there needs to be strong binding force. The more valuable the pearls are, the more strong must the string be. Ours is a great nation with many things to be very proud of, including the opportunities that lie ahead of us. And these pearls of the past, the present and the future can only be strung together by a strong sense of patriotism. Discuss, debate and disagree how much ever you may want, but when it comes to working on the field, fill your minds with the idea that our nation always comes first.

Go on, be the change, serve our society, and leave your indelible footprints.

Jai Hind.