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THE GOVERNOR OF WEST BENGAL

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Professor M.G.K. Menon, President of the Indian Statistical Institute, Professor Sankar K. Pal, Director, ISI, distinguished invitees and my young friends.

It is indeed a privilege to be called upon to deliver the 44th Convocation Address of the Indian Statistical Institute. The ISI has iconic status and those called upon to deliver the Convocation Address tend to be invested with a halo – deserved or undeserved.

At the outset, let me congratulate each one of you who have been awarded Degrees and Diplomas. You richly deserve this honour. A special word of congratulations to the winners of various prizes.

People of my generation always tended to treat the ISI and its founder, the legendary Prasanta Chandra Mahalanobis as almost synonymous. This may be unfair to the ISI which has a glorious tradition of its own, but for us in the '50s, the '60s and the '70s, Professor Mahalanobis was easily one of the brightest stars in the firmament, one who left an indelible mark on India's present and future. We always spoke of Professor Mahalanobis with reverence, in view of the seminal role he played in strengthening the foundations of India's future growth.

The glories of the ISI are, undoubtedly, not limited to the achievements of Professor Mahalanobis. An illustrious list of very prominent scientists has headed the Institute from the beginning and its faculty is amongst the very best in the world. The list of individuals who have, over the years, visited the ISI reads like an International Who's Who, including former Chinese Prime Minister Zhou En-Lai, the legendary Vietnamese leader Ho Chi Minh, the former Russian President Kosygin and others. Even more important, some of the most outstanding thinkers of the 20th century such as Niels Bohr, JBS Haldane, Joliot-Curie, Irene Curie, Julian Huxley, Joan Robinson and Nicholas Kaldor came to the ISI as both scholars and advisors, enriching the Institute through their thoughts and actions.

I am aware that during the Platinum Jubilee celebrations of the ISI, Prime Minister Manmohan Singh had extolled the great contribution made by the ISI over the years, and indicated that the best was yet to come. There can be no greater satisfaction for an institution than that after more than 75 years of its existence, it remains as relevant today as before. I would like to pay a humble tribute to the many visionaries who guided the ISI during this past 75 years. It is our good fortune that one of these personalities is present here today. Professor M.G.K. Menon has the same iconic status as Professor Mahalanobis had in his heyday.

Professor Menon was kind enough to say that I could choose a subject of my choice for my Convocation Address. I am not sure whether this made my task any easier. I did deliberate on what might sound relevant to the graduates and others leaving the

portals of this great Institution, and I came to the conclusion that I would dwell at one level on the role of Science in sustaining progress, all-round development and the well-being of the people and at another level on the uniqueness of India in the contemporary world. Both aspects are of vital importance today.

At the dawn of Independence, our visionary leaders realized that if India needed to make progress, it will need first and foremost a scientific temper and next, maintain an extremely humane approach to problems and issues, even of the gravest magnitude. Graduates of the ISI would be better acquainted with the scientific aspects, but as you enter the country's mainstream, it is equally important for you to understand the essence of our unique civilization, and realize how this country has managed to remain an inclusive democracy despite facing vicissitudes of various kinds.

Let me first address the issue of science and the scientific temper in the country. What immediately comes to mind is the rich legacy and tradition of scientific pursuit that has been part of our history and culture for generations. Scientists and members of the scientific fraternity have always been held in the highest esteem and we have always recognized their significant contributions to not only science but also to our socio-economic development. Names like Ramanujam, C.V. Raman, Acharya Jagadish Chandra Bose, Prof. Satyendra Nath Bose, Meghnad Saha, P. C. Mahalanobis, Homi Bhabha, Vikram Sarabhai, Satish Dhawan, Hargobind Khorana, and other great pioneers of Indian science come readily to mind. We also have a very distinguished group of outstanding Indian scientists today, some of whom reside and work within the country while others have made a name for themselves outside.

Leveraging scientific transition began with the Scientific Policy Resolution which was adopted by our Parliament in 1958. This starts with the following preamble:

"The key to national prosperity, apart from the spirit of the people, lies, in the modern age, in the effective combination of three factors, technology, raw materials and capital, of which the first is perhaps the most important, since the creation and adoption of new scientific techniques can, in fact, make up for a deficiency in natural resources, and reduce the demands on capital. But technology can only grow out of the study of science and its applications..."

Our scientific policy framework derives from this Policy Statement. It has led to a scientific infrastructure of sizeable proportions in the country. Fired by the pioneering zeal of our first Prime Minister Pandit Jawaharlal Nehru, a host of Scientific institutions, Universities and Laboratories were set up in the initial period itself. Since then, major strides have been made in ever newer areas such as Information Technology and Computer Science. Today, we can boast of more than 300 universities where courses in science are being taught. Some of the world's best technological institutes like the IITs, the Indian Institute of Science, the Tata Institute of Fundamental Research, the 40 odd scientific laboratories under the Council of Scientific and Industrial Research, the several institutes under the Defence Research and Development Organization, that we proudly

flaunt are a testimony to the interest displayed by successive Governments in progressing science and technology.

Side by side with this, a major effort has been made to improve the quality of teaching and understanding of science in schools. The Government of India established a National Council of Educational Research and Training in the early 1960s to improve the quality of science education in schools across the country. A National Task Force for rejuvenating basic scientific research in our universities has also been constituted recently. Numerous scholarship schemes have been initiated, several by the Department of Science and Technology. The Departments of Atomic Energy and of Space have carved out a separate and distinct niche for themselves and are engaged in spreading specialized knowledge to vast numbers across the country.

Nevertheless, there are serious concerns, and which are frequently expressed, that India is falling behind other countries in the area of science studies, specially in the realm of Pure Science. We produce a large number of engineers and technologists who come out of our technical institutions, but proportionately speaking, there has been a sharp decline in the number of physicists and mathematicians and those pursuing careers in Chemistry and Biology. This is also believed to be true of the vast domain of related specialized branches. Consequently, there is merit behind the widely held belief that we are falling behind many countries in scientific pursuits, including, and most notably, China.

Additionally, there is serious indictment of the quality of work being carried out in many of our Research Laboratories and Scientific institutions. The quality of research papers is often acknowledged to be below par, and the failure to publish quality research papers is hurting both our image and our potential. Many countries have reportedly overtaken India in terms of scientific output and in the publication of research papers. A recent study has revealed that even the prestigious Indian Institute of Science, Bengaluru, lags way behind the University of Tokyo and the Chinese Academy of Science in terms of research output. While countries such as China and Japan are surging ahead – and are poised to overtake the US in the area of scientific studies in the not too distant future – India seems to have fallen way behind even of some of our Asian and Asia-Pacific neighbours like Australia.

Paucity of quality research in Indian scientific institutions should, hence, be a matter of grave concern. I am raising this issue here, and on this occasion, as the ISI is one of our most prestigious bodies and has a well-earned reputation for outstanding work in the area of statistical research and related matters. I am not aware whether the decline in research output which ails many of our prestigious institutions like the IISc, applies to the ISI or not. Perhaps, the Director or the Dean would be able to enlighten us.

The question we, hence, need to address urgently is whether Indian scientific institutions, and more so, Indian universities, are inclined to neglect research, believing that this is neither compulsory nor necessary. We cannot allow such a situation to

continue, as the nation would be the sufferer. A nation which shows a decline in the quality of its science and technology output and research can hardly hope to make its way forward in the world.

India's emergence as a leading global economic power will, of necessity, have to be driven by a strong indigenous scientific and technological base. Maintaining a GDP growth of over 9% will not happen without a major resurgence in the area of Pure Science and Scientific Research, as there is more than an umbilical connection between the two. If the assessment that we are neglecting scientific research for other fields of endeavour is true, this trend has to be reversed. It is important that institutions like the ISI take a lead in this matter and create a suitable environment by which such a reversal can be effected.

In this backdrop, I have a proposition to put forward for consideration of the galaxy of ISI scientists present here today. As we move forward, tectonic shifts in our requirements of competencies are becoming evident. Management of risk has become a key imperative in today's world, specially in the area of minimizing social risk. What is the role the ISI can perform in this regard, considering that its research activities extend across a very wide range – from Theoretical and Applied Statistics to Operations Research and Physics to Population Studies and Sociology. In what manner can the ISI's strengths be harnessed to benefit the people?

I have a specific issue in mind. This was triggered by an item by a Professor of the ISI Delhi on Food Security and the proposed Food Bill, in one of the dailies recently. In his piece the learned Professor calls for a flexible and efficient food subsidy regime in the context of Food security and goes on to suggest a more decentralised system. Most people, no doubt, agree that the existing Public Distribution System is highly inefficient and corrupt which needs to be replaced and that merely tightening and closer monitoring of the PDS supply chain would not suffice.

What is obvious, however, is that there are as many options/opinions regarding food security as there are thinkers and experts. For instance, the 2010 Economic Survey speaks of moving towards a system of food coupons or restricted cash transfers. Professor Swaminathan suggests the use of the concept of 'common and differentiated entitlements' in which minimum needs such as a Public Distribution System with universal coverage, safe drinking water and sanitation could be 'common entitlements' which could be provided to all, and issues such as the actual quantum of allocation of rice/wheat for families below the poverty line could be based on the notion of 'differentiated responsibilities'.

It is in this respect that I believe the ISI, given its research capabilities and emphasis on both statistics and quantitative economics could be of assistance in making proper choices and coming up with a viable model that meets all relevant concerns. I am sure that the Chairman of the ISI, who also is the Union Finance Minister, would find such assistance invaluable. The point I am labouring is that a critical requirement of high

quality research, at present, is to be hard headed and aimed at concrete results rather than merely engaging in intellectual appreciation of problems and situations.

Moving away from science and technology, I would like to acquaint you on what I regard as India's unique contribution to the world, viz., its belief in humanism and the concept of the 'World as One Family' – *Vasudhaiva Kutumbakam*. Permit me to dilate on some of its essential characteristics. It is not that I discount India's achievements as a leading Emerging Power in the world today. Yet, the idea of India that I am highlighting is different. It is much more than a vision. It is deeper than any ingrained principle. It is about a society that is inclusive, open, multi-cultural, multi-ethnic and multi-lingual. Unlike other emerging democracies with large populations, we have demonstrated over the past 60 years that pluralism works, that democracy can deliver development, and that we can empower the marginalized. Liberal democracy is the natural order of political organizations in today's India.

This Idea of India is embedded in our civilisational heritage. Do remember, that it is our civilisational heritage that has enabled us to foster distinct identities. This has made our country and heritage richer. To paraphrase Professor Amartya Sen, unlike many other societies, India thus understands better than many others the 'richness and poverty of human lives'.

Our founding fathers understood this and displayed a great deal of sagacity while forming our Constitution and Constitution-making was possible only because those responsible understood the necessity for responsible liberalism. The other cardinal principle that dictated the actions of our Constitution makers was a willingness to acknowledge the other person's point of view and to benefit from each other's mistakes.

It is in this mould that the India of today believes that the building of social capital is important. Ours is a secular, pluralist society that respects the right of all its citizens to practice his or her creed or religion. India rejects the doctrine of a 'clash of civilisations' and believes that the logic of history dictates a confluence of civilization.

Soft power has always been a part of India's legacy. The demonstrated success of India's democratic polity has enhanced India's 'soft power' image. People understand that we are not just engaged in raising the living standards of a billion people within a framework of liberal values and the rule of law, but that it is managing to do so in a nation that encompasses a diversity of ethnicities, languages and faiths. The message from India to the outside world is that the globalised world must necessarily be a more pluralistic and rule-based one.

I have, perhaps, strained your patience. I do believe, however, that it is important for each one of you, in your own way, to understand what is meant by the 'Idea of India', incorporating its history and tradition. You must realize that our value system puts a premium on diversity and respect for differences.

In conclusion, to all of you who are passing out of these hallowed precincts, remember that a great future awaits you. Studying in an institution of this kind, and benefiting from the wisdom of the eminent faculty has invested you with a stamp of quality that few others can hope to possess. Make use of the opportunity that has come your way, and ensure that the world that you inherit is better on account of your efforts and achievements.

Thank you.

