

CSIR Foundation Day Celebration

New Delhi, 26 September 2007

Address by Prof M S Swaminathan

I am happy to be here when the CSIR family is celebrating its 65th birth anniversary. CSIR owes its origin to the vision of Sir Arcot Ramaswamy Mudaliar who was Member for Commerce in the Executive Council of the then colonial Government. Its growth and development however was greatly influenced by Jawaharlal Nehru whose vision was converted into action by Dr S S Bhatnagar. Nehru's passionate commitment to science will be clear from the following statement he made on 21st January 1950 on the occasion of the inauguration of the National Physical Laboratory, where we are meeting today.

“When I think of the tremendous adventure in Science in the past and the tremendous adventure that I hope it is going to be in the future, I am fascinated by this prospect and I feel how much better it would have been for me to be the Director of this institution, if I had the competence, than to be the Prime Minister”.

Over the years, CSIR has had the good fortune of having eminent Presidents, Vice-Presidents and Directors General as well as dedicated scientists, engineers and technologists. Shri C Rajagopalachari who served as CSIR President during 1946-47 mentioned in one of his addresses, “I hope the several national laboratories which are in the course of establishment will soon grow up and put India prominently in the map of science in the world”. The speed with which the Jawaharlal Nehru - Bhatnagar combination stimulated the growth of CSIR will be evident from the fact that eleven new laboratories came into existence during the short period of 1950-53.

Rajaji also advised CSIR scientists not to be discouraged by bureaucratic hurdles, but go ahead in their creative endeavour on the conviction, “we shall overcome”. Over the years CSIR has many achievements to its credit. Its major goal has been to convert our natural and human resources into jobs and wealth. It has however been criticized for its inadequate linkages with industry and for its lack of a sharp focus in its research and

development programmes. Sir Francis Crick, the co-discoverer of the double helix structure of the DNA molecule once said, “it is better to tackle 10 fundamental problems and solve one, than tackle 10 trivial ones and solve all”. Chasing too many scientific butterflies will result in getting none in the net.

I recall in the early seventies when I was a Member of the Executive Council of CSIR and also a Member of the Sarkar Committee which went into the working of the CSIR, the then President of CSIR, Indira Gandhi, emphasized the need for effective partnerships between CSIR institutions and small and medium enterprises. Other than small farm agriculture and micro-retail, the small and medium enterprises provide the maximum opportunity for employment to educated youth. Symbiotic relationships between small and medium industries and CSIR laboratories will help to foster job-led economic growth.

Curtailed industrial pollution is essential for the sustained growth of our industry and economic wellbeing. **Internationally, it is now accepted that good ecology is also good business.** In this connection, I wish to pay a tribute to the work of the Central Leather Research Institute, Chennai which under the distinguished leadership of Dr T Ramasami, currently Secretary, Department of Science and Technology and DG, CSIR, developed a methodology by which numerous small tannery owners can get together in the form of co-operatives for the control of pollution. The leather and textile industries occupy a very important position in our national economy. Both are unfortunately associated with water and soil pollution problems. CLRI combined social engineering with pollution control technology to promote a dynamic leather industry free of pollution problems. It is only through synergy among technology, public policy and social engineering that we can achieve rapid progress in improving the productivity, profitability and sustainability of both small and large industries. It would be useful for CSIR to set up a Joint Scientific Panel with the Indian Council of Social Sciences Research in order to bring about the desired synergy between science and society.

For achieving integrated expertise in technology development and social engineering, we need a new breed of professionals committed to the following principle enunciated by Albert Einstein, “Concern for man himself and his fate must always form the chief interest of all technical endeavours in order that the creation of our minds shall be a blessing and not a curse”

It would be useful if CSIR establishes a **Staff College** where staff members ranging from young scientists to Directors can get exposed to methods of combining science and technology with humanism and ethics. In fact the National Institute for Advanced Studies (NIAS) was established at Bangalore by JRD Tata for the purpose of breeding professionals who combine scientific humanism and humanistic science. This year marks the centenary of the establishment of the Tata Steel at Jamshedpur. It will therefore be appropriate to quote Jamshedji Tata, the founder of this pioneering company, “Be sure to lay wide streets planted with shady trees, every other of a quick-growing variety. Be sure that there is plenty of space for lawns and gardens. Reserve large areas for football, hockey and parks. Earmark areas for Hindu temples, Mohammedan mosques and Christian churches”. Jamsetji Tata was thus not only concerned with the production of steel, but also with improving the quality of life of the inhabitants of Jamshedpur. Fortunately, Nehru and S S Bhatnagar inculcated the same philosophy in the design of the campuses of CSIR institutes.

JRD Tata who was Chairman of Tata Steel for forty six years (1938-84) also set the following guiding principle.

“Nothing is worth attempting that will not benefit the nation”

Tata Steel is now 100 years old and has been following the philosophy, “Grow old along with me – the best is yet to be”. This is a good principle for all institutions growing old, in order to instill the principle of sustained dynamism.

This approach is particularly important since CSIR’s XIth plan paper states that the emphasis will be on “technology led accelerated inclusive growth”. CSIR should help to

bridge the technological, digital, gender and genetic divides which are now leading to the emergence of a shining urban India and a suffering rural India.

We are now in a favourable environment for leapfrogging in many areas of human and national development. For example, modern information and communication technology has made it possible to take the right information at the right time and at the right place through a combination of the internet and community radio or cellphone. Small scale fishermen operating catamarans can now access data on wave heights and location of fish shawls through the cellphone.

To bridge the rural-urban divides in the application of science and technology in day-to-day life, CSIR started in the early nineteen seventies a science based integrated rural development project in the Karimnagar district of Andhra Pradesh. This programme initiated under the leadership of Dr Nayudamma did not yield the expected results since there was little synergy among agriculture, animal husbandry, fisheries and industrial technologies. In contrast, the Chinese Academy of Sciences initiated over 25 years ago a SPARK programme in villages based on the principle, “Innovation is the soul of a Nation”. The major aim was to create opportunities in rural area for skilled non-farm employment. In China, the strategy for rural prosperity included concurrent attention to on-farm and non-farm employment.

The SPARK programme which helped to shift over 100 million rural men and women from farm to non-farm employment within 7 years, grew into what was subsequently coined as “Township and Village Enterprises (TVEs)”. This was the beginning of the economic revolution in China. A recent book edited by former Agriculture Minister He Kang titled, “**China’s Township and Village Enterprises (2006)**” describes in detail the evolution and progress of this unique movement linking agriculture, industry and business in a mutually reinforcing manner. China’s ability to become a global outsourcing hub for manufactured products is largely due to the emergence of TVEs.

On the occasion of the 60th anniversary of our “Tryst with Destiny”, I request CSIR to consider initiating a PAN-CSIR Project relating to the generation of opportunities for

skilled, non-farm employment in rural India. Such a rural non-farm livelihood initiative may be started, to begin with in the 31st districts identified by the Government of India as agrarian hotspots, leading to suicides by farmers. There is a vast array of technologies in CSIR laboratories in relation to post-harvest processing and value addition, biomass utilization and efficient natural resources management which if transferred to the field will bring immense joy and benefit to rural families now in distress. **The PAN-CSIR Rural Non-farm Livelihood Initiative** could develop partnership with the appropriate institutions of ICAR, CSIR, DST, DBT, DIT, Agricultural and Animal Sciences Universities, Women's Universities etc, as well as with China's TVE. CSIR's New Millennium Indian Technology Leadership Initiative could include such a programme designed to create multiple livelihood opportunities in rural India.

We are on the threshold of remarkable changes in science and technology. What is now important is to ensure that there is equity in access to the new marvels of science. This was the purpose for which CSIR was established and was nurtured by successive Prime Ministers and the Central and State Governments. On this day it would be useful to go back to the basics and rededicate ourselves to the cause of sustainable human security and happiness. I wish the CSIR continued success in this important goal.