

Tamil Nadu Agricultural University Coimbatore



34th Convocation

Thursday, 26th December 2013



Acceptance Speech

Prof. RAVENDRA NAIDU

Chief Executive Officer and Managing Director, CRC CARE,
University of South Australia, University Parade, SA

Prof. Dr. S. CHELLIAH

Former Director, Tamil Nadu Rice Research Institute, Aduthurai and
Former Director of Research, TNAU, Coimbatore

**Acceptance Speech of Professor Ravendra Naidu
on Conferment of
Degree of Doctor of Science
(*Honoris Causa*)
at the 34th Convocation of
Tamil Nadu Agricultural University
December 26, 2013**

His Excellency, The Governor of Tamil Nadu and Chancellor of Tamil Nadu Agricultural University, Honourable Minister for Agriculture, Government of Tamil Nadu and Pro-Chancellor of Tamil Nadu Agricultural University, Agriculture Commissioner, Ministry of Agriculture, Department of Agriculture and Cooperation, Government of India, New Delhi, the Vice-Chancellor, Members of Board of Management and the Academic Council, Faculty Members, Students, Representatives of the Media, other Dignitaries, Ladies and Gentlemen.

At the outset, I would like to thank the Tamil Nadu Agricultural University for bestowing this great honour on me. The TNAU has earned a richly deserved reputation for excellence over its more than hundred years of existence and ranks top among the select world class agricultural universities. I deem it a great privilege to be chosen to receive the Degree of Doctor of Science from

such an esteemed university which has carved a unique and premier position for itself in the field of agricultural research, education, and development in India. It is difficult for me to adequately describe how important this honour is to me. While I am not entirely comfortable with individual accolades, I do believe that the organisations I am proud to represent are doing vital work.

These days I wear two hats. As Founding Director of the Centre for Environmental Risk Assessment and Remediation, or CERAR – part of the University of South Australia – I work with some of the world's leading environmental researchers to better understand contamination of the environment, and to develop improved ways of preventing it, assessing it, and cleaning it up.

As CEO of the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment, or CRC CARE, I am working to bring CERAR and other researchers together with government and industry to ensure that these new technologies are adopted. The best ideas in the world are worthless if they are never used to make our planet a better place.

In this sense, this accolade is very much a reflection of the many people who have supported me, professionally and personally, over many years. I must emphasise that, as well as the staff and students at CRC CARE and

CERAR, this includes many people at TNAU's Department of Environmental Sciences. In particular, I acknowledge Prof. K. Ramasamy's support, guidance and leadership when I first commenced my collaboration with TNAU. This collaboration led to the recognition by many researchers and indeed regulatory bodies the risk posed by chromium in tannery wastes to both the environment and human health. It is a testament to our great institutional friendship that several people who hail from TNAU now rank among CRC CARE's and CERAR's best.

It is also through these three centres that I have worked to forge ties between Australia and India in general, and our respective universities in particular. And I must also acknowledge the Australian Centre for International Agricultural Research, whose support was the founding stone for our collaboration.

As some of you know, I have had a long association with TNAU, and it is an association that makes me very proud. I worked with many other dedicated professionals to establish the university's environmental science facilities, which are now truly world class. Several of the TNAU staff who I helped getting trained are now Professors themselves. And I have been lucky enough to supervise more than ten TNAU graduates towards their Ph.Ds - young people who now represent the new generation of

environmental scientists, and who are poised to play a crucial role in protecting the environment not only here in India, but also globally.

The environment, in all its facets, of biological diversity, the air, soil and water, and the forests, constitutes the essential life support system on which we depend. Unprecedented economic growth during the last fifty years has led to extensive environmental degradation of all parts of the ecosystem. Long-term stability in eco-systems comes only with high biodiversity, and when the diverse species set up mutually beneficial links between each other. The present scenario of environmental pollution severely affected the agricultural production and human health significantly. But we should not allow this status to continue as otherwise the earth will become unsuitable to live. Every individual should feel the responsibility to protect our system for the sake of our future generations and create an eco-friendly world.

We have to produce more food grains to feed our increasing population which means more use of inputs like fertilizers and pesticides and leading to pollution of soil and water ecosystem. We have to have increased transport facilities which mean increased use of fuel leading to the air pollution. Industrial expansion is needed to sustain the economy and meeting the public requirements and this

necessarily leads to production of industrial wastes causing concern on the pollution of soil and ground water. It may not be possible to stop all these activities as they form part of our livelihood. But it is also our responsibility to take all steps to minimize and reduce the pollution hazards.

Decline in the availability and quality of land and water due to pollution becomes a catastrophe in several parts of the world. Heavy metals and agricultural chemicals are introduced into the soil and water ecosystem through various sources. They may persist in the environment for a long period, thereby posing a serious risk to environmental and human health. Remediation of polluted environment hinges upon the development of sustainable technologies, which will ensure environmental protection. The environmental health and economic impacts of the contamination of our planet are enormous. In the last decade we have made great progress in combating this threat. Developing remediation technologies will help to rehabilitate polluted soil and water resources and bring back these resources to sustainable agricultural system and ensure environmental and human health.

I am happy to say that my collaboration with TNAU has also yielded some excellent research outcomes. These include solving the problem of tannery waste contamination – work that also allowed us to convince regulatory

authorities of the need for a tough policy on tannery waste disposal – and strategies to manage and control large areas of contaminated agricultural soils that exist in Tamil Nadu.

I would also like to take this opportunity to mention a new venture that I launched earlier this year – the Global Contamination Initiative. A worldwide alliance of scientists, industry and government regulators, the GCI aims to understand, curb and clean up the rapidly growing chemical emissions that are causing ever-increasing problems to the people and the environment. I am very pleased to announce that the TNAU will house the Indian headquarters of GCI. As such, this project is in safe hands in India.

I would now like to take the opportunity to thank some people without whom I would not be standing here. I am indebted to Prof. K. Ramasamy for his outstanding support and guidance towards our collaboration and delivery of projects funded by the Australian Government. Last but not the least, I am eternally grateful to my wife Shamila for her unwavering support and encouragement. I dedicate this award to my son Dr. R. Roneal who left us 4.5 years ago - his support and unwavering belief in me as a researcher is one reason for much of my achievements.

I am truly humbled to receive this honour. Let me offer the most profound thanks to His Excellency, The Governor of Tamil Nadu and The Chancellor of Tamil Nadu

Agricultural University, the Honourable Minister for Agriculture, Government of Tamil Nadu and Pro-Chancellor of Tamil Nadu Agricultural University, the Vice-Chancellor and Members of Board of Management and the Academic Council for conferring this honour on me.

I would like to express my heartiest congratulations to all the graduating students for their well-deserved degrees and awards. My best wishes to them for a bright and prosperous future.

Thank you.

Acceptance Speech of Dr.S.Chelliah
on Conferment of
Degree of Doctor of Science
(*Honoris Causa*)
at the 34th Convocation of
Tamil Nadu Agricultural University
December 26, 2013

His Excellency, The Governor of Tamil Nadu and Chancellor, Tamil Nadu Agricultural University, Honourable Minister for Agriculture, Government of Tamil Nadu and Pro-Chancellor of the University, Agriculture Commissioner, Ministry of Agriculture, Department of Agriculture and Cooperation, Government of India, New Delhi, the Vice-Chancellor, Members of Board of Management and the Academic Council, distinguished guests, my erstwhile colleagues and students in the University, media representatives, other dignitaries, ladies and gentlemen.

It is indeed a distinct honour that has been conferred on me by my *alma mater* through this honorary degree of Doctor of Science. Let me thank the Chancellor, Pro-Chancellor, Vice-Chancellor and academics for this generous gesture. If Tamil Nadu is in the forefront in Agriculture in our country, the contribution by our Agricultural Scientists is substantial. Since 1971, Scientists at TNAU have been rolling out several new crop varieties and management tools in continuous succession. The

overall benefits for the Agriculturists through these innovations are immeasurable. It is a 'hidden fact' that the prosperity of Tamil Nadu farmers was achieved partly by our Scientists' contribution, coupled with the efforts of our Agricultural Extension staff.

In Rice alone, varieties developed by TRRI, Aduthurai, RRS, Ambasamudram, Coimbatore and Madurai have brought in several hundred crores economic benefit to the farmers and have appreciably improved their economic and social status. Other crops have not lagged behind in enhancing productivity and quality. TKM 6 rice is the towering example of its International contribution in rice breeding. Today, genetic analysis of most of the IRRI varieties starting from IR 20 would reveal the presence of TKM 6 genes! While I was researching at IRRI, I recall the IRRI Scientists enquiring me about Tirur Rice Research Station and its activities.

While the contributions are commendable, no institution can be complacent by its past glory. We have to '*Keep running to stand where we are*'. In this exercise, a critical appraisal of our current programme and re-orienting the research agenda to the present day's expectations and need is essential. It is a continuous exercise without which, no institution can grow to National and International standards and fulfill the needs of present and future generation of Agriculturists, as well.

In the present scenario, a critical appraisal on our innovations and acceptability by farmers is very much imperative. Often times, there exists a disconnection between the scientists' perception and the reality as experienced by practicing farmers. While Agriculture is at a cross roads due to varied reasons, besides assisting the farmers to achieve high productivity in existing crops, introduction of new, high value crops is imperative to supplement and enhance their income. In this regard, introduction of Olive in N.Gujarat and Rajastan, Cluster beans (for Guar gum) in Rajastan, U,P. and M.P. special Grape varieties for wine making in Nasik, Maharashtra, Pomegranate in Maharashtra are a few examples worth emulation by our scientists.

Further, our Inter-disciplinary research has to go a long way to achieve our desired goal. Converging the Technologies to ensure a sharp focus into our objective is the real need of the hour. Short term weather forecasting for the succeeding crop season and alternate Crop Models, coupled with advance mobilization of resources and a smart delivery system using Nano products (pesticides and nutrients), combined with introduction of standardized 'Unmanned Aerial System (UAS) – (e.g., 'Dhaksha' – MIT, Chennai) are a few areas that would interest our scientists.

Over the years, our system has invariably adopted a 'carry forward' tradition of research, with little fine tuning every now and then. It is time now for us to encourage creativity and innovativeness among young scientists to pave way for an 'Out-of-the-Box' thinking.

Recent global developments like 'Kranz Anatomy' in transferring the 'Scarecrow' gene to engineer C3 plants and change them to be the more efficient C4 plants (Cornell Univ.), incorporating 'N'fixing bacteria in Sugarcane (Nottingham Univ.) and the development of second generation hybrids with sustainable higher yields are a few fascinating innovations. Though such investigations are in the preliminary stages, they evidently indicate scope to tread the areas of research untouched till now. Drawing strength from such efforts, it is essential to encourage a core group of enterprising scientists to pursue new, hitherto not thought-of research areas.

Our scientists, by and large, have seldom time or accessibility to global research endeavours. It would be rewarding that a 'Technology Sourcing Team' continuously monitor the new approaches and innovations around the world and communicate to the appropriate research team to strengthen their research pursuit.

Challenges and opportunities ever exist in all fields and Agriculture is not an exception. Let us turn challenges into opportunities and dare to think beyond to meet the future needs.

I dedicate this honour to my colleagues and students, whose collective contributions along with my own have made this distinction possible.

Thank you for your kind attention.



Tamil Nadu Agricultural University

Coimbatore