



## **SEVENTH CONVOCATION**

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### **PRESIDENTIAL ADDRESS**

***Dr. S. Ayyappan***

Director General ICAR and Secretary DARE

Hon'ble Union Minister of Agriculture & Consumer Affairs, Food and Public Distribution, Shri Sharad Pawar ji; Dr. K.M.L. Pathak, Deputy Director General (Animal Sciences) ICAR; Dr. M.C. Sharma, Director, IVRI; Dr. R.P. Singh, Director, CARI; Dr. Dharmeswar Das, Dean; Members of the Board of Management and Academic Council; Joint Directors; faculty members; honored guests; district officials; recipients of degrees and medals; students; parents; members of press and electronic media; ladies and gentlemen !

It is indeed a momentous occasion that we have the Hon'ble Union Minister of Agriculture & President ICAR, Shri

Sharad Pawar Ji, who despite his demanding schedule, has benevolently accepted our invitation to bless our passing - out students. For me, it is a pleasure and privilege to attend this solemn occasion.

First of all, I heartily congratulate all the degree recipients for their hard earned degrees and honours. I also congratulate the faculty members of IVRI for their relentless efforts in ensuring quality veterinary education and training to the students. It is quite stimulating to be here at this campus with its changed and refreshing look. I am deeply impressed by the world class infrastructure, learning ambience and the high traditions of research & development, PG education and technology transfer activities.

Founded in 1889, IVRI is the oldest among the institutes governed by ICAR with a glorious history behind it in serving the cause of livestock revolution in the country. Although, veterinary education and training to field veterinarians, civil and defense personnel started at this institute as early as 1900, regular post-graduate degree programmes were initiated since 1958. In view of par excellence in education and research, the institute was accorded the status of Deemed University by UGC in 1983. Subsequently, it was granted accreditation by the ICAR

Accreditation Board in 2004. It is gratifying to mention that this premier veterinary research institute received approbation from the High Power Review Committee of UGC led by the former Secretary DARE & DG, ICAR, Dr. Panjab Singh on their visit to assess the functioning of the Deemed University of IVRI in January, 2010.

I thank the Director and his colleagues for having given me this opportunity to address you and to share some of my thoughts on this occasion.

Agriculture is the mainstay of the Indian economy, as agriculture and allied sectors are important contributors to the gross domestic production. No wonder, the Indian agriculture is today recognized as one of the largest agrarian economies of the world. It accounted for 15.7 per cent of the GDP as per the economic survey report in 2008-09, contributed approximately 10.2 per cent of total exports.

Livestock production is a livelihood activity for more than 65 per cent of the rural population. Animal Husbandry, Dairying and Fisheries sectors play an important role in the national economy and in the socio-economic development of the country. These sectors also play a significant role in supplementing family incomes and generating gainful employment in the rural sector,

particularly, among the landless labourers, small and marginal farmers and women, besides providing cheap nutritional food to millions of people. Livestock are the best insurance against the vagaries of nature like drought, famine and other natural calamities.

The livestock and fisheries sector contributed over 4.07 per cent of the total GDP during 2008-09 and about 26.84 per cent value of output from total agriculture and allied activities. The Eleventh Five Year Plan envisages an overall growth of 6-7 per cent per annum for the sector. In 2008-09, this sector contributed 108.5 million tonnes of milk, 55.6 billion eggs, 42.7 million kg wool and 3.8 million tonnes of meat.

With a large human population and about 300 million economically empowered potential consumers, the domestic demand for these animal based food products are increasing rapidly, often exceeding the supply. Commercial aspects of livestock production are gaining interest due to changes in land utilization pattern, agriculture and socio-economic conditions.

An important goal before the nation is working towards the vision of transforming India into a developed nation by 2020. This calls adoption of new technologies for creation of capacities for nation building and enabling environment. We

need to harvest all possible resources, human, infrastructural and financial for realizing the above vision. India today is perceived as a country of youth with immense and competent human resources and as a major hub for quality and knowledge based assets. You are fortunate to be in the midst of the most exciting times of our country's economic progress.

I foresee a pivotal role of IVRI in facing successfully the challenges ahead. You will have to address the national goals by way of improving the productivity, profitability, stability and sustainability of the major livestock farming systems in the present day scenario of global competitiveness. The major role of veterinary scientists continues to be in the prevention, control and eradication of diseases to help maximize animal production and safeguarding human health from those diseases transmitted by animals and their products. The other important role of this institute is to promote integrated programmes of genetic improvement, health care, nutrition, processing and marketing, to enable the landless labour and marginal farmers to derive more income.

The control of major diseases of economic importance in endemic situations like India needs good quality vaccines at an affordable cost. There is a need to keep pace with the contemporary developments in the technology improvements of

the conventional vaccines to make them more useful and also continue the R&D effort for development and application of newer generation vaccines in the long-term. Research on vaccine quality control issues is a priority, with the improvements in the technology and increased demand for many vaccines for use in the national control programmes. Research on finding alternative methods of animal experimentation, developing standards, etc needs more attention. Development of multivalent vaccines has advantages as this would reduce the number of inoculations to animals, reduce the handling cost and avoid animal suffering.

Launching of systematic disease control and eradication programmes for OIE listed diseases along with effective disease surveillance on the lines of rinderpest eradication programme, and strict enforcement of Sanitary Phytosanitary conditions in processing the livestock products are critical in promoting the international acceptance and export.

In addition to the in-house R & D activities, IVRI has yet another important role to play as the Central Drugs Laboratory for Veterinary Medicine under the provisions of the Drugs & Cosmetics Act, 1940. This obligates the institute to act as a statutory nodal agency to regulate the quality testing of veterinary vaccines and diagnostics manufactured in the country or imported

from other countries. Another notable service rendered by the institute relates to the maintenance of rich repository of field and challenge strains of microorganisms and other pathogens and supply of standard vaccine cultures to all manufacturers and other institutions engaged in R & D.

I am glad to know that IVRI has developed excellence in several frontier areas in veterinary and animal sciences in terms of specialized laboratories, human resource, technology generation and dissemination. The developing countries view the Indian National Agricultural Research System as a role model for strengthening their agriculture and I see a big role for IVRI to play in this direction.

The growing concern on the widening of gap between demand and supply of quality feeds like concentrates, and to a certain extent green forages as the livestock production systems in India are slowly but surely undergoing a transformation with greater emphasis on propagating dairy animals with higher production potential. Focused strategies and concerted efforts are needed to face this challenge. Modification and fortification of conventional feeds should continue for improved nutrition, better digestibility and voluntary feed intake, which in turn, would result in better health, enhanced productivity and reproductive

efficiency.

The role of animal nutrition for health and production has an important place for sustainable livestock production systems. Feed accounts for 60-70 per cent of total input in livestock and poultry. With endemic shortage of animal feeds, research should explore technologies to augment feed resources, including genetic modification of microorganisms to utilize high lignin forage grasses. Our focus has been to improve availability of nutrients and reduce cost of feed and other inputs. Many non-conventional feeds have been developed to feed the livestock. With emphasis on rising per animal productivity for milk and meat, traditional animal feeds are to be supplemented with critical deficient nutrients like proteins, energy and minerals through quality feeds.

In livestock, there is an urgent need to reorient research and assess the genetic potential of indigenous breeds. Intensive research work needs to be undertaken for genetic identification of traits of excellence in Indian breeds, such as Jaffarabadi buffalo, Black Bengal goat, Garole sheep, etc., and identify the functional genomics associated with their traits of excellence.

I am happy to learn about the outcome of concerted efforts in development of high yielding synthetic milch breed of cattle named as *Vrindavani*, which produces 3,000 kg milk in 305 days

of lactation with 4-4.5% fat, 8-9% SNF and 12-13 % total solids.

With large quantities of animal products now being produced, research on process technologies, value addition, packaging, storage, transportation and marketing should receive high priority. In the absence of a proper slaughter regime, there is considerable wastage and an effective package of practices for management of slaughterage needs to be evolved. Prevention of animal losses due to diseases should be the major area of focus with emphasis on development of diagnostic kits and vaccines.

Within meat and meat products, we are very competitive in buffalo meat and reasonably so in mutton. To make the livestock products internationally competitive, domestic processing efficiency has to be improved substantially along with technological and marketing interventions in production, processing and distribution of livestock products. Technology supported and demands driven livestock revolution will be the future engine for growth that ensures nutritional security, livelihood of rural poor and women empowerment.

Food safety is now universally recognized as a public health priority. It requires a global approach, from production to consumption, which is so aptly conveyed by the expressions

'from the stable to the table' and 'from the field to the plate'. As far as products of animal origin are concerned, this inevitably means controlling the health status of the animals from which these food products are derived

I also like to further reiterate that our facilities for sanitary, phyto-sanitary and zoo - sanitary measures are inadequate. India's consignments of farm exports are rejected every year on grounds of mycotoxins, salmonella, pesticide residues, etc. The situation is likely to worsen in future as health standards presented by Codex Alimentarius are getting increasingly stringent and the world standards are constantly revised. Now the world market is quality conscious. Our success in increasing exports of livestock products depend on making the food animals free from diseases to meet the sanitary and phyto-sanitary (SPS) requirements.

Therefore, we must not lose any further time in rendering India biosecure, launching a quality both from within and outside and in food safety, biosecurity literacy movement in villages and above. At the same time, our biosecurity infrastructure should be strengthened. Increasing concern worldwide for the environment and for the preservation of biodiversity is creating new areas for veterinary involvement particularly in wildlife and endangered

species management.

Controlling the safety of food of animal origin at the primary production stage involves all those measures necessary to prevent the contaminants from entering animal products, or, if they do, that their levels do not exceed the maximum permissible limits. Hence, there is a need to train the primary producers i.e. the farmers and breeders and to evolve guidelines to protect animals from contamination. In order to achieve desired level of food safety, the IVRI may take a lead role to supplement the 'Food Safety and Traceability' scheme of the Govt. of India.

The implications of climate change on agriculture including animal husbandry and *vice versa* need to be studied and dedicated research programmes should be initiated to combat global warming. I learn with pleasure that the institute has already initiated research on mitigation of methane emission in dairy cattle by rumen microbial manipulation and for better productivity in joint collaboration with Australia. The changing climate has become an important research subject in agriculture and all allied sectors today, and we look forward for a concerted action for meaningful interventions to minimize the impending impact of the global warming phenomenon.

A major research thrust is warranted in areas of various

biotic and abiotic stresses for improvement in production, productivity, and quality of produce of our agri-horticulture, fishery and livestock assets.

Organic production of agricultural commodities including livestock products is yet another area that has great relevance to our economy, quality of life and environment. Besides ensuring wholesome food to domestic consumers, this has a great potential to earn foreign exchange. We have to catch up with the fast emerging reality to reap the benefits offered by such production systems.

Survey and evaluation of genetic resources and safe conservation of both indigenous and exogenously introduced genetic variability in animals and their wild relatives needs particular attention. Conservation of bio-resources through their *ex situ* preservation in Gene Banks, as also *in situ* conservation in their natural habitats through bio-diversity parks, etc., must get high priority to prevent their extinction. Specific measures are also needed to be taken to conserve indigenous breeds facing extinction. A time bound programme to list, catalogue and classify country's vast agro bio-diversity is required.

Yet another area where I see IVRI can make huge impact is developing designer courses and crash bench programmes

in the frontier areas of biotechnology and applied areas of disease diagnosis, surveillance, vaccine production, nutritional management, etc. at national and international level. The institute has already created an enduring school for human resource development in this direction. As rightly asserted by our former President of India, Dr. A.P.J. Abdul Kalam while addressing students and farm experts at a function at the G.B. Pant University of Agriculture and Technology in Pantnagar, three convergent technologies hold the key to success for national agricultural development. According to him, the blue print for making India a developed country by 2020 lies in our efforts with the convergence of three modern technologies i.e. information communication technology, biotechnology and nanotechnology. To meet the challenges ahead, the agricultural human resources would need skills, which necessitate reorientation of agricultural education. In the present era of specialization and development in modern science, it is necessary that we restructure our agricultural education in a manner that the graduates coming out are not only able to meet the challenges of the millennium. The professional training and skills thus acquired can be used as effective instruments to propel Indian agriculture with determination and commitment, so that we soon become a developed nation. We need to evolve agricultural education

system that is harmonized with job markets and also meets the changing needs of livestock sector.

I am also happy to see the lead taken by the institute in IPR and technology management portfolio. As many as 6 technologies have been commercialized and 3 patents have been granted, while as many as forty patent applications have been filed including 2 PCT applications. I understand that many more are in the process of laboratory and field validation.

In addition to IPR and technology management, research partnership between the public and private sector is also essential to achieve faster progress and dissemination of technology to the end-users, thus, there is a need to know as to how best to link these two sectors to have their activities complemented in “Public Private Partnership” mode for better research and development. I am sure the institute will make use of these new opportunities to give a new direction to their R&D and other service sector activities in a big way.

Public private partnerships will play an increasing role in the advancement of agricultural research under the IPR regime. The transfer of IPR enabled agricultural technologies through commercial route will gain greater importance in the future. In response to the changing scenario of technology generation and

dissemination, ICAR has recently taken a number of initiatives in terms of increasing IP literacy, IP culture among our cadres and to nurture new innovative ideas into business ventures. The technology incubation facilities and support institutional mechanism is put in place through NAIP under Zonal Technology Management-Business Planning and Development Unit. The IVRI with its credible performance in these endeavours has been identified as one of the five lead ZTM- BPD centres of ICAR and we are looking forward to see the inspired role of this oldest research institution in the ICAR system.

The role of agricultural research and development has become critical today. The focus of Indian agriculture has to be shifted from input-based to knowledge based growth. In this paradigm shift, the dissemination of knowledge plays a critical role. Participation and empowerment of the stakeholders are the basic necessities for ensuring this success. There is a need of support of both basic and strategic research. The lessons learnt from National Agricultural Technology Project, which was aimed to implement the shared understanding of the Government of India and the World Bank on technology-led-proper growth has in fact greatly facilitated the public sector reform process for accelerating the flow of agricultural technologies. This has also provided a useful framework to move forward in the development

process to fulfill the Govt. of India's objectives as expressed in the National Policy on Agriculture in the form of a new initiative the National Agricultural Innovation Project. We have great expectations from these projects and I am particularly happy to learn that IVRI has a major share and contribution to as many as 12 projects as the consortium leader and 7 more as consortia partner.

My best complements once again to all the students who have received degrees and awards today. May all your dreams be realized on the basis of your hard work and the capabilities you have acquired in this institute. I also do hope that you would maintain in you a spirit of trusteeship, and while you rise higher, you would contribute in whatever you can, to your roots, the society and the country where you grew up and the institutions that prepared you to rise higher.

May the Almighty always be with you in your journey of success.

**JAI HIND**