

# ADDRESS BY THE PRESIDENT OF INDIA, SHRI PRANAB MUKHERJEE AT THE TWENTY NINTH CONVOCATION OF THE G.B. PANT UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

Pantnagar, Uttarakhand: November 17, 2015

1. I am happy to be here for the twenty-ninth convocation of Govind Ballabh Pant University of Agriculture and Technology. At the outset, let me congratulate all the students who have received degrees and have been awarded with medals today. Your education has made you capable of entering a field which is at the heart of our country's socio-economy. I am confident you will deliver with sincerity, industry and dedication.
2. Seventeenth November also marks the Foundation Day of this reputed university. I compliment all of you present here on this historic occasion. This institution, set up in 1960, is the first agricultural university to be established in India on the land-grant pattern of agricultural universities in the US. I would like to pay my homage to Pandit Gobind Ballabh Pant for his vision of creating a world-class university for agricultural studies and research.

Ladies and Gentlemen:

3. When Prime Minister Pandit Jawaharlal Nehru dedicated this institution to the nation 55 years ago, the whole of India looked up to this new venture with expectation. I am glad to say that this university has upheld that trust. Recognized as the birthplace of the Green Revolution, this University for over five decades has spearheaded agricultural education by introducing relevant and much-needed educational reforms. It has made substantial contributions in the area of agricultural research and technology development. Be it in the development of quality seeds or producing proficient graduates, the performance of this University has been outstanding.
4. Its initiative of establishing the Tarai Seed Development Corporation - a success story in public-private partnership – helped convert the *Tarai* region into a 'seed hub'. This illustrious institution has aligned itself fully with the interests and aspirations of the farming community. Its farmer-friendly approach in extension and its dynamic teaching and research programmes have won this institute and its scientists many laurels, including the prestigious Sardar Patel ICAR Outstanding Institution Award

twice. The unique feature of this University is the full integration of the students, the teachers and the experimental farms, which has led to remarkable results. I hope the leadership provided by the Vice Chancellor, Dr. Mangala Rai, a renowned agricultural scientist, will take this Institution to further heights.

Friends and dear students:

5. Agriculture is the mainstay of our economy. More than 50 percent of our population relies on this sector for earning a livelihood. Its healthy growth determines the country's food security. Agriculture has always received top priority in our policy formulation because early in our planning process, we recognized that we ourselves have to feed our growing population which today stands at 1.28 billion. Pandit Nehru had once observed and I quote: *"everything else can wait but not agriculture"* (unquote). It was true then, it is true now.
6. Steps taken by the Government in the Sixties - R&D programmes, procurement and adoption of high yielding seed varieties and improved agricultural practices – resulted in rapid expansion of food production. The green revolution arrived ending the era of food imports. India is today a leading producer of rice and wheat and one of the largest exporters of these food items. The achievements would have been difficult without the support of our agricultural institutions of higher learning, and the sweat and toil of our agricultural scientists and farmers.

Ladies and Gentlemen:

7. We surmounted the challenge to food security then. But what about now, when we are confronted with decreasing land availability for agriculture coupled with a rising population? When deterioration in soil health and water quality is reducing agriculture productivity and input use efficiency?
8. We must work hard to preserve our natural resources to continuously receive four vital services, which are:
  - (i) Provisioning services such as food and fresh water;
  - (ii) Regulating services such as climate and pest regulation;
  - (iii) Cultural services such as educational and eco-tourism; and
  - (iv) Supporting services such as soil formation and nutrient cycling
9. The injudicious exploitation has already put the earth system at risk by leading to climate change and bio-diversity loss. We need new approaches to manage these risks. The climate is changing and is bound to change, but should it change so fast? What would be the increased water, energy and

nutrient requirements? What strategy for mitigation and adaptation would be needed when more and more will have to be produced with less and less?

Friends:

10. The demand for rice in the world in 2030 would be 50 percent more as compared to 2004. And, it has to be produced with 30 percent less arable land as of today. The scenario in our country is similar. In this context, boosting yields, reducing harvest and post-harvest losses, and ensuring availability and access would be the key challenges.
11. One hundred forty million hectares of land is available for agriculture in our country. Yet, biotic and abiotic pressures have created adverse production conditions. About 120 million hectares of land is at various stages of degradation. Imbalanced application of fertilizers, mostly nitrogenous, has worsened crop productivity and also depreciated soil health. Adoption of more sustainable land use systems and soil management practices has become essential. Agriculture must return to its roots by rediscovering the importance of healthy soil, drawing on natural sources of plant nutrition and using fertilizers judiciously and effectively. It also calls for greater investment in technology development and its on-farm adoption, deepening of markets and remunerative prices to farmers.
12. Despite the advancements made in the last few decades, the agriculture sector in India is yet to be completely weather-resistant. After a record food grains production of 265 million tonne in 2013-14, a year of normal monsoon, the production level came down to 253 million tonne in 2014-15, when a 12 percent rainfall deficit was registered.
13. Time is ripe for new measures for sustainable intensification of agriculture. These include irrigation and continuous seed and breed improvement. 70 percent of the total water available is at present used in agriculture. This is likely to decline in the future due to other pressing demands. Also, quality of surface and ground water used for irrigation has gone down over time. Research is needed to ascertain the dynamics of toxic elements in the soil-crop system and to develop appropriate mechanisms for bio-remediation for safe use of water. Steps to enhance water harvesting, water-use efficiency and conjunctive use of water are absolutely necessary. These would result in net increase in irrigation potential. Our policies must address water productivity in totality.
14. On-farm burning of crop residues has intensified in recent years due to the use of combines for harvesting and the high cost of labour in removing crop residues by conventional methods. Baling of residue after a harvest must

form an integral part of combine harvesting. Use of crop residues as soil organic amendment in agriculture system is a good option. It will, therefore, be beneficial to develop geo-referenced residues inventory in major crop production systems across the country.

15. Insects, pests and diseases significantly reduce the quality and quantum of agricultural produce. Weather-dependent insects, pests and diseases can be modeled and integrated in a sensor-based support system to provide vital, cost-effective and timely information to farmers for taking on-farm decisions.

Friends:

16. The dimensions of food security are many. The level of nutrition in food produce is an important determinant of food sufficiency in the population. In the Global Hunger Index 2015, which combines the three indicators of under-nourishment, child under-weight and child mortality, India is ranked 80<sup>th</sup> out of 104 countries. This is totally unacceptable. We have to improve the nutritional status of our population in a time-bound manner.
17. The microbial world is the largest unexplored reservoir of bio-diversity on earth. The development of sustainable food value chains through selection, diversifying diets, and leveraging relationships to improve household nutrition practices can offer important pathways for millions of poor households in the country. The forgotten nutrient-rich millets are potential researchable crops that meet both market and nutritional objectives. Research and plantation of bio-fortified plants and trees is yet another promising area for future development.
18. Agricultural institutions of learning must focus on growth and quality improvement. Institutional tie-ups must be pursued to leverage expertise. Partnerships with other agricultural institutions must be taken up for joint research. Linkages with technical institutes must be established for improving agricultural practices using IT solutions. Collaborations with the agro-industrial sector must be forged for student internship, sensitization workshops, accessing facilities for business incubators, and networking for potential entrepreneurs.

Ladies and Gentlemen:

19. This celebrated Institution has produced many outstanding scientists and practitioners of the art and science of agriculture. You would do well to nurture the connection with alumni through structured modes of interaction. The alumni can be engaged to provide guidance in research and education, mentor students through internships, and raise resources for development.

20. This University has earned its reputation through years of hard work. It has the potential to be amongst the front-ranking institutions in the world. If due attention is paid to the ranking process, I am confident it will appear amongst the top 200 universities in the world in the next couple of years.

Friends:

21. Agriculture is the root of emergence, development and persistence of human civilization. Agricultural universities must become the focal points of agricultural growth and change. I wish this university success in great tasks that lie ahead in years to come. To the scientists of this university, I give my best wishes for further success in their endeavour to develop techniques for the production of more food from less and less land. To the graduates of this year, I would say that you are indeed a privileged lot who have had the opportunity of obtaining your training at the Govind Ballabh Pant University of Agriculture and Technology. I am sure you are aware of your responsibilities as you step out of the portals of this university. Equipped as you are with scientific knowledge and skills, I am sure that you would make significant contributions to eradicate hunger from our soil. I shall watch your progress with great interest. I wish you all happiness and a sense of fulfilment in life.

Thank you.

Jai Hind.

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