SPEECH BY THE PRESIDENT OF INDIA, SHRI PRANAB MUKHERJEE ON THE OCCASION OF INAUGURATION OF THE FIFTH TECHNICAL WORKSHOP OF THE BORLAUG GLOBAL RUST INITIATIVE (BGRI)

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1. It is my pleasure to be here this evening to inaugurate the fifth Technical Workshop of the Borlaug Global Rust Initiative (BGRI), an important international partnership of wheat scientists. I, on behalf of this country, its agricultural scientists, farmers and people, extend a warm welcome to all of you.

2. A country's development depends on the productivity of its people. Progress is possible only if the health of its population is secured. There are many regions in the world where food deprivation persists. Steps are required to secure for the poor and the needy greater access to food. Many nations are tied to the imperative of bringing greater inclusivity in their growth process. The inter-dependent objectives of poverty alleviation, mitigation of food inadequacy, creation of rural employment and growth in rural incomes can be achieved by substantial expansion in food production. In national policy making, food production deserves very high priority.

3. Ladies and Gentlemen: BGRI was launched in 2005 by Dr. Norman Borlaug, who is recognized the world over as the father of the Green Revolution. His pioneering work in the mid-twentieth century in developing semi-dwarf, high-yield and disease-resistant wheat varieties has saved millions of people from hunger and deprivation in many countries.

4. Rusts in wheat have always posed a challenge to sustainable production of this crop. In 1998, a new form of stem rust was identified in Uganda that could overcome the resistance gene developed by Dr. Borlaug and others fifty years back. Ninety per cent of wheat varieties became susceptible to this rust. Dr. Borlaug called for greater investment in agricultural research as well as coordinated efforts of research partners. BGRI was born out of this urge to fight the new threat. This 'Initiative' is commendable – in its devotion to contain the threat of wheat rusts and mitigate the vulnerability of wheat farms across the world.

5. BGRI is an influential body, successful in bringing together agricultural scientists, pathologists and wheat breeders from around the globe in one platform to develop greater understanding of this hazard. I thank BGRI and also compliment the Indian Council of Agricultural Research (ICAR) for bringing this significant 'Initiative' this year to India, a nation with historic linkage to agriculture.

6. Ladies and Gentlemen: Wheat is the third most cultivated crop and the most consumed cereal in the world. In India, it is the staple diet in the northern and central regions. Wheat cultivation dates back to the Indus Valley Civilization. Recent studies indicate that it may have taken place in the past even in the peninsular regions of present day Karnataka and Andhra Pradesh. Modern wheat breeding in India began in the first decade of the twentieth century at the then Imperial Agricultural Research Institute in Pusa. In 1947, the year India became a free nation, it produced 7 million tonne of wheat. The agriculture system was underdeveloped. Food grains production was not enough to feed every citizen of this country. Through the fifties

and early sixties, to meet the nutritional requirements of our population, we depended on imports to supplement our agricultural yield. Severe drought in the mid sixties affected agricultural productivity. At the same time, it strengthened our resolve to become self-sufficient in food grains production.

7. Agricultural education and research in India was given a firm footing immediately after Independence. In 1949, my distinguished antecessor, Dr. S. Radhakrishnan, who would become the second President of this country, headed the first Education Commission of India. The commission recommended the setting up of rural universities on the American land-grant model. To promote agricultural education in this country, agricultural universities were established through collaboration with several American universities. In November 1960, the first state agricultural university, the G.B. Pant University of Agriculture and Technology, Pantnagar, was established. A strong foundation for agricultural research was laid and it has played a pivotal role in the agricultural development of India.

8. Ladies and Gentlemen: In 1961, semi dwarf varieties of wheat with a high yield potential were identified in the International Wheat Rust Nursery at the Indian Agricultural Research Institute (IARI), Pusa. The source of this strain was traced to the Cooperative Wheat Research Production Program, a joint effort of the Rockefeller Foundation and the Mexican Ministry of Agriculture, headed by Dr. Norman Borlaug. At the behest of Dr. M.S. Swaminathan, then a member of IARI's wheat program, Dr. Borlaug came to India in March 1963. The seeds planted resulted in yields higher than any

harvested in South Asia until then. Dr. Borlaug's visit also set the stage for the subsequent introduction of high yielding wheat varieties developed by our agricultural universities. The untiring efforts of scientists and researchers at the various institutes of ICAR, including the Directorate of Wheat Research, and state agricultural universities have provided farmers with new wheat varieties and technical know-how to increase the yield of their crop.

9. The context in which we speak of agriculture in India today is very different. From being a net importer, we have become a nation self-sufficient in food grains. India is now the second largest wheat producer in the world. It is also the second biggest wheat exporter. In 2012-13, we have produced 92.5 million tonne of wheat, after setting a record of 94.9 million tonne the previous year. From 0.8 tonne per hectare in 1947, we now produce wheat at the rate of 3 tonne per hectare. The quantum leap in productivity is a measure of success of our food grain production programme. Dr. Borlaug, along with the Indian scientific community most notably Dr. Swaminathan, were the driving force behind this spectacular achievement.

10. Ladies and Gentlemen: Dr. Borlaug’s intervention helped improve food security in the South Asian region. This region today is the largest contiguous wheat growing region in the world. Dr. Borlaug, for developing high yielding wheat varieties and for his fight against stem rust, earned the Nobel Peace Prize in 1970. In his Acceptance Speech, he said and I quote a few lines: “*It is true that the tide of the battle against hunger has changed for the better during the past three years. But tides have a way of flowing and then ebbing again. We may be at high tide now, but ebb tide could soon set in if we*

become complacent and relax our efforts" (unquote). Knowing that the fight against hunger was perpetual, he refused to rest on his laurels. He continued in his role as teacher, researcher and activist and worked tirelessly to find ways to improve crop yields and ensure food security.

11. That research on wheat continues unabated in India is a legacy of Dr. Borlaug. Since 1965, four hundred three wheat varieties have been developed and released for commercial cultivation in the six wheat growing zones of the country. These varieties have been released after stringent evaluation for yield, nutritional content and disease resistance.

12. In our agricultural strategy, we have placed great emphasis on productivity-inducing measures such as adoption of high yielding hybrid seeds; diversification of crops; improvement in seed replacement rate and improvement in water management practices. Balanced use of fertilizers and pesticides should also be propagated amongst the farming community as their disproportionate use could eventually lead to a decline in productivity. In many regions of the world, agriculture is still in the grip of weather. Prevention of crop failure calls for greater use of communication technology for weather forecasting and information technology for its effective dissemination to the farmers. To manage the risk of crop failure due to natural calamities, pests and diseases, mechanisms such as agricultural insurance must be strengthened.

13. Ladies and Gentlemen: I am happy to note that to mitigate the threat of wheat rust, the Directorate of Wheat Research and various state

agricultural universities and institutes in India today work closely with BGRI. The Initiative's 'Durable Rust Resistance in Wheat' project is a collaborative effort by 22 research institutes around the world. Scientists in India and other countries in South Asia are working round the clock in a coordinated effort to monitor the spread of wheat rust and develop varieties that are resistant to this threat.

14. Mitigation of hunger is a universal fight calling for the cooperation of all nations. Whenever there has been a challenge to food security in the world, the scientific community with its boundless ingenuity, has been at the forefront of human response. I am confident that BGRI will be able to pool the efforts of all its partners productively and overcome the threat to wheat production caused by disease.

15. Marking the fiftieth anniversary of Dr. Borlaug's first visit to India, it is only befitting that over the next few days India is hosting the largest gathering of wheat pathologists, breeders and researchers to discuss technologies and strategies to ensure the safety of wheat cropping. Today, it is with great pride that I declare the commencement of the fifth International Technical Workshop of BGRI. I am confident of meaningful answers emanating from the deliberations. I wish BGRI and ICAR all success in conducting this Workshop.

Thank you.

Jai Hind.