

Acceptance Speech for the Award for Outstanding
Achievement in Agriculture presented
Dr. Norman E. Borlaug by the World
Farm Foundation. December 9, 1971.

R. G. Anderson

Senator Dills, Honoured Guests, Ladies and Gentlemen

I wish tonight to convey to you all the sincere regrets expressed to me by Dr. Borlaug for his inability to be here with you. His commitments during the past year have been truly been legion but he has attempted to meet these in his usual smiling way. He has asked me to ~~represent~~ tender his apologies to you and to explain that he had made previous commitments to Government officials of Brazil and Argentina some months ago to advise and assist them with their planning for increased wheat production campaigns. I am sure you will agree with me that his preoccupation with the alleviating of food shortages to which he is dedicated compelled him to assist these nations when requested.

Dr. Borlaug is acutely conscious of the signal honour you give him tonight both in the Award to him for Outstanding Achievement in Agriculture and the use of his name for the award in perpetuity. Dr. Borlaug is a very humble man with whom it has been my great good fortune to be closely associated in the past few years. He ceases to be humble when it comes to the question of fighting for the underprivileged, farmers and children of the less fortunate. This is a mark of the greatness of the man.

I accept this award in his name and thank you on his behalf for the great honour you have bestowed upon him. I am sure that your faith in him will continue to grow as he leads the fight for social justice and adequate food for all men.

What changes have come about in the Indian scene as a result of agricultural change?

The financial improvement of the farmer has had a direct effect on agro-industries including fertilizer production machinery production, sale of pumping equipment and other items used for his increased production. In 1967, tractor production in India had built up a large inventory of machines, and sales were very low. By the fall of 1968 this inventory had been liquidated and as new machines left the assembly line they were being moved directly to ^{the farm to} satisfy orders. By the next year the waiting list exceeded annual production and last year a large import of tractors was allowed in spite of ^a marked increase in manufacturing capacity. The larger yields resulted in a very strong need to mechanize threshing to replace the traditional threshing by driving bullocks over the grain. Tens of thousands of these have been produced in small workshops in Punjab and Uttar Pradesh. This has the two-fold effect of increasing the quality of the grain and freedom from dirt accompanying the old method and saves the bullocks for preparing the land for the next season's crop, thus allowing for two and three crops, sometimes even four in one year where irrigation is available. Consumer industries have participated. Bicycle sales, sewing machine sales, transistor radio sales and ^{sale of} other consumables have risen sharply. Better housing is evident in many villages. All of these have provided a better life and in the case of radios provided ever better communication of new techniques to the farmers.

Tremendous expansion in the exploitation of ground water potential in the Plains area, has occurred. Several hundred thousand new wells have been put down. Each of these removes its command area

from the vagaries of the weather since a water supply is assured in a year of drought. For the first time many villagers have a fresh water supply to replace the village pond which served as a combination buffalo, washing pit, clothes washing medium, latrine and drinking source. The advantages to health are obvious.

Critics of agricultural change, contend that the change has brought tremendous second and third generation problems. I agree. However, unless the first generation problem was tackled and solved these would never arise and the people would starve. Can the second generation problems be blamed on those working to produce more food? We maintain that it has brought a new hope to the people where despair ruled before. They are more capable of taking effective action in the new environment. As I said earlier we are not able to assess the effect of the change in wheat, rice and maize on other crops, but the farmer is now fertilizer conscious and is spreading its use to other crop production. For example a farmer plants his wheat among the trees of his orchard. He finds mangoes grow better. He is now regularly fertilizing his orchards. Fertilizer consumption rose from 58,000 tonnes in 1951 to 1.5 million tonnes in 1970 with about $\frac{1}{2}$ produced in India.

Critics say that it has made the rich richer and the poor poorer. This is patently not true in India where economic surveys have shown the benefits extending to all classes. We must be clear on what is a large farmer. In India it is someone with over 50 acres Modest by North American standards. It is true that these "large" farmers were the first to adapt to new technology, just as in other countries, because he was the only one with sufficient capital to take the risk. The spread, however, was rapid. It is true also

that certain areas of the country such as Punjab in India moved earliest, but the change has eddied out from this area to all irrigated areas of the country. West Bengal which traditionally grew only 100,000 acres last year had expanded this to nearly one million on land formerly left unproductive during the winter season. There is ^{still} a greater differential between the irrigated and dry land farmer. We are trying to alleviate this through ^{the use of} better agronomic techniques and improved varieties for these conditions. Such programs are well-advanced in North Africa.

Studies conducted in Punjab have shown that the new levels of production have increased farm labour income and mechanization has actually increased demand for labour rather than decrease it.

Another common complaint is that the new varieties require more fertilizer and water, and are less resistant to disease than the old varieties. Yes, they do require more fertilizer and water. If new high yields are to be harvested the plants must be fed. That the varieties are less resistant is absolutely untrue. In India they were the first varieties to have resistance against all the major diseases and the preexisting ones were susceptible to one or more or all of these diseases.

The ability of nations to build up their potential production in the tropics will increasingly be based on production/acre/day. This means that in the absence of new arable lands to open to farming, increased efficiency will be necessary on the present land through fitting together various crops which on an annual rotation can allow 3 to 4 crops per year. Tremendous food increases can be made in this way on the irrigated land where natural sunlight and abundant water are available. This is a move which we ^{soon} will see come into effect in those nations where food and population relationships are most critical.

There is one very large problem still unsolved. How can we distribute this food to ^{the} urban poor who have very low incomes? We speak of self sufficiency but this may be interpreted in many ways. Economically feasible self sufficiency is one measure but the more meaningful measure is nutritional self sufficiency.