



# The Paradox of Plenty

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AMERICAN agricultural expert Dr. Norman E. Borlaug is the mind behind the "Green Revolution" currently helping backward countries to increase their grain yields. This so-called revolution has been going on for some twenty-six years inside plant laboratories and on experimental farms, and for the past three years has helped to transform agricultural methods in many parts of Asia, the Middle East, North Africa and Central America.

Dr. Borlaug heads an impressive team of researchers plant breeders, soil scientists, plant pathologists and entomologists who have been working under the direction of the Mexican Government. For the important series of discoveries made at the International Maize and Wheat Improvement Centre in Mexico, Borlaug has been awarded the Nobel Peace Prize for 1970. And it has already been claimed for this great technological breakthrough that hunger in the developing countries may well be abolished "within a few years."

True enough, the new grains which have already been planted in many parts of India, Pakistan and Mexico have given rise to harvests described as "sensational." Many Mexican farmers, for example, trebled their yields and Mexico's total tonnage for last year was six times greater than ever before. The highest results in the history of India came in 1968 with a crop of seventeen million tons of wheat, an event celebrated with a new postage stamp, bearing the inscription "The Indian Wheat Revolution 1968."

The new strains of wheat, maize and rice were produced by crossing and re-crossing various strains. For example, in the case of wheat Dr. Borlaug selected known genes from various wheats and combined them in one variety; the new super wheat has several desirable qualities including dwarfing, non-sensitivity to day length, early maturity and a high degree of resistance to rust.

The "Green Revolution," however, has had many critics who claim that it cannot on its own solve the problem of mass hunger. So far, storage facilities, distribution arrangements, transport and marketing patterns have been totally inadequate to get the grain where it is needed, at the right time and at a lower price. Indeed, prices have sometimes been higher than before.

Introducing abundance, they say, into an unprepared economy must produce side effects, even economic disaster, unless other variables are up-graded at the same time. Without changes in distribution, in land tenure, in

industry and entrepreneurship, the fear of scarcity may simply be replaced by the fear of surplus. When prices did not fall automatically following the bumper crops in India the bitterness and disappointment was often explosive. Indeed, Prime Minister Indira Gandhi observed: "Perhaps the colour of this revolution is changing to red."

The "Green Revolution" is also making its own demands on the farmer. If the grain is to be harvested twice, or even three times in a year, there must be water available when the farmer wants it, not merely when the monsoon comes. And reliable irrigation requires capital. Fertilisers, pesticides and extra labour necessary for intensive cropping are also required but finance is not readily found where farmers raise scarcely enough on their holding to feed their own family.

To make the revolution work officials have been encouraging the most efficient farmers, usually in control of the biggest and wealthiest farms, to experiment with the new grains. Only these farmers can afford expensive materials and to shoulder the additional labour costs of intensive cropping. Only the largest land-holdings are suitable for working pilot schemes.

One result of this is that numerous small farmers have gone bankrupt, selling up their farms to their more prosperous neighbours. In this competitive and cut-throat situation thousands of smallholders working their land at the margin of production are now obliged to sell out and gravitate to the cities in search of factory employment. Here they are becoming a volatile political force. At present it must be remembered that 70 to 80 per cent of the population in Asia and Africa is engaged in agriculture, mostly at the subsistence level, but for one reason and another the surge of the peasant class towards the cities in search of higher wages is following the pattern of the Industrial Revolution in Europe. The results could well be as heart-breaking.

One critic explains it this way: in the first year of the experiments many farmers enjoyed greater profits because of their sensational harvests. However, as grain production became obviously more profitable, more farmers turned over to grain production and agricultural land, even land previously considered unsuitable, acquired a greater value in the market. Thus it was that in India, for example, farm rents have risen sharply for tenant farmers. While farmers are obliged to pay more to the landowner for permission to cultivate the land, practically



all the increase in earnings passes into the hands of the owner of the land.

Likewise, it can be seen that as year follows year, the greater the economic return on the crop the higher will be the value of the land and, unless the farmer is also a freeholder, the more he will be obliged to pay out in rent.

It is this ceaseless rise in rents and the constant drain away of profits into the pockets of the owners of land that brings the despair and lack of faith that is so apparent among the peasant classes in the underdeveloped (as also in the developed) countries today.



This pattern of rising land prices alongside growing prosperity is observable in every country around the globe. Indeed, the rich nations of the west can offer all manner of foreign aid to their poor neighbours and hand out every conceivable technological or scientific achievement but so long as we fail to solve the problem of land tenure, all this aid will be in vain. We cannot crack open the problem of world poverty unless we first tackle the problem of land tenure.

Dr. Borlaug received his prize money together with a gold medal from King Olav V of Norway on December 10. There can be no doubt that the famous Peace Prize has been awarded on this occasion for a very great achievement, the more so when we learn that Dr. Borlaug intends to donate his prize—\$76,800—to a new experimental research station for further development of crops. The battle against world hunger is very much part of the search for world peace. But let us make no mistake. One half of the world cannot hand out charity to the other half and hope for world peace.

In his Nobel Lecture at Oslo Dr. Borlaug puts it this way: "The destiny of world civilization depends upon providing a decent standard of living for all mankind." The guiding principle of the Nobel Peace Prize charter is expressed in these words: "Universal and lasting peace can be established only if it is based upon social justice. If you desire peace, cultivate justice."

Dr. Borlaug would have us add to this lofty principle: "but at the same time cultivate the fields to produce more bread; otherwise there will be no peace."

By all means let us cultivate the fields but not equate the greater production of the world's wealth with its greater or more equitable distribution. To give real meaning to the long sought after social justice of which Nobel dreamed we need to add—"and let all people enjoy equal rights and access to land and natural resources by allowing them to share in its rent."