

Some Thoughts of a Nobel Winner

This article consists of statements by Norman E. Borlaug, winner of the 1970 Nobel Peace Prize. They are excerpted from a lecture in Oslo, Norway, December 11, 1970, and from remarks made at a news conference in New York City, December 16. An account of Dr. Borlaug's work appeared in *War on Hunger*, December, 1970.

On Survival

Man can and must prevent the tragedy of famine in the future instead of merely trying with pious regret to salvage the human wreckage of the famine, as he has so often done in the past. We will be guilty of criminal negligence, without extenuation, if we permit future famines. Humanity cannot tolerate that guilt.

Food is the moral right of all who are born into this world. but it's not enough to produce *enough* food. If it were just a case of producing enough food, this could be done in the United States, Canada, Australia, Argentina, Russia and a few other countries in a comparatively short period of time. This, however, would not necessarily solve the hunger problem of the developing world, because their weak economies will not permit them to expand their food imports by 30 percent.

Worse still, even if present production could be expanded rapidly by 30 percent in the developing countries—which I believe is possible based on recent progress of the Green Revolution—the hunger problem as it now exists still would not be solved.

There remains the unsolved social-economic problem of finding effective ways to distribute the needed additional food to the vast underprivileged masses who have little or no purchasing power. The developing countries can't solve this problem alone. They will need continued help from the developed countries.

We must recognize the fact that adequate food is only the first requisite for life. For a decent and humane life we must also provide an opportunity for good education, remunerative employment, comfortable housing, good clothing, and effective and compassionate medical care.

Unless we can do this, I'm not sure something else won't happen to this world. Maybe we will come to the ruination of society before we run out of food.

The population monster, if untamed, will destroy mankind. There is more at stake than just existence.

There is the survival of civilization and the democratic processes. If we don't solve it, someone will bring order and it may be an order we do not choose.

Since man is potentially a rational being, however, I am confident that within the next two decades he will recognize the self-destructive course he steers along the road of irresponsible population growth and will adjust the growth rate to levels which will permit a decent standard of living for all mankind.

The Green Revolution has bought us 20 to 30 years to solve the food-population problem. We can buy 50 or 60 years of time if governments will put emphasis on research. We must have more research. I hope this Peace Prize will bring this point home to government leaders.

On Research

There must be far greater investments in research and education in the future than in the past.

Few investments, if any, can match the economic and social returns from the wheat research in Mexico. The investment from 1943 to 1964 was estimated to have yielded an annual return of 750 percent. This study was made prior to the full impact of dwarf wheats on the national production. If the benefits were calculated now, with the inclusion of the returns from the increased wheat production in Pakistan, India, and other Asian and African countries, they would be fantastically high.

Nevertheless, vast sums are now being spent in all countries, developed and developing, on armaments and new nuclear and other lethal weapons, while pitifully small sums are being spent on agricultural research and education designed to sustain and humanize life rather than to degrade and destroy it.

Let no one think that we can relax our efforts in research. All successful action programs must be preceded and accompanied by research. The rapid change in wheat production in both India and Pakistan was in part made possible by two decades of research in Mexico.

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We never waited for perfection in varieties or methods but used the best available each year and modified them as further improvements came to hand. This simple principle is too often disregarded by scientific perfectionists who spend a lifetime searching for the unattainable in biological perfection, and consequently during a lifetime of frustration contribute nothing to increasing food production.

The quality of scientific leadership is certainly a vital factor. Educational and research institutions have the moral obligation to serve both agriculture and society. To discharge that obligation honorably, they must try to help educate scientists and scientific leaders whose primary motivation is to serve humanity.

On Leadership

The destiny of world civilization depends upon providing a decent standard of living for all mankind. There is a lack of hard-headed realism on the part of most government leaders on how to achieve this.

There now are available materials and techniques of great potential value for expanding the Green Revolution into additional fields of agriculture. But to convert these potential values into actual values requires scientific and organizational leadership. Where are those leaders? Where are the leaders who have the necessary scientific competence, the vision,

the common sense, the social consciousness, the qualities of leadership, and the persistent determination to convert the potential benefactions into real benefactions for mankind in general and for the hungry in particular? There are not enough of them now; therefore we must try to identify and develop them in our educational systems and we must utilize them in our campaigns for food production. We need them, and need them badly, for it is tragic to let potential values languish for want of leadership in capitalizing the potential.

On the Green Revolution

Never before in the history of agriculture has a transplantation of high-yielding varieties coupled with an entirely new technology and strategy been achieved on such a massive scale, in so short a period of time, and with such great success.

There are no miracles in agricultural production. Nor is there such a thing as a miracle variety of wheat, rice, or maize which can serve as an elixir to cure all ills of a stagnant, traditional agriculture.

The Green Revolution is a change in the right direction, but it has not transformed the world into Utopia. None are more keenly aware of its limitations than those who started it and fought for its success. But there has been solid accomplishment.

Some critics have said that the Green Revolution has created more problems than it has solved. This I cannot accept, for I believe it is far better for mankind to be struggling with new problems caused by abundance rather than with the old problem of famine. Certainly, loyalty to the status quo in food production—when being pressured by population growth—cannot break the chains that have bound the peasant to poverty and hunger. One must ask: Is it just to criticize the Green Revolution, with its recognized accomplishments, for failure to correct all the social-economic ills of the world that have accumulated from the days of Adam and Eve up to the present? Change we must, or we will perish as a species.

On the Future

The Green Revolution has won a temporary success in man's war against hunger and deprivation; it has given man a breathing space. If fully implemented, the Revolution can provide sufficient food for sustenance during the next three decades.

I am convinced that if all policymakers would take sufficient interest in population control and in aggressively employing and exploiting agricultural development as a potent instrument of agrarian prosperity and economic advancement, many of the social ills of the present day could soon become problems of the past.



Honored guests at a press conference featuring Norman Borlaug (at podium) included: (left to right) W. David Hopper, Canadian International Development Research Centre; Oscar Brauer (hidden by camera), National Agricultural Research Institute, Mexico; Alfred C. Wolf, Inter-American Development Bank; Paul Hoffman, United

Nations Development Program; McGeorge Bundy, Ford Foundation; John Hannah, AID; Russell Mowby, Kellogg Foundation; E. J. Wellhausen, International Maize and Wheat Improvement Center; and J. G. Harrar, Rockefeller Foundation. The conference was held in New York City after Dr. Borlaug received the prize in Oslo.