

Karachi
March 21, 1967

President
Mohammad Ayub Khan
President's House
Rawalpindi

Dear Mr. President:

You requested in our meeting at Lyallpur on March 13, a letter summarizing the points covered, which I am pleased to state below.

The Accelerated Wheat Improvement and Production Program is on target and ahead of schedule. Great progress this winter in the irrigated areas is concealed by drought in the barani areas. The harvest will be better than most officials anticipate, and larger than last year.

I observe within the past year a complete change of psychology among farmers, policy makers, and scientists, as your Government's "Grow More Food Campaign" has moved into high gear. Enthusiasm has replaced skepticism. The remaining doubters are silent.

However, this is no time to relax. You need an expanded offensive. Self-sufficiency of wheat production is within your grasp. This target can be achieved during 1967-68 crop season, two years ahead of schedule, if there is near normal rainfall and the following conditions are met:

1. Fertilizer inputs

Fertilizer supplies in West Pakistan, from manufacture and imports combined, must be increased beyond present targets.

Research and extension officers who are supervising demonstration plots of dwarf wheat on private lands now estimate that dwarf wheat acreage for the next season, 1967-68, will be about 50% of the irrigated wheat acreage, or about 4 million acres. Present fertilizer import plans are based on only two million acres of dwarf wheat next winter. There is some guesswork in such estimates, but my interviews with farmers in seven irrigated districts would support the higher figure of 4 million acres.

Therefore present targets for fertilizer supply in West Pakistan -- 14 lakhs tons for all crops in the year starting July 1, 1967, of which 80% would be nitrogen fertilizer and 20% phosphate fertilizer -- are low in my opinion.

I reviewed the fertilizer calculations of Government planners and believe that 18 lakhs tons will be closer to the actual demand, including buffer stocks. And phosphate proportion should be raised to 33% of the total.

This means expanding nitrogen availability to about 12 lakhs tons (ammonium sulphate basis) and phosphate fertilizer to about six lakhs tons (super-phosphate basis).

Fertilizer trials on wheat this winter will show we have been under-estimating phosphate requirements. Phosphate deficiency in the soil is both more widespread and of greater magnitude than previously estimated. Hence I emphasize that fertilizer supply should be divided 67%-33% between nitrogen and phosphate types.

Phosphate fertilizer must be applied prior to, or at the time of wheat sowing to be effective. It is therefore needed at the village level by September 15. Thus procurement orders must be placed immediately, in order to allow six months' delivery time.

Bureaucratic fertilizer distribution methods have contributed during the past year to poor fertilizer usage in some localities. It is suggested that a buffer stock of both nitrogen and phosphate fertilizers, equal to 4 months' requirement, is needed at all times. This will reduce distribution bottlenecks.

As far as possible, urea (46% nitrogen) should replace ammonium sulphate (20%) and triple super phosphate (46% P₂O₅) should replace super phosphate (18%), in order to reduce pressure on Karachi port and the railroads.

2. Farmers have proved they are ready to accept rapid change

Just one year ago, when I visited West Pakistan and predicted that farmers were ready for rapid changes in wheat technology, some Government officers called my estimates crazy. Today official records for West Pakistan show that fertilizer applied to the wheat crop of 1966-67 is of the magnitude 250-300% compared to the previous year. This happened in spite of poor distribution at the start of the season, tardy credit, and irrigation water shortage in some areas.

In my opinion, a further increase of 250-300% in fertilizer applied to wheat can occur in 1967-68, if supplies arrive at village level at proper time.

3. Floor support prices for wheat

Government has failed to use floor prices as an economic tool to stimulate maximum wheat production.

To be effective a floor price must be announced before wheat planting. For the 1967 crop, no floor price has yet been announced, even though harvest has begun.

For the next crop, the floor price on wheat must be announced by September 15, before planting begins, in order to encourage a farmer to use heavy fertilizer, and be confident of recovering his investment.

4. Funds to defend a floor price

A floor price must be defended at harvest time, in the spring of 1968, by timely Government purchases of grain in sufficient quantity in the mandi towns to prevent prices from falling below the floor, and thus causing a farmer to lose money on his crop.

Nothing will set back your agricultural revolution more, as you move from wheat deficit to self-sufficiency, than for the farmers to lose money on the first big crop.

The Food Department must have sufficient funds before harvest to stabilize prices, and the stored grain can be placed under bank loan, thus reducing appropriated funds.

5. Warehousing

Adequate storage bins and godowns must be available in the major production areas where the Food Department is likely to make purchases.

Past estimates suggest that when West Pakistan produced a 4-million ton wheat crop, less than 1 million tons left the village and went into commercial trade, thus requiring storage. When production reaches 6 million tons, it is wise to estimate that 2 million tons will leave the village, and require commercial storage.

Action must be taken immediately to survey capacity, and to remedy the shortage. Storage capacity must be calculated to replace the previous year-around flow of PL-480 wheat, which enabled you to keep your storage at a minimum.

Wheat purchased by the Food Department at harvest can be fed gradually back into commercial grain channels, which will stabilize food prices between harvests. And as the godowns are emptied, the same storage facilities can be used for rice and maize, which are also likely to be available in far greater quantity than heretofore.

Storage facilities require large investments, but the foreign exchange component should be low.

6. Wheat production will affect the revolution in other crops

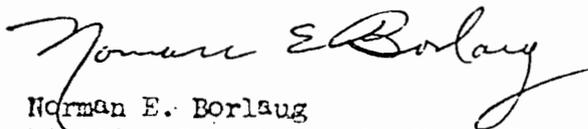
The revolution in wheat production will spread rapidly to other crops (maize, sorghum, rice). Much of the new wheat technology will be transferred with minor adaptation and proper guidance to other foodgrain crops.

Mr. President, Pakistan has within reach the solution of its wheat deficit, and should shortly attain self-sufficiency in all foodgrains.

Pakistan must succeed, not only for Pakistan's sake, but also to serve as a model for a world-wide revolution in food production.

I am proud to have participated in a minor role, with your policy makers, scientists, and farmers, in this "Grow More Food Campaign". I wish you success in reaching your production goals ahead of schedule.

Sincerely yours,



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P.S.

You asked my advice on the desirability of placing the Agricultural University and the Agricultural Research Service under a single administration.

This is a domestic issue on which an outsider should not ordinarily comment, but in response to your question, I offer my best judgment below.

I have worked under both systems, one where university education and agricultural research are combined, the other where they are separate.

The key to success under either system is leadership, and willingness to cooperate.

The divorce of the Agricultural University from the Agricultural Research Institute at Lyallpur in 1962 set back your agricultural services for several years. The two are still not cooperating as much as they could.

But a forced remarriage could touch off another period of personal rivalries, which you can ill afford during the Third Plan.

Applied research is a full time job for hundreds of scientists at the Research Institute, and whatever shortcomings exist, they are not likely to be solved by adding this responsibility to the educators who are fully occupied with building a quality University.

You are making good progress in some aspects of Agricultural Research. I expect to see much more progress in the next year. The University is also progressing well. For the present, I suggest you leave the Research Institute and the University under separate administration.

However, I have one suggestion. The President's Office could create a working group composed of officers from both the Research Service and the University, and headed by an outside scientist. This group could be asked to submit a report to the President on three subjects:

(1) How can the scientific personnel and the physical facilities of the Research Institute and the University at Lyallpur be used better to reinforce each other, and thus serve the national good? Among other proposals, the Group might consider:

- (a) Visiting lectures at the University by Agriculture Department research officers.
- (b) Joint research projects.
- (c) The University Extension Institute to provide short courses for Agriculture Department Gazetted officers.

(2) How can the administration of Agriculture Research be improved? My impression from talking with resident research advisers, and visiting research consultants, is that most of the problems of the Agricultural Research Service are administrative, not scientific.

I refer to poor cooperation between the scientific sections of the Agricultural Research Institute, which should be working together on joint projects, and poor cooperation between the scientists in the three agricultural regions of West Pakistan, which should be sharing their data, but frequently do not. Relations between Departments of the University as well as with the Research Service, are probably equal problems.

Moreover, I refer to handicaps of financial administration, personnel selections and promotions, travel restrictions which sometimes prevent placement of research plots on private farms, etc. I know of no successful research organization in the world which has been built on a seniority system of promotions.

(3) How can the University administrators meet the demand for more University-trained scientists of higher quality?

Private fertilizer companies, machinery dealers, and agricultural processors have begun to hire away from the Government some of its best agricultural officers, at much higher salaries. The solution is not to freeze the services, but to step up the University training of high quality officers, in order to meet the requirements of both the Government and the private sector.

This "pirating" of Government personnel is a development in every country where an agricultural revolution stimulates the private sector. It happened in Mexico. It will increase in Pakistan.

The above three topics are of mutual concern between the Agricultural Institute and the University, and I submit that a joint discussion of these subjects, by order of the President, could bring about greater mutual understanding and mutual help.

N.E.B.