Improving Food Production and Distribution

Recommendations for American Assistance to Developing Countries

REPORT TO THE PRESIDENT

February 19, 1970

Clifford M. Hardin
Secretary of Agriculture

John A. Hannah
Administrator
Agency for International

INTRODUCTION

On July 18, 1969, President Richard M. Nixon presented to Congress a Message on Population which included high priority to population assistance in the U.S. foreign aid program.

As a follow-up to his interest in balancing world food and population, he requested Clifford M. Hardin, Secretary of Agriculture, and John A. Hannah, Administrator of the Agency for International Development, "to investigate ways of adapting and extending our agricultural experience and capabilities to improve food production and distribution in developing countries."

This pamphlet includes the text of their report to The President and related correspondence.

February 19, 1970

MEMORANDUM FOR THE PRESIDENT

SUBJECT: Joint Report on Adapting and Extending American Agricultural Experience and Capabilities to Improve Food Production and Distribution in Developing Countries

As you requested, we have investigated means of adapting and extending U.S. agricultural experience and capabilities to improve food production and distribution in developing countries.

We think there is hope that in spite of rapid population growth the ability of developing countries to feed their people can be substantially improved. But increased efforts by both developed countries and developing countries are essential.

The attached report makes four recommendations we believe should be implemented as soon as possible:

1. Substantial increase in A.I.D. support of an international agricultural research network, in both developed and developing countries, directed at problems of agricultural growth in the latter;

2. Expanded efforts to obtain, impart and apply knowledge of soil and water, in order to increase food production and protect the environment;

3. Increased and more relevant agricultural training in both the United States and the developing countries;

4. Emphasis on development of institutional competence of central governments, especially ministries of agriculture, to plan and manage agricultural programs and to provide supporting services to the agricultural sector.

/s/
Clifford M. Hardin
Secretary of Agriculture

/s/
John A. Hannah
Administrator
Agency for International Development

THE WHITE HOUSE

WASHINGTON

March 23, 1970

MEMORANDUM FOR

The Secretary of Agriculture
The Administrator, Agency for
International Development

The President has asked me to thank you for your memorandum of February 19 on adapting and extending American agricultural experience and capabilities to improve food production and distribution in developing countries.

He views U.S. assistance in the areas which your report recommends as an important aspect of the U.S. development assistance program. Accordingly, he asks that you begin efforts to implement your recommendations as soon as possible.

Henry A. Kissinger

ADAPTING AND EXTENDING AMERICAN AGRICULTURAL EXPERIENCE AND CAPABILITIES TO IMPROVE FOOD PRODUCTION AND DISTRIBUTION IN DEVELOPING COUNTRIES

A joint report to the President
by Clifford M. Hardin, Secretary of Agriculture,
and John A. Hannah, Administrator, Agency for
International Development

I. WHERE WE STAND

Significant American assistance to agriculture in developing countries dates from the mid-fifties, has grown steadily since, and is today the predominant sector of the foreign aid program. Its contribution to efforts of those countries to feed their population was important and in some cases critical.

As matters stand there is hope that in spite of rapid population growth the ability of developing countries to feed their people will improve substantially in the years ahead. But if this hope is to be realized, unprecedented levels of assistance from developed countries are required. Above all, there must be strenuous efforts by the developing countries themselves.

During the post-war period as a whole, food production in developing countries managed to rise slightly faster than population. By the late sixties per capita food production was five percent above the level of a decade earlier. In spite of these gains, however, diets of one of every five people in these countries remain deficient in calories, according to the Food and Agriculture Organization (FAO) of the United Nations.

Even worse, again referring to FAO findings, is that food consumed by three of every five people in these countries has serious nutritional deficiencies, chiefly in proteins.

Approximately half the increase in food production achieved in this period resulted from placing more acreage under cultivation. But in the most important countries of Asia, where food shortages have been most acute, the possibility of further acreage expansion has been virtually exhausted. Moreover, there have been sharp departures from the overall trend of increased per capita food production.

In South Asia, for example, monsoon failures in the mid-sixties so drastically cut cereals production that wide famine was feared and an impending chronic deficiency in food supplies was widely forecast.

But massive food aid prevented general famine and a dramatic recovery and forward surge in food production in this part of the world was achieved in 1967 and subsequent years. A combination of factors account for this.

For one thing, favorable weather returned to the monsoon area. For another, varieties of wheat and rice developed at international research centers sponsored by the Rockefeller and Ford Foundations which doubled and even tripled yields were introduced and planted on a wide scale in intensive crop production campaigns. For a third, developing country governments had adjusted their agricultural policies, with strong AID and other important external support, while acting in additional ways to encourage production. This development coincided with increased efforts by farmers induced by grain shortages and higher prices.

Thus was revealed an unexpected potential for agricultural growth in developing countries, hailed optimistically as the green revolution. It is essential however to keep what happened in perspective: many basic problems were left untouched and some urgent new problems were created.

Although success with high-yielding varieties of wheat and rice added substantially to their production in a number of important food deficit countries of Asia, it did not solve the world food problem. Only a few countries in Latin America and Africa are yet involved. And even in the countries where success was most marked the benefits of the green revolution are not shared by all. Many farmers -- those with neither innovative abilities nor opportunities -- were bypassed.

In addition, calory deficiencies are still widespread and protein deficiencies are pervasive. Although some progress has been made in fortifying food, and in increasing protein value of cereals by genetic manipulation, little actual improvement in diets has been achieved.

Further, the developing countries have neither the requisite research institutions nor the trained personnel necessary to develop technologies needed to energize agriculture.

High yielding varieties have not been developed for the heavy monsoon areas of the tropics or for areas limited by sparse rainfall, although both constitute a substantial part of total arable land in the underdeveloped world. Indeed, limitations on effective use of water supply are likely in the long run to be the most serious constraint on developing country agricultural growth. Which means that efficient management of this resource becomes increasingly urgent in terms of production as well as environment. As it is, rainfall often runs off leaving only erosion, shallow underground water remains untapped, and in irrigated areas waterlogging and salinity are common although avoidable.

Most developing countries lack an adequate distribution system to bring the farmer what he needs for modern agriculture and carry his harvest to market. Physical facilities, particularly for storage, are poor. Costs are high and produce losses great. Market information and a system of grades and standards are seriously lacking.

A further problem is that no way is in sight for employment of a rural population that by 1985 will be 50 percent greater than the levels of the early sixties.

Finally, but without exhausting the list, a dilemma is posed by higher cereal production in developing countries that parallels accelerated production of the same commodities in developed countries. As a result, world rice and wheat prices are depressed as grain stocks rise. Thus developing countries face problems in adjusting policies and programs to the reality of world market conditions.

The response of developing countries to the promises and problems before them is critical. If it is to be adequate, their actions must be prompt, vigorous, on the right scale and in the right places. For their part developed countries bear a heavy responsibility to cooperate and to assist. All the assistance that is available, national and international, public and private, will be needed. <u>On both sides the biggest question is not means but vision and will.</u>

Notwithstanding the substantial problems which remain, the record of agricultural growth in the post-war period has been one of real, if limited, progress. It would not have been possible without substantial outside assistance, of which the United States supplied a major part.

American assistance, originally almost exclusively bi-lateral, has come increasingly to be provided in a context of international cooperation and coordination.

The preponderant part of our bi-lateral assistance is now provided in cooperation with other donors--either in consortia or consultative groups. Moreover, the role of the international and regional organizations has become increasingly important. Both efforts have in recent years been extended to the area of agricultural development.

In this framework of international cooperation AID has bi-laterally assisted developing country agriculture in a number of significant ways. Among them are sustained support to agricultural universities in South Asia and Latin America for periods of ten or more years; technical assistance to ministries of agriculture; training in this country and abroad for thousands of workers, technicians and others; and large supplies of fertilizer, pesticides and other requisites to efficient farming, amounting in several years to more than $200 million. Particularly strong contributions of technical assistance were provided those nations that launched intensive crop campaigns for high-yielding grain varieties.

This history of cooperation, here described only briefly, has direct relevance to the emphasis of this report. For it means that the United States already is part of a well-established and expanding international consensus as to the monumental severity of the food problem and the scope and nature of cooperative solutions. To this consensus we have in the past provided both leadership and substance.

Our future role should be one of continuing leadership, derived from a recognized technical excellence, to translate this consensus into action by both developed and developing countries. It is imperative that agreement be reached on major problems and objectives in the developing world and that old programs be altered or new ones mounted accordingly.

The findings and conclusions that follow flow from two decades of experience in bi-lateral assistance. They also flow from what we have learned as international cooperation has grown closer, and as useful criteria and guidelines for best exploiting this cooperative momentum have emerged.

The recommendations draw also on studies by AID and the Department of Agriculture as well as the views of eminent authorities from outside government who have collaborated with those agencies in analysis of the current status and future prospects of agriculture in developing countries. One such analytical review was held under AID auspices in April 1969, another in January 1970. A list of non-government participants in each is supplied at the end of the report.

II. Four Ways to Help

Taking account of the most urgent requirements of the less developed countries, we recommend the following measures for applying American experience and capabilities to the task of improving food production and distribution in those countries:

1. Substantial increase in AID support of an international agricultural research network, in both developed and developing countries, directed at the problems of agricultural growth in the latter;

2. Expanded efforts to obtain, impart and apply knowledge of soil and water, in order to increase food production and protect the environment;

3. Increased and more relevant agricultural training in both the United States and the developing countries;

4. Emphasis on development of institutional competence of central governments, especially ministries of agriculture, to plan and manage agricultural programs, and to provide supporting services to the agricultural sector.

RECOMMENDED PROGRAM

1. Research

One of the most important factors contributing to the widely-acclaimed green revolution in Asia is the research efforts of the international institutes of agricultural research sponsored by the Rockefeller and Ford Foundations. At very modest cost, scientists at these centers developed new wheat and rice varieties which yield two and in some cases three times as much as traditional varieties. Experience with these varieties demonstrates that the payoffs from expenditures on research can be extremely high. Concurrent experience with export crops in the developing countries, and the whole range of agricultural products in the developed countries, has also shown that a continuing flow of new technology is indispensable to agricultural growth.

Most developing countries do not have the capability of doing this for themselves, for they are woefully deficient in research competence. Nor are these deficiencies the kind that yield to crash programs. A number, however, have the capability of adapting plant materials to local conditions, and a very few have comprehensive systems capable of a fairly wide range of research work.

Even where research competence does emerge, there is usually a problem in linking it effectively with other governmental institutions. As a rule, the few trained scientists available are spread over numerous centers and extension stations, so that nowhere is there an adequate concentration of skills to do significant inter-disciplinary research. This is only a part of the general problem of organizing the limited research skills of developing countries so that they contribute effectively to agricultural growth.

Those countries that seriously wish to improve their research effectiveness might best begin by organizing for optimum use of the resources on hand. AID itself needs to improve its competence to assist in such work when it is asked.

Fortunately, it is not necessary for each developing country to have a capability for innovative research. For research, properly planned and directed, can produce results which, with varying degrees of adaptation, prove useful over wide areas.

The essential needs of the developing countries for a continuing flow of new technology can be met by the development of a network of research which links the scientific competence of the developed countries with the fledgling research institutions of the less developed. In the past few years, the rudimentary outlines of such a network have gradually begun to emerge. It includes three elements:

(1) In some developing countries there are in being systems of research, training and extension that reach from the central institutions to the level of the farm.

(2) In the developed countries, there are a number of institutions that have the ability to conduct research of value to the developing countries. In the United States, the land grant universities, the U.S. Department of Agriculture and the laboratories of industry all have a contribution to make.

(3) There are regional and international structures, of which the four foundation-sponsored international research institutes are representative, which have the potential of developing into nodal points in this existing system.

This network should be encouraged to grow organically. Present components should be made more effective. Missing elements should be gradually supplied, according to a rational order of priorities. Linkages between elements should be strengthened. The network should develop principally

by increasing the effectiveness of cooperation among the institutions and scientists which compose it; it should not require an elaborate administrative structure.

The foregoing has concentrated on production research, indeed an area of highest priority. But there are problems in other areas that equally demand attention.

Among them are:

(1) Finding an effective means of avoiding losses to disease, insects, rats and other pests and thus adding to net production;

(2) Solving marketing problems, becoming increasingly grave as cities grow, production increases, the need for diversification becomes greater, and the elements of a modern agricultural system begin to appear;

(3) Helping the impoverished farmers who have been by-passed by the green revolution;

(4) Finding work for the rural unemployed whose numbers will increase rapidly in the coming decades, a matter meriting interdisciplinary study by social scientists;

(5) Finding ways to improve diets, especially with regard to proteins.

Two major tasks need to be undertaken promptly. One is the identification of more specific priority areas where additional research is likely to yield findings of wide significance. The second is a decision as to where and how the international network should first be strengthened.

Although both tasks will require international cooperation to make them fully effective, the United States is equipped and will be looked to for leadership in defining the problems and proposing solutions.

Adoption of this course, if it is to succeed, demands larger investment in agricultural research. The United States should be prepared to assume a fair share of the higher costs, along with other donors, of giving effect to the additional research measures proposed.

Though costs will be greater, they should not cause concern. Returns on research investment are extremely high, and the total costs are likely to be very modest in relation to the total AID program.

An absolute requisite, however, is a capacity to plan firmly over at least five or even ten years. To be effective, research must be planned for the long pull. People of the proper quality are not numerous at best and will not be attracted to projects of dubious continuity. In AID's case, firm assurance of support for at least five years ahead is necessary if the Agency's program in this field is to be fully effective.

2. Better Use of Land and Water

Land and water, plus solar energy, are the indispensable elements for producing food. The manner of their use, the effectiveness of their combination with each other and with things supplied by man, determine current production and profoundly affect future prospects. Although the subject might well have been treated under the research heading, it is so important, for food production and for ecological reasons, that separate consideration seems justified.

Considering their importance, knowledge of many aspects of land and water is still grossly inadequate. Throughout the developing world there is need for better mapping, more soils analysis, general knowledge of the interaction of soils and water, more knowledge of the availability of sub-surface water, more effective methods of water management. The need is particularly acute in the humid tropics, where modern technology has made no significant improvement over the ancient system of slashing, burning, harvesting and then moving on to new land to repeat the process, or returning to old to do the same.

The United States alone obviously cannot meet all of these needs. A cooperative effort is required, and priorities must be established. One possibility worth careful consideration is systematic study of tropical soils. Such a study seems likely to be most effective with centralized planning as well as central assembly and collation of data, but with decentralized operations.

Another possibility is technical assistance to watershed management, to optimize the conservation and use of water for an entire natural region, down to the level of the individual farm. Pilot projects of this type can demonstrate the range of techniques for obtaining benefit from often limited water supplies, including application of sound forestry as an element in ecological balance of watersheds.

Such projects can be readily justified on the ground that inefficient use of water is one of the most critically limiting factors in world food crop production, and that such inefficiency is almost universal among the developing countries. These projects, designed to demonstrate techniques for obtaining maximum benefit from available water supplies, could be used for the training of water managers from a number of developing countries.

3. Investment in Training Manpower

A virtually universal characteristic of the developing countries is the lack of trained agricultural manpower. Of all factors limiting exploitation of breakthroughs like the so-called "miracle seeds," insufficient number of trained people is among the most restrictive. This is true in both public and private sectors. If self-supporting agricultural growth is to be achieved, improvement in the quality and quantity of agriculturists at all levels is essential. This is especially true for vocational training and practical undergraduate instruction.

The need to improve the best of the agricultural universities and provide them with the capability of post-graduate training has already been mentioned. There is also an acute need for production specialists, which should be met by undergraduate training in the universities and by supplementary courses outside the regular curriculum.

Training in the United States should also be increased and made more relevant to actual needs of academic and non-academic students from developing countries. There are exceptions, but too often the individual finds himself immersed in studies oriented to our own sophisticated agriculture.

There is distinct need to change curricula and course materials to meet the most urgent requirements of developing country students. Similarly, there is work to be done, and broadened opportunity for support, in improving in-service training overseas.

AID plans to develop a pilot curriculum to meet needs of academic and non-academic students and lay a basis for development of needed course material. Subsequently it would be prepared to support institutions willing to develop such material and offer the proposed courses. This approach probably will tend to concentrate students at fewer universities and institutions in order that maximum advantage accrues from the new courses.

4. Improving Agriculture Ministries and Services to the Agricultural Sector

In most developing countries, ministries of agriculture are poorly organized and often ineffective. In those places where traditional farming is beginning to give way to modern market-oriented agriculture the need for effective formulation and implementation of government policies and effective programs such as extension, research and credit vastly increases.

Although AID has long supported and assisted ministries in many ways, most of them are not capable of developing and managing programs of the scale and complexity that will be required. Intensified crop

production campaigns have severely taxed management skills of all developing country governments and revealed deficiencies in even the most effective ministries. Moreover, a crop campaign will usually involve ministries and agencies concerned with matters other than agriculture.

The requirements of the next stage of development, when countries face possible surpluses in cereals production and must make fundamental readjustments in policies and programs, are likely to prove even more demanding and require a higher order of skills.

Policy makers will have to decide on market potential and on alternative production patterns. The need for measures to benefit the great majority of small farmers untouched by the cereals revolution will take on added urgency. The possibility of using cereals surpluses to support expansionary economic policies, including a public works program for agricultural infrastructure, will present a promising opportunity and at the same time a formidable administrative challenge.

There will be a chance to move toward a modern, market-oriented agriculture, but this will require perceptive and effective ministry leadership. Properly used, the impetus of current and successful single crop production campaigns, and the new receptivity of the farm population, may be the vehicle for that purpose. But planning must begin now, in order to meet target dates for achieving the goal. Only in that manner can requisite activities be launched in time.

A further dimension of difficulty is seen in the fact that such targets can only be adopted in those sections of a country that are ready in terms of single crop campaign experience, and that the national pattern in a large country will be very uneven. It is in solutions of problems of this order of complexity that developing country governments, particularly agriculture ministries, will need help.

A rapidly developing agricultural sector will also generate steadily rising demand for supporting services. Some should be supplied by the government but many or most will be more appropriate for private sector performance. In any event, limited trained manpower in public employ will restrict government to priority tasks which it alone is capable of carrying out.

The establishment of uniform standards and the provisions by the government of reliable statistics on crop production, stocks in storage, etc., will encourage private enterprise to assume such functions as the distribution of farm supplies, and the storage and marketing of crops, among others. Governments must also understand the importance of establishing a consistent set of ground rules and of creating confidence in the stability of policy.

If agriculture is to make progress the ministries of agriculture must be substantially strengthened. This can only be accomplished by sustained and well-directed programs of institutional development such as AID supports in agricultural universities in developing countries.

The USDA is prepared, under AID auspices, to enter technical cooperation arrangements on a broad range of programs with ministries of agriculture. Special attention would be given to developing the institutional competence of these agencies to manage and administer their programs.

These arrangements would build on existing programs under which USDA personnel support AID technical assistance efforts. But in addition to this expanded traditional function arrangements might be made for foreign personnel to serve as interns within the USDA.

For AID to be properly effective in assisting these developments, it must be able to command the services of a cadre of trained personnel whose knowledge and experience permit productive influence on developing country policymakers. As an example, AID is engaged in a program to improve its staff quality in agricultural economics by development of arrangements with certain U.S. universities for a kind of "joint career" service. It will pursue this effort with vigor.

The USDA is prepared to make available significant numbers of its professional personnel for carrying out sector studies and providing technical assistance.

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