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OF RESEARCH ON  
FOR PEACE



*PART I*

**Purpose, Summary, and Use  
of the Research Map**

A REPORT BY THE

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**ECONOMIC AND AGRICULTURAL  
DEVELOPMENT INSTITUTE**

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**MICHIGAN STATE UNIVERSITY**  
East Lansing, Michigan.

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## CHAPTER I

### PURPOSE, SUMMARY, AND USE OF THE RESEARCH MAP

This report outlines a program of research on Food For Peace. Many aspects of the program are explored, so that it is appropriate to use the term "research map" as a synonym for "program of research." And since Food For Peace follows and is based on The Agricultural Trade Development and Assistance Act of 1954, commonly known as P.L. 480, the latter term often is used in identifying the authorization and particularly the commodities used in the Food For Peace program.

### THE SETTING

The setting is the well known phenomenon of excessive supplies of farm products in the developed countries, especially the United States, and the deficits in food supplies in much of the developing world. This situation is associated with sharp contrasts in the approach to national agricultural and international trade policies in each of these two great divisions of world society.

In the United States, cropland retirement and acreage quotas attempt to reduce production of agricultural products, while price support programs help maintain farm prices at socially acceptable levels. Other U. S. programs subsidize exports, promote commercial sales overseas, and provide concessional sales and donations under Food For Peace. Similar export programs, on a smaller scale, are pursued in other developed countries. And the United Nations and Food and Agriculture Organization have now extended the operation of the World Food Program.

Many developing nations seek to increase production to match their rising populations by means of potentially broad programs, including research, education, extension, irrigation development, fertilizer investment, agricultural credit, land reform, and many improved agricultural practices. These nations also seek to enhance their ability to import by obtaining favorable terms for their exports.

In today's world, food programs form part of an interconnected series of economic and political relationships between the two broad groups of nations. Within this framework, attention is focused on the Food For Peace program -- a major attempt to bridge the gap between national food deficits and world food surpluses - although at times the border areas between Food For Peace and other overseas programs are indistinct.

The general idea of Food For Peace is reflected in early proposals and programs, ranging from Red Cross shipments to aid the victims of disasters, to special export programs of the U. S. Department of Agriculture in the 1890s and again in the 1930s. The charter of the Commodity Credit Corporation (CCC) of the 1930s provided permanent authorization for concessional exports on a limited basis, while sections 550 and 402 of Mutual Security Acts in the early 1950s put emphasis on farm exports to developing nations.

Public Law 480 of 1954 brought these several efforts together under three and later four Titles. Title I authorizes sales for which payment is made in local currency; Title II provides for government to government donations; Title III extends donations to voluntary welfare agencies, authorizes barter, and provides for food distribution within the United States; and Title IV provides for sales of farm products on a long term dollar credit basis. Additional policies, mainly of the U. S. Department

of Agriculture, attempt to stimulate commercial exports of farm products through export subsidies, promotional activity, changes in domestic price support programs, and lowered trade barriers.

Public Law 480 was presented originally as a temporary program to be discontinued as the surpluses of farm products were removed. As the chronic nature of the production-consumption imbalance at reigning prices continued, P.L. 480 was extended and was given a different focus. In 1957, the emphasis on barter and export disposal was reduced; in 1959 the term Food For Peace came into being, with Don Paarlberg as the administrator of the program. A four-year Title I agreement with India established long-term foreign economic assistance as a legitimate objective.

With President Kennedy's appointment of George McGovern as Special Representative and Food For Peace Administrator, the AID part of the program (Titles II and III) was given greater attention, particularly the Title II Economic Development Section. In the USDA, the new Title IV (long-term sales for dollars) program began to function, while Title I operations continued with a number of innovations. Under Richard Reuter's leadership, a concern with nutrition, particularly for school children, has been given substantial impetus.

The 1954 authorization of \$1 billion for three years has been increased year-by-year to the present \$3.5 billion authorization for the two-year period January, 1965 to December, 1966. To this must be added several hundred million dollars annually for Title III, and nearly a hundred million dollars for Title IV in 1964. For the ten year period 1955-64 slightly over \$13 billion of farm products (at estimated export market values) have been sent overseas under P.L. 480, with commitments for future shipments, as of December 31, 1964, amounting to about \$4 billion more.

Thus, the program is a substantial part of the total U. S. foreign assistance program, and there are indications of its continuing for some time to come. Moreover, other developed nations are adopting similar programs to meet their internal problems of domestic surpluses at prevailing prices.

### The Knowledge Gap

The emphasis upon research in this generation together with the sheer size of the program implies a substantial research effort. Yet the existing research reports, presented in a separate Annotated Bibliography, are deficient in a number of ways. Many of the reports, both by governmental and research institutions, tend to be descriptive of the purposes and possibilities of the program. Others, mainly by university economists, are severely critical of the program as adverse to agricultural development in the host countries and to the export interests of competing exporters. Very little research is based upon empirical analyses of actual experience. The major exceptions are a series of USDA sponsored studies carried out by research groups in Israel, Colombia, Turkey, India, Greece, and Spain, and two ECAFE-FAO studies made in Japan and Pakistan. Few studies are concerned with the social, humanitarian, nutritional, public administration, international relations, and political aspects of the program.

The great variety of views on economic issues and the paucity of research on other social and on technical issues led to a series of discussions on how to correct the situation. These discussions resulted in a proposal for an AID sponsored, prereseach contract to identify the knowledge available, the important issues, and the knowledge needed.

The reasons for the paucity and imbalance in existing research indicate some of the problems that future research workers will face. At first, the P.L. 480 program was considered an operation to dispose of temporary surpluses; hence research presumably had little long-term relevance. The law and operations are complex, so that even as the program became longer term, much time was expended in clarification of the program itself. The time required to understand the program was discouraging to some potential research workers. The multi-agency administration of the program, coupled with the need to collate data from other countries, made data collection costly and complex. Moreover, sensitive political issues at home and abroad make it difficult to obtain adequate information and to separate the impacts of Food For Peace from the effects of other international programs. The controversy about the program, and the necessary administrative trials and errors as procedures for this new program evolved did not provide an ideal environment for a careful and judicious assessment of the merit of the program. Research also is more difficult because of the imprecise character of the statutory objectives, the existence of multiple objectives, and their changing emphasis over time. Also, for several reasons, much of P.L. 480 tended to operate independently of foreign aid and other international programs; thus integrated studies of food and dollar aid were uncommon.

The prime purpose of this Research Map is to identify the significant needs for knowledge, and to propose research to provide this knowledge. A brief summary of significant issues is presented later in this chapter, while the chapters that follow describe in more detail both the issues and the research projects. (Projects, as used herein, are the specific research proposals numbered 1 to 84 in the following chapters.)



The Economic chapter utilizes a number of research studies already completed. This permits quantitative estimates to be made on some issues, and several projects are designed to do this. For other questions, the effects of the program need to be determined, so qualitative research projects are described. Some of the evaluations suggested are mainly directed at economic policy in broad terms; others are focused on rather specific issues. Many of these projects deal with the Title I and the consequent local currency programs, since Title I represents over three-fourths of the total shipments. A few projects deal with the economic consequences of the donation programs.

The chapter on Public Policy Issues is concerned with the effect of the Food For Peace program on governmental relationships, both internal and international. These are commonly referred to as political or policy issues, and involve judgments of right versus wrong, and differences in attitudes which can lead to controversy. The intent in this series of projects is to provide analysis and factual information on such issues so that legislative and executive policy makers will have a more accurate and comprehensive basis for making the decisions that must be made in carrying out the program, authorizing its continuance, and recommending modifications.

The Social and Humanitarian chapter explores a series of issues on which there is almost no research. Many of the projects outlined are evaluative, i.e., are intended to determine whether the expected effect actually takes place, and to roughly measure the degree to which it does so. The majority of these projects deal with the Title II and Title III donation programs. A few involve the social effects of sales for local currency and uses.

The Health and Nutrition chapter explores primarily operational problems of Food For Peace and human nutrition. A few basic issues

which have potential impact on longer term Food For Peace programs are presented. Nutrition is also involved in economic, social, policy and program issues discussed in other chapters. Cross references are provided.

The Population and Food Supply chapter suggests research projects which explore the present and prospective nature of the overall setting in which Food For Peace operates. Inevitably some issues and projects are difficult to allocate. Should they be placed in economic, social, or nutritional chapters? Should such issues be studied by people concerned with Food For Peace, by people studying agricultural development, or by those investigating population growth and its consequent problems? Also, the allocation of responsibility for the financial support and administration of these projects can be debated. Some would be excluded by a sharply focused, operational definition of Food For Peace research interests. A broad definition of Food For Peace concerns leads to a wide spectrum of research ranging from applied to basic, and provides research planners with a far larger number of projects than are provided in this chapter, and in the Research Map generally. The point of view taken is intermediate between these extremes, reflecting the expected great importance that the relation between world population and food production will have in at least the decade ahead. The appropriate allocation of budgets and sponsorship for these projects can be determined later. The issues and need for information are extremely important; we cannot in good conscience say that Food For Peace does not need much better information on prospective world food balances, population growth and agricultural potentials. Any line of demarcation between Food For Peace and other problems drawn today will be different tomorrow.

The Program Operations chapter is mainly concerned with current problems in the administration of the Food For Peace program. Some issues involve forward programming, packaging, and public administration. Other issues include quite difficult and fundamental problems in integrating (all) programs in a particular country.

The exploration of questions such as these in AID, the USDA, and in other U. S. agencies interested in Food For Peace led to the decision that AID would sponsor a preresearch contract, and the subsequent decision to contract with the Economic and Agricultural Development Institute at Michigan State University.

#### The Contract Provisions

The objective of the contract is the development of a research program -- A Research Map -- on Food For Peace. This is an almost unique type of research effort. Normal research contracts contain certain general hypotheses, objectives, and proposals for testing. When approved and completed the results show up as indicated effects, impacts, relationships and conclusions on how certain variables function and perhaps can be manipulated.

But this contract is complete when a comprehensive program of research is presented. It ends where the usual research proposal begins. The research projects described in this report are recommendations to AID and other potential sponsors that research be done. Some of this research will require the resources and facilities of the government. Other projects, or parts of projects, can be completed in graduate student theses, and in the normal research of people holding research appointments, some in the United States, and others in the countries receiving P.L. 480 commodities. Some of the projects described are not very suitable for direct government financing and require support from universities,

nongovernment research institutes, or foundations. In fact, any research worker stimulated to take on any project described herein, or even a research idea not described but perhaps suggested by these projects, is encouraged to do so.

Priorities are suggested within each area, with some emphasis upon the broad needs in government decision making. There is no assurance that most of the projects described here will eventually be financed by the U. S. government. The research and program administrators in the federal government, as well as institutions outside the government, have many competing proposals for the funds available. They will be able to examine this research map, and make assessments of the importance of these issues and projects relative to other research. While the MSU research group has consulted with Food For Peace and related officials both in Washington and in the field, the officials themselves must make the final priority assessments and financial commitments for research. And to some degree, these budgets will be modified by the estimated excellence of the research proposals eventually made to government by interested research institutions. We shall refer to this process briefly later.

#### Procedures Under the Contract

The provisions of the contract and Outline of Work required an interdisciplinary approach. The Michigan State University team consisted of:

Archibald O. Haller, rural sociologist and social psychologist,  
Department of Sociology  
Gaurth Hansen (after March 1965) Chairman, Department of Biochemistry  
James Hendry, economist, Director, Economic and Agricultural Development Institute  
Kirkpatrick Lawton, soil scientist, Coordinator of Foreign Agricultural Programs  
Richard Luecke (to March 1965) Department of Biochemistry

Maurice Perkins (January 1965 only) Department of Agricultural Economics  
Peter Toma, political scientist, Department of Government, University  
of Arizona

Lawrence Witt, Project Director, Department of Agricultural Economics  
and Economic and Agricultural Development Institute

All except Dr. Toma were members of the faculty of Michigan State University. Each discipline was represented by a man with extensive international experience in developing countries. The consultants and others who contributed to this project are listed at the end of this chapter.

Soon after the project was implemented, the entire staff held a week long series of interviews in Washington with officials of several agencies with interests in Food For Peace. Later, these meetings were supplemented with interviews outside Washington, and by further consultation in Washington. An interagency advisory group to the Scientific Monitor in AID became, in effect, the advisory group to this Michigan State University team.

Overseas, interviews were conducted by four members of the team, principally in Brazil, Tunisia, Egypt, Pakistan, India and Korea. One member of the team had previous Food For Peace research experience in Colombia, Turkey, Greece, and Spain.

Graduate assistants were employed in a search of the literature and the preparation of an annotated bibliography. As the project developed, a number of consultants reviewed and appraised drafts of the research map. In discussions with the Washington advisory group and with the consultants, members of the team learned a great deal more about the operations of Food For Peace; in addition, we believe the advisory group came to a greater appreciation of the research problems and research needs.

The editing of the several draft chapters, with comments and recommendations, tried to take account of the many suggestions, and to put the

projects together in a meaningful design. However, the responsibility for these decisions and for the final report rests with Professors Hendry and Witt.

Thus, the chapters that follow reflect a series of discussions of important Food For Peace problems. Draft chapters have been modified through criticism and interaction with both scholars and administrators. But, as indicated, this research map will have to be systematically reviewed and evaluated by the U. S. government. Further, the actual research carried out will depend on approval of complete project proposals submitted to U. S. government and nongovernment institutions for financial support.

## THE PURPOSE

### Research Problem Description

One purpose of this research map is to provide a comprehensive statement of the major issues relevant to Food For Peace. This statement is intended to accelerate the process by which the research worker, actual or potential, gains a comprehensive view and identifies his particular interests within the aggregate. After each issue is described, one or more research projects which would help resolve the issue are listed. Each of these recommended projects is described by (a) a research rationale, (b) a discussion of most applicable research completed or in process, (c) a list of objectives, (d) suggested research personnel, and (e) priorities. Under (f) cross references are provided. General and specific hypotheses and research procedures are not provided, partly to keep the map from being unconscionably long, partly because the MSU research group did not feel competent to develop a whole series of hypotheses and procedures (many of which will be influenced by the research resources of

the institution preparing a specific proposal). But mainly, the excellence of the hypotheses and procedures will be important in judging the research competence of the individuals proposing to conduct the research, and should be left to them.

#### Stimulating the Thinking of Research Workers

Another purpose of this series of issues and research projects is to provide enough details on valid research problems to interest potential research workers and institutions in a study of the Food For Peace program. A first approach might identify only problems which fall within the competence of a research worker in one discipline. But this comprehensive listing makes clear that many talents are needed. This list is intended to attract talent that otherwise might not consider the area of research, primarily because such persons are not sufficiently familiar with Food For Peace to identify appropriate issues..

Also, a comprehensive package may stimulate an investigation of a problem falling between or cutting across existing proposals. No project must be carried out exactly as presented; by listing many projects, new research ideas can be stimulated and an interest in those presented can be intensified.

#### Facilitating Research Planning, Programming, and Budgeting

Officials charged with the development of a new research program, or the enlargement of an existing one, immediately face the question "what (additional) research will be done?" This research map provides a basis for answering such a question, and makes possible an evaluation of the level of support of research related to Food For Peace, compared with other proposed research commitments. We hope that more rational planning of sponsored research is made possible by drawing on a variety of disciplines and experiences.

As indicated earlier, the responsibility of government officials is to determine how fully to implement the proposed program with federal resources; other individuals and institutions may choose to support additional projects. This research map should make it less difficult, though far from easy, to identify issues and projects of high priority, and the appropriate sequence in which to approach them.

### More Applied Than Basic Research

The issues identified are mainly related to the program, sometimes broadly and other times specifically. Despite this operational emphasis, which is necessary for any continuing program of research, a number of projects involve basic research. The completion of some of these projects, in turn, will likely spawn additional applied research projects. The nature of these new projects cannot easily be projected at this time.

### SUMMARY OF ISSUES

The issues and projects are organized into six chapters. These are:

- Economic Issues
- Public Policy Issues
- Social and Humanitarian
- Health and Nutrition
- Population and Food Supply
- Program Operation

In the border areas of any classification system, it is difficult to identify the proper location for certain issues and problems. An Index, relating subjects to projects, is provided at the end of Part II. Also, each project statement contains cross references to other projects to assure that related projects are given attention, no matter where located. This summary, however, dispenses with these cross references in the interest of brevity.

This summary follows the six chapters. Under each general heading a brief statement is provided on each of the issues included in the map.



The titles of the associated projects are listed, but not discussed. In this way the major features of the research map are presented; the details are provided in the subsequent chapters.

### Economic Issues

#### A. The Place of Food Aid in U. S. Foreign Aid Programs.

P.L. 480 food aid now represents a substantial part of our total foreign economic assistance. Some economists argue that economic aid given through P.L. 480, is inefficient and reduces the overall effectiveness of the U. S. aid program. The counter argument states that this amount of aid in the form of food is needed, and that the P.L. 480 procedure is about as efficient as other mechanisms in distributing aid. Also, it is argued that the flow of food from the United States has desirable domestic and international political and social dimensions because of changed political and social attitudes on the part of those affected.

Research to clarify these kinds of questions is described under the following titles.

1. The Extent to which Food Aid Substitutes for Dollar Aid
2. A Study of the Consequences of Less Liberal Terms for Food For Peace

#### B. Alternative Procedures for Commodity Transfer

Given the decision to make U. S. farm commodities available to another country for some mutually accepted purpose, what is the best way to transfer the commodity? Aside from normal commercial trade, three broad mechanisms are available.

Sales paid in local currency

Loans in dollars, but committed to U. S. agricultural commodities

Donations of the commodity

Are there significant differences among these procedures? What are the advantages and limitations of each? Is one the most desirable procedure? Or some combination? How well have the actual programs worked? Should agricultural commodities be transferred on more liberal terms than nonagricultural commodities? If so, how much more liberal terms are appropriate?

We propose that analysis be made only for those transfer mechanisms for which significant economic effects are expected. Since most of the donation programs have minor direct economic influences, their evaluation is considered mainly in the Social and Humanitarian section. The titles of research projects are:

3. Comprehensive Comparison of Economic Impacts of Alternative Transfer Procedures
4. U. S. and Recipient Country Experience with Sales for Local Currency
5. The Scope and Applicability of Title II Economic Development Projects
6. Possible Effects from Supplying P.L. 480 Commodities as Grants or Long-Term Loans

#### C. International Trade and "Usual Marketing" Problems

Competitive exporting countries have charged that their own exports have been hindered by the U. S. Public Law 480, particularly Title I, Title III barter, and more recently, Title IV. Are the transfer arrangements any more depressing to the competing countries' agricultural exports, than the provision of other foreign aid is to the export of nonagricultural commodities by competing countries? Although elaborate clearances, usual marketing requirements, and other measures have been taken to minimize the disturbances to normal trade, the charges continue to be made. At times in the past, protests have come that U. S. commercial exports have been

adversely affected. Less attention has been given to the possible effects a larger stockpile of surpluses in the United States would have had upon prices and levels of world commercial exports in the absence of P.L. 480. Can the effects on international trade and prices be determined?

One problem stemming from normal marketing requirements is the effect of various interpretations of such requirements on a developing country's foreign exchange expenditures and its economic development program. A recipient country can increase its development resources if it can substitute some Title I imports for commercial imports without a comparable loss in foreign exchange earnings. But the Title I agreements strive to limit this substitution, and thus protect normal trade. In addition, provisions may be made that the export of "like" commodities shall not be increased above a particular level (e.g., a country receiving wheat may not be permitted to export more rice or corn than in a recent historical period). Yet, the development of many of these countries logically requires an expansion in agricultural exports, if they are to graduate into the group of nations who trade on a commercial basis. Thus, the usual marketing restriction may conflict with the long-term economic development of the recipient country. The research titles are:

7. Changes in the Structure and Conditions of Agricultural Trade in Relation to Food For Peace
8. The Interpretation of "Similar" Commodities Under Section 101(a)

D. Local Currency: U. S. Uses and Disposition of Accumulations

The accumulation of local currency in major recipient countries is a problem with many ramifications. The size of the accumulation threatens to become a political problem in some countries. The confusion as to what

these currencies represent affect public attitudes and governmental operations.

The "set-aside" (reservation) of some of the currency for certain U. S. uses (Cooley loans), and the various activities associated with the allocation and expenditure of these currencies all add to the complexity of inter-governmental relations. To what extent do "set-asides" for U. S. use actually reduce net aid? The use of these currencies may or may not have inflationary impacts, depending upon the monetary and fiscal policy of the host country, and the U. S. may or may not have influence on these policies and the use of local currency in development programs. These problems are particularly acute among the major Title I recipients.

9. "Excess" Local Currencies, Effects on Monetary Structure, and the Disposition of the Currency

10. A Study of Mandatory "Set-Asides"

#### E. The World Need for U. S. Commodities and Food Supplements

Certain U. S. farm commodities are available for all of the Food For Peace uses. Some foods are available in limited supply, while others are never or hardly ever available for allocation. More nutritional improvement can be achieved if the range of products available is increased. Better school lunch programs can be provided with a range of products, as they incorporate more protective foods. Foods can be fortified with nonfood supplements or by food technology processes, either in the United States or in the recipient country. To what extent is it appropriate to restructure U. S. agricultural production for non-commercial outlets abroad? What are the costs and benefits of such changes to the United States and to the recipient society? Or, is it possible and desirable

to insist that the host country provide the nutrients? What are the possibilities of lower cost, food technology processes by which the same nutritional objectives might be attained?

The availability of improved food is no assurance that they will be purchased and consumed. An analysis of the characteristics of demand helps assess the potentials of normal marketing channels compared with special distribution programs.

A comprehensive analysis of the consequences of a major reduction in P.L. 480 shipments is needed. A future drought, new plant disease, or more effective control over farm production may reduce the flow of surpluses to a trickle. Are there significant benefits to the United States in reducing rather than expanding the Food For Peace program?

11. Feasibility and Cost of Enlarging the Range of Commodities Provided Under Food For Peace, Including Fortification
12. Elasticities of Demand for Food in Selected P.L. 480 Recipient Countries
13. Elasticities of Demand Derived from Least Cost Diets
14. A Study of the Costs and Benefits to the United States of Major Reductions in P.L. 480
15. Reducing the Instability of Supply Through Improved Programming of Shipments

F. Incentives and Disincentives to Agricultural Development in Host Countries

This issue is one of the most widely debated possible effects of Public Law 480. Substantial differences exist among authors as to the importance of the disincentive consequences of P.L. 480. Early in the P.L. 480 program, the discussion tended to be conceptual. One approach argues that any additional food shipped to the recipient country must depress prices, thus discourages agriculture, and hence, slows down general

development because of the predominance of agriculture. The other approach claims that the general development spurred by food aid overwhelms the disincentive effects; moreover, some countries already face threats of inflation due to food shortages. In more sophisticated terms, the issue may be posed: Does P.L. 480 actually have a disincentive effect upon agriculture directly, or upon the level of effort in the agricultural development program? What internal counter measures can be or have been taken to prevent disincentives? Does the wise use of reserve stocks provide a desirable price stability? Does Food For Peace stimulate improvements in marketing?

16. Disincentive Effects on Agriculture in Developing Countries
17. The Use of Food For Peace in the Operation of Reserve Stocks to Promote Agricultural Development
18. Developmental Impact of Food For Peace Upon Host Country Processing and Marketing Institutions

#### G. Title II Economic Development Projects

The expanding Title II Economic Development program is in effect a comprehensive decision by the two governments on the allocations of a certain amount of food, on the economic development project, and on the beneficiaries of the donation. There usually is no accumulation of local currency because the food is directly allocated to individuals or institutions working on the projects. Under the program food is distributed to the people who work on the projects, in exchange for labor. There are other ways to accomplish essentially the same purpose, but the point is that in Title II agreements the United States does have leverage because the end use projects are negotiated as the food allocation is made. Government to government relations may be smoother without periodic local currency negotiations, and inflation is not likely, partly because the programs are small, and partly because no lagged expenditure of local

currency occurs. On the other hand there have been some questions as to whether the cumbersome issuance of food by a paymaster is necessary. Might money be used, with the stores in the area of the project adequately supplied through the commercial network? The foods could be derived from local or P.L. 480 sources.

19. Factors Affecting the Implementation of Food-For-Wages Projects
20. The Economic Contribution of Title II Works Projects
21. The Welfare Implications of the Sale of P.L. 480 Commodities by Individual Recipients
22. The Least Costly Ways in a Title II Program to Bring an Existing Diet up to Specified Nutritional Levels, Without Major Alterations in Customary Food Consumption Patterns

#### Public Policy Issues

##### H. Relation of Food For Peace to U. S. Foreign Policy

The Food For Peace program is an element in U. S. foreign relations, to a degree becoming more explicit and more consciously examined in recent years. How important is Food For Peace to the total foreign policy? Can its effects upon the relations between the United States and other governments be identified?

It also will be useful to examine the perception and changing attitudes which people, at several levels in the society, have of the Food For Peace program.

23. Evaluation of the Significance, Extent, and Direction of Food For Peace Impacts on Inter-governmental Relations
24. Problems in the Perception and Understanding of Food For Peace Abroad, Including Possible Changes in Attitudes

##### I. Relation of Food For Peace to Host Country National Policy

In developing any Food For Peace agreement, the host country representatives involved in the negotiation have certain expectations for the

agreement under discussion. Also, the expectations of the host country decision-makers may be different from the expectations of U. S. decision-makers. Does the subsequent program conform to expectations, and does the perception of Food For Peace change as people see it in operation? For example, did the host country perceive the program as a means of saving foreign exchange, but later realize that its effects were more in the area of nutritional improvement and human development?

As the program comes into operation it may bring certain changes in the recipient country's internal policies. What is the nature of these changes? Special interest focuses on policy and programming for the agricultural sector. What commitments should a host government be expected to make in respect to its internal farm policy?

25. Host Country Policies and Objectives at Time of Negotiating Title I Agreements Compared with Subsequent Events

26. The Effects of Food For Peace Upon Agricultural Planning and Plan Implementation

#### J. Interrelations of Food For Peace with U. S. National Policy

The substantial exports under P.L. 480 appear to have changed the volume and structure of the U. S. farm surpluses, and have provided a somewhat different framework for administration and legislative decision making. One series of effects is in the domestic farm program, while others are in the changing terms under which P.L. 480 commodities are made available.

When P.L. 480 was passed in 1954, it was considered mainly as an adjunct to domestic agricultural policy. As it has evolved over time, it has given more emphasis to other elements of the program, such as nutrition, foreign policy, and economic development. How have perceptions of the program changed? Current agricultural policy and domestic



program alternatives assume certain volumes of Food For Peace shipments. Is Food For Peace uniquely dependent upon a particular type of U. S. agricultural policy? It may be useful to explore the possible character of the Food For Peace program, its policies and political strength, assuming that the host country needs define the commodity input.

27. The Interaction of Food For Peace with U. S. Farm Policy and Marketing Institutions
28. U. S. Policy Objectives and Expectations in Negotiating Various P.L. 480 Arrangements, Compared with Subsequent Events
29. Problems in the Perception and Understanding of the Program in the United States

#### Social and Humanitarian Issues

#### K. Role and Function of Voluntary Agencies in the Distribution of P.L. 480 Food

The commodities donated under Title III P.L. 480 are distributed in the host countries by voluntary agencies, including CARE, UNICEF, and church-related organizations. The first two of these organizations have food distribution to target groups as a major objective, although other human development objectives are evolving. Most of the other voluntary agencies have mission programs to which food distribution may contribute, but are not necessarily of first priority. A number of agencies place considerable emphasis on inducing self-help responses, promoting education, and improving health. These objectives are not necessarily complementary nor incompatible with the objectives of Title III, P.L. 480; still, certain procedures are required by statute. Changes in the size and structures of the programs can create problems, as non-mission related people become food recipients, as food distribution programs grow to dominate other activities, or as instabilities in the food supply affect

the relationships with food recipients. To some it might appear that the voluntary agency is an instrument of the U. S. government. To others it might appear that the United States is supporting a particular religious program. The accomplishments and problems of this system of distribution, including the role conflicts implicit in this system, need to be examined to determine the best conditions for the use of this system. The recipients may be temporarily in difficult circumstances or be dole dependent. These and other characteristics should be determined. It is suggested that the problems and program effectiveness need to be examined in different cultures.

30. Possible Role Conflicts and Functional Effectiveness of the Several Types of Voluntary Agencies Engaged in Distributing Food.

L. The Influence of Food For Peace Food Distribution Programs on Recipient Country Governmental Units, Institutions and Communities

As Title II and III programs function in distributing food, they require new institutions or adaptations of present ones, and they may stimulate innovations in the school, the church, or the community. What happens in the schools' relations with other community institutions in places where school lunch programs become operative? Are there programs which elicit voluntary help, donated equipment, or other commodities from local sources, public and private?

The donation of food under Titles II and III, and the use of Title I local currency involve the coordination, cooperation, and budgets of several levels of government, along with help from several local institutions. They may require services from private facilities such as flour mills, bakeries, and transportation. What are the effects on these entities, and have there been changes in their ability to coordinate? Do these changes have implications for other kinds of social, political,

and administrative development?

31. Effects of P L. 480 Donations, Including Title I, on Schools and Educational Systems
32. The Effects, Including Demonstration Effects, of Food Programs Upon the Ability of Organizations to Work Together

M. Extent to Which Title II and III Projects Have Achieved Their Objectives

As Food For Peace developed, administrative procedures were formulated for distributing food to needy groups. These procedures involve organizations and programs. It is convenient to retain these procedures because they are familiar and have operated to transfer substantial quantities of products. But there has been little evaluation of their general effectiveness in achieving the particular goals of each program. The outlined projects provide for a series of separate studies; the results of each would be drawn upon in preparing the later comprehensive evaluation suggested by Project 33.

33. Comprehensive Comparison of the Advantages and Disadvantages of Different Types of Programs
34. Evaluation of the School Lunch Program
35. Evaluation of the Pre-School Child Feeding Programs
36. The Evaluation of the Family Feeding Programs
37. The Evaluation of Food-For-Work Programs
38. An Evaluation of Feeding Programs for Women

N. The Role of Food For Peace in Disasters

The nature of disasters is such that speed in providing food is a major criteria of the effectiveness of the relief program. Yet, the complex logistics of providing food supplies from distant stocks and through international or national governments from countries other than

the one in which disaster strikes, make a quick response difficult. How quickly has the United States reacted? What improvements can be made? What role does food aid really play? Is the role mainly the restoration of inventories? What changes are required if assistance of an organizational character were provided to help meet the immediate problems of those in distress?

39. The Role of Food Aid in Natural Disasters

40. The Role of Food Aid in Civil Disturbance

O. The Socio-Political Effects Due to Termination of Food Programs

Title II and III programs have a low priority in procuring U. S. surplus commodities. Thus, there tends to be substantial instability in the availability of particular products. In addition, programs may be curtailed in certain countries for reasons determined by U. S. foreign policy, or because the host country fails to observe administrative specifications. What are the social and political effects of such curtailment, or of program cessation? Can program reductions be made, yet still preserve many of the past gains? What commitments might the two governments make with respect to phasing out programs?

41. Potential Effects of Withdrawal of Foods on Recipient Individuals of Various Ages, on Families, on Leaders and on Governmental Units, and Ways to Minimize Any Adverse Effects

P. The General and Specific Factors Influencing the Introduction of a New Food

The surplus foods available from the United States do not always match the food habitually used by the people in the recipient countries. The alternatives available are: (1) to change the composition of U. S. surpluses, as discussed in Issue E, Project 11; (2) to expand host country production of the items needed, as discussed in Issue V; and (3) to alter

the food habits of the recipients, or to process the food to make it more acceptable. Knowledge of the factors that can be used to induce changes are essential for a rational policy determination. The meaning the new food has to the individual, compared with other foods, may influence his receptivity to change in food patterns. In what ways can the process of adoption be accelerated? Perhaps adoption is facilitated when part of a family of innovations.

In each country there are likely to be a series of rational and some irrational beliefs about United States' foods. People may believe that the foods are undesirable to consumers in the United States, and therefore may reject them. Or the foods may simply be unfamiliar. Or the use of these foods may lead to "dependency upon the United States," and may (threaten to) place X country in a future dependency status. If these views are held, then political and social agitation may focus on the program. Such cultural and political attitudes need to be identified and steps taken to deal with them.

In addition to more dramatic rejections or hesitation to using U. S. foods, differences in status may lead to difference in presumed food habits and food preferences. Those who make national governmental decisions may not accurately perceive and reflect the food preferences of those at lower social and economic strata who are likely to be the actual consumers of the P.L. 480 commodities.

42. The Social-Psychological Conditions Influencing the Acceptance of a New Food
43. Determination of Irrational and Inaccurate Beliefs About the Physical Content of United States' Foods, and Ways to Mitigate These Beliefs
44. Determining Appropriate Forms for U. S. Commodities
45. Determination of Up-To-Date Information on Ethnic and Stratum Differences in Food Habits

46. The Identification and Influence of "Gate-Keepers" on the Adoption of New Foods

Health and Nutrition Issues

Q. Factors Involved in Learning How to Use New Foods to Improve Nutrition Effectively

The Food For Peace program frequently provides foods that are unfamiliar to the recipients. Shifts to more familiar foods often require the use of additional, costly resources. Thus, it frequently is desirable to seek ways by which foods, new to recipients, may be prepared to fit existing taste preferences and thus facilitate adoption of foods that can improve nutrition. The adoption of such foods may be accelerated if social and cultural factors can be used to supplement improved preparation.

47. Determination of Factors Influencing Appropriate Ways to Prepare New Foods

48. Determination of the Most Effective Methods of Teaching the Preparation and Preservation of P.L. 480 Foods

R. Influence of Adequate Food on the Individual's Competence for Social and Economic Development

One important problem is the belief that extreme malnutrition at an early age (weaning to about age 5), leads to effects upon the psychomotor system such that mental and physical rehabilitation can never be complete. If this is true, then such pre-school children, clearly are a high priority for any food distribution program designed to improve nutrition and human development. However, it is possible that the incidence of severe malnutrition is associated with cultural deprivation, and that the subsequent failure of efforts at full mental rehabilitation may be due to a combination of cultural and physical deficiencies, or, possibly, to cultural deprivation alone.

The influence of food donations upon the individual's potential for development is an important topic. Does more and better food affect the productivity of those receiving it? Are they able to work more hours of the day and more days of the year? Do they perform more effectively when they work?

49. Determination of Long-Term Effects of Various Levels of Malnutrition on Learning and on the Ability to Learn
50. Effects of Food For Peace on Adult Productivity and Work-Related Attitudes

#### S. Developing Improved Bases for Nutritional Programs

The Food For Peace nutritional programs for the next several years will depend upon basic information now available through various studies on nutrition already completed. A serious and continued effort of this sort, however, requires the improvement of our knowledge in certain areas of nutritional research. The studies suggested under this issue will enable future Food For Peace Programs to be more closely fitted to nutritional needs. One of these concerns the determination of the nutrient content of foodstuffs in different parts of the world because not enough is known about the nutritional contribution of various foodstuffs. Another project proposes the study of factors which might cause toxic effects on those using Food For Peace commodities. The remaining projects are concerned with the nutritional problems of pre-school children. This is a particularly important research area because such children constitute the most vulnerable segment of an undernourished population.

51. Determination of Nutrient Content of Foodstuffs
52. Control Programs in Nutritional Toxicology Related to Food For Peace
53. Determination of the Vitamin B<sub>12</sub> and Folic Acid Requirements of the Young Child

54. Continuing Evaluation of Malnutrition in the Pre-School Child in Relation to On-going Nutritional and Food For Peace Programs

T. Programs for Achieving Improved Nutrition

The objective of improved nutrition in the developing nations can be approached in a number of ways. Several kinds of information are necessary if such a program is to be substantially successful at moderate cost. More information is needed on minimum food requirements, and the alternatives available to improve the diet. Foods produced in the developing country may be made more effective by various food technological processes, while imported food can provide the same or different kinds of nutritional supplements. But the consumption of an adequate diet does not follow simply from the availability of foods; education and other programs may be needed to accomplish the objectives. The pre-school child, in particular, is very difficult to reach, and alternative approaches to provide food to such children need to be evaluated.

- 55. Technological Changes to Increase the Proportion and Improve the Quality of Protein Consumed
- 56. Assess the Possibilities of Increasing the Production, Improving the Processing, and Expanding the Use of Animal Type Proteins
- 57. Assess the Technical possibilities and Limitations of Fortified Foods to Supplement Diets Based on Cereal Grains
- 58. Assessment of Educational Approaches in Improving Nutrition of the Pre-School Child, and the Possible Role of Food For Peace
- 59. Evaluation of the Packaging and Storage of Food For Peace Commodities

Population and Food Supply

U. Projections of Food Supply and Population

The overall relationships existing between population and available food supplies form the present environment for Food For Peace. This



environment is characterized by actual or emergent excesses in production in many of the developed countries and by food shortages and malnutrition in the developing world. The rates of change in population and in food production are rapidly changing the character of the environment in which Food For Peace will operate in the future. What is likely to be the indigenous food supply-population relationship in the major developing nations? Is the food gap likely to be larger than the surpluses available in the developed countries? What can be done to improve the situation, in the developing countries, in the United States, in developed nations?

Many of these data are subject to substantial errors due to poor statistical estimating techniques. Knowledge about supply responses to price and other programs is very inadequate. Much appears to be needed to improve the statistical basis for these projections.

60. Alternative Projections of Population, Food Supply, the Demand for Food, Especially for Individual Countries

61. Means by Which the Statistical Basis for Projections and the Projection Techniques can be Improved

#### V. Possible Accelerations of Agricultural Advance in Relation to Food For Peace

It appears that the lag in food production behind the growth of population will require both an increase in supplies imported and accelerated rates of internal food production. If such advances cannot be made, then Food For Peace will face increasingly difficult choices in allocating supplies among countries and programs. The agricultural potentials of specific countries need to be identified and when identified, measures defined by which to attain these potentials by other AID, USDA, and host government activities. Food For Peace programs can assist or limit such efforts as sales agreements are negotiated and

quantities of commodities specified. Also, the extent and situations in which sales agreements may be useful in bargaining for appropriate agricultural efforts need to be determined.

Reduction of pressures of population on food supply, as projected by current statistics, require a substantial and wide ranging effort in expanding agricultural productivity and in decelerating population growth. The comparative advantage for some countries lies in the ability to expand the exports of one or two farm commodities, and thus to earn foreign exchange to pay for imports of other food commodities. Assistance from the United States in such efforts often is requested. Yet, such assistance and the actual expansion in exports are contrary to U. S. policy, if the products whose production is expanded are in surplus in the United States. What are the possible alternative policies? Are any of these alternatives preferable in the long-term context of U. S. interests in dealing with the world food problems?

In addition to its general impact on agricultural expansion, food aid may serve as an implement to induce change in agriculture. Feed grains can be imported to support a modest expansion in livestock production. Food can be used to assist new settlers or the beneficiaries of land reform while the new farms are being established. Food can also provide a guarantee against short supplies in urban centers while deliberate changes are made in agricultural institutions as one step towards agricultural expansion.

62. Comprehensive Analysis of Agricultural Potentials
63. Pricing, Production and Marketing Policies by which Food For Peace Programs Can Enhance Agricultural Advance
64. Development of Programs Whereby Possible Adverse Effects of Large Title I Imports can be Mitigated

65. Evaluation of the Significance of U. S. Non-participation in Agricultural Development Programs Which Feature Crops Competitive with Those Exported by the United States

W. Population Movements and Changes That Affect Food For Peace Programming

In most developing countries, rural to urban migration occurs at a substantial rate. A major share of Food For Peace commodities are utilized in the urban centers, and many recent migrants are likely to be part of the low income groups participating in the Food For Peace programs. The food habits of rural people often differ from those of their urban counterparts, and these preferences change as the migrants adjust to the urban environment. Food needs may differ between urban and these ex-rural dwellers; furthermore, they may be in a situation in which a taste for new foods can be developed.

A number of interesting relations between population and food production can affect future requirements for Food For Peace in specific countries. For example, an increase in population is associated with an increase in food production, since the working population increases with total population increase, though at a less rapid rate. Are food problems due to this relative increase in the non-working population, to the pressure of population upon resources, or to the shift from agricultural to urban occupations? If a decrease in per capita food production is associated with a relative decline in the proportion working in agriculture and a relative increase in the non-working population and those working in the city, then the implications of population control are subject to a different interpretation than if the decline in per capita food production is associated with a pressure on food producing resources. The implications for Food For Peace policies and

programs will be different and will require different patterns of planning for the future. Can food be used to stimulate family planning?

66. Changes in the Food Preferences Held by Migrants
67. Exploration of the Relation Between Food For Peace and Population Growth

#### Program Operations

#### X. The Consistency and Relationships Among Multiple Foreign Policy Objectives

Food For Peace is characterized by multiple objectives and dispersed responsibility for program operation. The program objectives tend to be fragmented and are delegated to one or another major agency, and sometimes to different units within that agency. Objectives of Food For Peace and its legislative predecessor include the disposal of surpluses, developing markets for U. S. exports, developing the economy of the recipient country, improving foreign relations (support of U. S. positions by recipient countries), advancing nutritional levels, and improving social and humanitarian relations in the recipient country. The objectives associated with various local currency uses would extend the list, ranging from military support to cultural exchange.

It is not likely that any program can efficiently attain all such varied objectives, although it might to some degree. Hence, for effective overall functioning, it is essential to establish the extent to which two or more objectives are mutually consistent, competitive, or partially complementary. Further, priorities need to be established among objectives and groups of objectives, to permit effective programming among competitive objectives. Overall evaluation by Congress and especially by the public often fails to differentiate among Titles and Sub-Titles so that the entire program may be damned by an aberration in one area.

Can these objectives now be clarified and integrated? Are the political costs of clarification of objectives too high to be acceptable? If not, towards what purposes should the program be directed? Or, what priorities are attached to each of the objectives? Important questions about the future of Food For Peace can not be answered unless there is at least a preliminary answer to such questions.

The Food For Peace program can relate to several areas and levels of operations in host countries. Titles I and IV are a type of balance of payments support, while Titles II and III influence local institutions and individual welfare. Any of these can operate as distinct programs with self-contained objectives or they can be related as integral and integrated parts of the U. S. objectives in a given country.

68. Integration, Consistency and Overall Evaluation of Food For Peace Objectives and Accomplishments
69. Toward Fuller Integration of Food Aid with Other Foreign Aid Objectives
70. Integrating Food For Peace Policies and Strategies in Individual Countries with U. S. Assistance Policy Objectives
71. Alternative Strategies in Formulating Food For Peace Programs in Specific Countries

Y. Statutory and Other Changes that Would Expedite the Administrative Processes

Some Food For Peace procedures follow governmental procedures developed for domestic operations, far from the needs of Food For Peace. Are alternative and simpler approaches available that both protect the public interest and expedite arrangements? Since the process of administration usually is complex in the recipient country, and because capable public administrators are among the more critical personnel shortages, it is desirable to minimize the administrative burdens.

The problems of end use accounting in donation programs are not easily resolved, and at the same time, the process of accounting, itself, creates a series of time consuming problems.

Some new procedures will be internal to AID; but most of them are likely to involve the voluntary agency, (for host government institution, see Issue BB). An examination of the present methods used by voluntary agencies will provide a basis for suggesting how possible new methods may best be introduced.

Similarly, other elements such as package markings, the procurement of commodities in the United States, and the allocation and expenditure of local currency all are subject to rules which do not always make sense in relation to program needs, and restrict imaginative Food For Peace programs. Can flexibility be increased without encouraging improper actions?

72. Developing Improved Procedures for Program Approval and Implementation
73. Comparison of Methods of Different Voluntary Agencies
74. The Feasibility of Combining Shipment and Handling of Commodities Originating Under Separate Titles or Programs
75. The Effect of Markings and Posters Upon the Perception of Food For Peace Held by Food Recipients

## Z. Problems Resulting from Substantial Program Expansion or Reduction

The Food For Peace program has evolved from a temporary program (which might be categorized as disposal of surpluses) to a continuing program which gives increasing attention to economic and nutritional development. The program can be shifted within this broad change in emphasis in a variety of specific ways. The physical facilities and the internal social and economic absorptive capacity limit the total volume of food aid that can be provided to a specific country. Some

specification of these limits for major recipient countries would be useful. What guidelines are available for choosing among changes in emphasis, including such items as: (1) a planned change in the commodities available for shipment, (2) procedures which complement and support the growth of agriculture in the host country, (3) guidelines for field personnel to enable them to better calculate the U. S. interest in determining the size of the program, and in choosing among commodities, (4) value of proposed new procedures, and (5) the appropriateness of increases or decreases in the size and character of the program.

76. Planning Procedures in Case of Program Expansion or Reduction

77. Physical Limitations to Food For Peace Imports, by Titles

78. Cultural and Economic Limitations to Food For Peace Imports

79. Providing Guidelines on Priorities to Program Developers

#### AA. The Issue of Market Development Effects

One of the objectives of Public Law 480 which has been continued to the present is to expand the commercial markets for U. S. farm products. In the long-run this objective likely will complement the economic development objective. But there may be several kinds of short-run conflicts as well.

The issue of concern here, however, is the question of whether market development efforts do have the effects which they are designed to create. To what extent do advertising, promotion, and public relations provide a positive increase in the markets for U. S. farm products? Which of the various techniques is more effective? Are such efforts effective in Western Europe, but not in developing countries? Under what circumstances does such a program work? And what are the implications of such programs for longer term development? Evaluations already made should be checked and compared with programs in developing countries.

## 80. Evaluation of Market Development Programs

### BB. The Administration of Food For Peace Programs

One specific problem identified here, out of a host of administrative problems, is the comparative cost, accomplishment, and influence of Food For Peace programs under the several titles. Is the apparent comparative low cost of Title I offset by the costs of handling local currency? Are the specific institutional and individual responses to Title II and III programs sufficiently important to warrant the greater use of such programs? For economic development? For improved nutrition? For other objectives? How does Title IV compare with Title I as developmental aid and for other desired objectives, since the local currency generated under Title IV is a host country, rather than a U. S. government responsibility? As a country AID mission agrees to cooperate in developing a Title II project, for example, what are the necessary personnel costs of an effective program?

Other administrative questions involve the kinds of changes in administration which a food distribution program requires in the host country. Does the program draw on limited supplies of administrative personnel, or is it effective in creating a larger core of such individuals? The U. S. administrative agencies which help implement the program can be examined with some of the same questions in mind.

Studies such as these, can provide suggestions on how to improve the effectiveness of the personnel.

81. Comparative Personnel Costs and Effectiveness Among Titles of P.L. 480
82. Changes in the Sophistication and Competences of Public and Private Administration in the Recipient Country in Food For Peace Activities



83. Effects of Food For Peace Upon the Structure and Operations of U. S. Administrative Agencies
84. Improving the Knowledge and Effectiveness of Personnel

#### SUMMARY OF OTHER ITEMS

##### The Project Statements

Part II of this report elaborates on the issues summarized above, and in addition provides statements for 84 proposed research projects. Each contains the following six sub-headings:

Research Rationale

Research Completed and in Progress

Research Objectives

Suggested Research Personnel

Priority

Cross References

It is not possible to provide a concise substantive summary. Instead, we present a few comments on our approach under each of these items.

The "Research Rationale" section of each proposed project is essentially an explanation and justification of the specific problem proposed for research.

"Research Completed and In Progress" refers to the most relevant research available. In some cases the references may seem somewhat far fetched; if so, this underscores the paucity of research effort in this area.

Two other summaries of existing research have been prepared under this preresearch AID contract. An annex to the Michigan State University Third Progress Report (January 1, 1965 to June 30, 1965) entitled, "Research Review on Issues Relevant to Food For Peace," selects

important issues, cites the more important research items, and summarizes this research. A few copies of this Research Review are available, primarily for use by the U. S. Government. The second source is the Annotated Bibliography - Part III of this final report. It is more complete in its coverage, and is designed for use with "Research Completed and In Progress" under the various projects in Part II of this final report. Since approximately 800 items are included, the annotations, where given, are necessarily brief.

"Research Objectives" are an effort to state the general objectives towards which a proposal for research should be keyed. Of necessity, those making a specific proposal for a specific country or type of program will revise these objectives and make meaningful adjustments to suit the project to the personnel and other resources of the proposing institution. Specific proposals will need to include hypotheses to be tested, and to provide a research design. These items, in turn, will indicate the characteristics and quantity of various talents that will be needed.

"Suggested Research Personnel" indicate the professional skills required. Some research projects are specifically listed for contacting with research institutions in the host country; some projects require cooperative work between a U. S. and a host country institution; and, some projects clearly are designed for U. S. research institutions who will work in the United States. In addition, a large number of projects, are not specific as to the nationality and location of the research institution, indicating only the kind of talents required. The assumption is implicit, and is now made explicit, that any projects which require data collection outside the United States will seek cooperation with an

appropriate research institution in the country being visited and studied. The nature of these arrangements will vary with the project and the institution making the contract.

The "Priority" is a recommendation from the Michigan State University research team to the sponsoring government agencies. This assessment is made within each of the chapters or sections of the map. We have not tried to provide a comprehensive set of priorities among the chapters; only within each chapter. Our recommended priorities are not necessarily those which AID, the USDA, the State Department Food For Peace Office, or other government agencies will accept. In fact, some projects with high priority are specifically listed for possible financial support outside the government.

The basis for the priorities is difficult to define. The criteria include items such as size and importance of the particular program, importance of an issue, estimated potential financial savings, or greater effectiveness resulting from the use of the research findings, and also such research criteria as the desirable building of one research project on the basis of another, or the time necessary for completion. The relevant criteria are influenced by the multiple objectives of the program and the relative emphasis over time.

Many of the projects in the research map are designed to evaluate particular programs against specific objectives. A few projects are designed to illustrate the complementarity or competitiveness of particular objectives, and thus should have high priorities.

The present size of a particular program does not necessarily indicate its future program emphasis. For example, the Title I program in Yugoslavia, once large, has been converted to a Title IV program, partly

as a consequence of Congressional views. Other programs may be curtailed in the future. It may be useful to review certain programs that have been eliminated, but the assessment of priorities requires some sense of probable future programs, and the questions that will be or should be asked. In the final analysis these priority judgments are based upon some combination of intuition and sensitivity, the size of the program, and the probable usefulness of the research results in governmental operations. These same general questions, of course, will be considered and reviewed by executive agencies as they consider the possible support of various projects in the research map, and as nongovernmental institutions consider the possible financing and implementation of projects. Thus the priorities in Part II must be viewed as a contribution to priority assessment and not as a final word.

The "Cross References" cite the number and title of research projects which are fairly closely related to the one being described.

#### What the Research Map Represents

The research projects presented in Part II of this Report are not and cannot be considered parts of a precise blueprint with projects to be selected one by one until all are completed. The completion of some research will suggest new projects of high priority; these results may also suggest that additional research proposed in this map will be of little significance, i.e., some priorities may need to be revised downward.

The research program provided in Part II makes it possible for a research administrator to gain a sense of how a particular project, or proposed research contract fits, into the total. In this way the map

should facilitate the programming and budgeting of research on Food For Peace. Since only a part of the total can be financed in a single year, some choices are necessary among projects, presumably among those of high priority.

#### Operations Research Within U. S. Agencies

An internal operations research unit does not exist within AID; however, certain research contracts draw on outside resources to perform this function. We understand that some suggestions have been made to develop a small unit which would combine internal and external personnel for a number of task forces.

The USDA has a number of units concerned with research. Perhaps the most important unit, in reference to food aid is the Economic Research Service, including some projects actively sponsored by the Foreign Agricultural Service. The research conducted under this sponsorship is cited in several of the projects. The work is a combination of agency research and contract research to outside individuals and research institutes. In some areas AID makes a contract with the ERS and other government agencies for specific research projects. Certainly, some operations research can be conducted outside AID but within the government to mutual advantage; other research projects need to be done independently of governmental sponsorship, both to stimulate a broader range of inquiry, and to gain credence and a greater measure of objectivity.

Where administratively confidential materials provide the major source of information and limit the possible publication of results, there is cause to utilize a research unit within the Federal Government or within AID itself. A number of the projects in Part II are proposed for

within government study, partly because of difficulties in handling security problems, but mainly because the knowledge gained will be more useful, as the research worker in the USDA, AID, or other agency, can be drawn into a variety of day-to-day governmental decisions.

Still, the majority of the projects proposed in Part II probably will be contracted to research units outside the U. S. government. Some projects should be done by research organizations in other countries, thus drawing on the insight and understanding of people who intimately understand the society of the host country. Others should be done by research institutions in the United States, some operating within a university framework and others without formal university ties. Still other projects can best be done by some combination of domestic and overseas personnel, with each contributing insights. In fact, the latter approach may well be appropriate for a large proportion of the projects.

#### READING THE RESEARCH MAP

Public Law 480 is a complex law involving many units of government. Food For Peace is a complex program with six or seven major historical objectives. It would be surprising if a research program developed by an interdisciplinary team to study the law and the program were simple and unambiguous. Chapters II through VII provide no such surprise.

Most readers will find that a careful study of the Table of Contents in Part II will save time. The issues are listed in capital letters - A, B, C to BB. The projects are numbered - 1, 2, 3 to 84 - and are subsumed under a relevant issue. Some of these projects might be combined by an interdisciplinary team, by several research workers working together, or by individuals, with the consultation of others. Thus the

Table of Contents facilitates the identification of related projects for a particular issue.

An Analytical Index is provided at the end of Part II. This Index lists problems, concepts, and research approaches and refers to the number of the project in which the particular idea appears. This provides an additional tool by which to identify relevant projects. Interdisciplinary teams may find this Index particularly helpful.

Cross references are provided in the Research Map itself in Chapters II through VII. One reason for these cross references is to facilitate gaining an understanding of the relationship among projects and to recognize the broader setting. Again, several proposed projects might be combined as one research proposal, or parts of several projects might be combined, this time across issues. In some cases a single project might even be split into two proposals or two stages of a proposal. Such packaging or repackaging of the projects, done on the basis of the resources and special interests of the proposing research institution, or research sponsor, can be more rational when the nature of possible related projects can be obtained readily. These cross references are especially relevant when interdisciplinary teams are involved.

Economists, including agricultural economists, obviously will be particularly interested in the projects listed in Chapter II. The cross references will lead to projects in other chapters that may be of interest. Chapter VI will also be of interest to agricultural economists. For those concerned with operational and administrative problems, Chapter VII provides a number of projects and cross references that may be of interest.

The political scientist will be interested in Chapter III; those interested in public administration will find a number of projects in

Chapter IV and Chapter VII of interest also.

The sociologist and social psychologist should turn first to Chapter IV and its cross references, then to Chapters V and VII.

The agricultural scientist will be interested in several projects in Chapters V, VI, and VII.

The biochemist and nutritionist will turn mainly to Chapter V, and then to several cross referenced projects.

The area specialist will not be able to read the map as readily. Issue X and Projects 70 and 71 in Chapter VII may be a starting point, along with Issues O and P in Chapter IV. But many of the other projects have a regional or country setting. Perhaps a partial discipline focus will lead such a person into some country related problem which is of interest.

An interdisciplinary research institution will probably save time if it carefully studies the Table of Contents and the Analytical Index. In addition, Chapter VII has a number of projects particularly suitable for such an institution. A number of relevant projects also appear in Chapters II and III.

Host country research institutions can use two approaches. One is to follow the relevant discipline, selecting those projects for consideration where field research is indicated. The other is to make some preliminary assessments of the problems that seem most evident in their country's relation to the Food For Peace program, and then examine the research map for these issues, using the Analytical Index. A similar approach may be used by a U. S. institution working overseas and desiring to broaden and strengthen its program with a research function.



## PROJECT FINANCING

Over and above general purposes such as the planning and programming of research, the research projects provided in this map are directed at (1) encouraging nongovernment research institutions to expand research on Food For Peace, utilizing their own resources, (2) stimulating unsolicited research proposals for possible financing by government, and (3) providing sponsoring agencies such as AID and the USDA with a basis for evaluating relevance, quality, and priority of both solicited and unsolicited research proposals.

Research institutions, research leaders, and graduate students should feel free to draw at will on the ideas presented here. Regular endowment funds, scholarships, and fellowships (such as NDEA), foundation grants, and the McGovern Bill if it materializes, all are possible sources of financing. In some cases a unit of the federal government may be helpful in obtaining information.

In developing an unsolicited research project a research institution will need to make a preliminary assessment of the types of research projects in which it has an interest. A bit of checking may be desirable to determine whether others have begun to work in this area. If financing is required, then standard procedures should be followed. Sponsored research, whether solicited or unsolicited, involve discussions and review in the prospective sponsoring agency. The AID procedure for the submission of proposals has been described in a brochure entitled "Contract Program in Research and Analysis." Similar approaches may be followed for the U. S. Department of Agriculture; liason officials can be contacted by possible contractors from overseas..

Finally, AID is the sponsor of the work upon which this report is based. The contract provisions, however, and the review and advisory

committees were interagency in character. Thus, the research map is more than a recommendation to AID; it includes items of interest for a variety of government units, and perhaps to nongovernment sponsors as well. Even so, we have concentrated on those issues that have relevance to Food For Peace, and with less emphasis than we would like on how best to expand the amount of food produced in the developing world and some basic aspects of the population and nutrition problems.

The emphasis in this report is on the total P.L. 480 and Food For Peace program. It covers the two Titles administered by the USDA as well as the two Titles administered by AID. Relatively little attention, beyond the general problem, is given to local currency uses, also administered by AID. Moreover, this report attempts to view Food For Peace as a program being integrated increasingly into U. S. foreign policy. As such, there are areas of overlap between the problems of domestic agriculture, of agriculture in the recipient countries, of commercial trade in farm products, of population, and of nutrition. The border lines among these areas are difficult to define both conceptually and administratively. With those who wish to extend the borders we have no argument, and we wish them well as they attempt to deal with an even larger subject area.

#### PERSONNEL

In addition to the interdisciplinary team listed earlier, the project has drawn on the following people. Their contributions have been many, and are much appreciated by the members of the research team.

The following professors from other universities served as consultants to the project:

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