

Agency for International Development

RESEARCH ADVISORY COMMITTEE  
ELEVENTH MEETING



FEBRUARY 2 - 3, 1965

AGENCY FOR INTERNATIONAL DEVELOPMENT

RESEARCH ADVISORY COMMITTEE

Eleventh Meeting

February 2 and 3, 1965

Washington, D.C.

A. I. D. RESEARCH ADVISORY COMMITTEE

Eleventh Meeting

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Comparative Study of Food Marketing Systems in LA Countries in Early Stages of Economic Development (Michigan State University)	N
Farm Marketing Facilities and Practices in Tropical Africa (Stanford Research Institute)	O

A

A. I. D. ADVISORY COMMITTEE ON RESEARCH

Eleventh Meeting

February 2 and 3, 1965

Room 1205 New State

TAB

February 2

- 10:00 a.m. - Introductory Remarks.....Dr. McDermott A B
- 10:15 a.m. - Progress Report.....Dr. Wilkes
- 11:00 a.m. - Mission-Related Research.....Dr. McDermott E
- 12:30 p.m. - Lunch
- 2:00 p.m. - Project Review (Closed Session)
1. Study of Distribution and Marketing of Fertilizers in Various Countries Throughout the World (Arthur D. Little, Inc.).....Dr. Charpie G
  2. Industrial Location and Development Planning in Newly Industrializing Countries (Stanford Research Institute).....Mr. Skolnikoff H
  3. Development of Planning and Planning Criteria -- Renewal (National Planning Association).....Dr. Millikan I
  4. Analysis and Study of Factors and Circumstances Influencing the Effectiveness of Extension Type Programs in Developing Countries (Federal Extension Service -- USDA).....Dr. Parsons J
  5. Estimation of Birth Rates from Interview Data (National Center for Health Statistics -- HEW).....Dr. McDermott K
- 4:30 p.m. - Adjournment

February 3

TAB

9:30 a.m. - Project Review (Closed Session)

1. Study of the Basic Issues of Foreign  
Aid (Hudson Institute).....Dr. Fainsod L
2. World-Wide Extension of Aptitude Testing  
(American Institutes for Research).....Dr. Holmberg M
3. Comparative Study of Food Marketing  
Systems in LA Countries in Early Stages  
of Economic Development (Michigan State  
University).....Dr. Parsons N
4. Farm Marketing Facilities and Practices  
in Tropical Africa (Stanford Research  
Institute).....Dr. Millikan O

11:30 a.m. - Adjournment

B

AGENCY FOR INTERNATIONAL DEVELOPMENT

RESEARCH ADVISORY COMMITTEE

Minutes of the Meeting of October 13-14, 1964

The Chairman opened the Tenth Meeting of the Research Advisory Committee by welcoming the members and the A. I. D. officials attending the meeting. He asked for the approval of the Minutes of the Ninth Meeting. After the Committee had approved them, the Chairman welcomed Dr. F. Joachim Weyl as a new member and Dr. John D. Wilkes as the new Science Director. The Chairman announced that the most important event since the last meeting was the lifting by Congress of the ceiling on the research allotment from \$6 million to \$12 million for FY 1965. He gave the background of the events leading to this step and thanked all the members who participated in the efforts to lift the ceiling.

1. Agricultural Productivity Conference. Dr. Millikan reported on the Agricultural Productivity Conference organized this summer by MIT under his leadership. He summarized the principal reasons for convening a conference of this type: There is serious concern over the lack of response by the agricultural sectors in the less developed countries to assistance programs; there seems to be not only a lack of advance in productivity but actually a failure to keep up with the population growth; there are many explanations for this failure and it was felt that a summer study should focus on this problem. Dr. Millikan felt that one reason for the success of the conference was the very good mix in the participation: plant scientists, fertilizer specialists, general economists, behavioral scientists, agriculture economists, etc. all participated in the conference and contributed to the final report. The conference also included a number of people who were actually connected with success stories in this field, as well as representatives from A. I. D. with long practical experience. The conference was divided into three phases, first, a series of briefings, then a series of meetings by working groups organized along ecological lines, such as specialists in tropical rain forests, high altitude agriculture, monsoon tropics, etc.; the final two weeks were spent in working groups organized around functional lines, such as economic factors, administration of projects, organization of research (not only the substance of research, which was considered by all groups, but how research could be organized), etc. The final product will be a conference report. It was actually drafted at the conference itself by the various working groups. It is hoped that it will be available in published form at the end of the year. The draft will have to be sent to the participants for their comments, which will require additional time before publication in final form.



Although no pathbreaking developments had taken place, Dr. Millikan believed that almost all participants would agree that this summer study was an overwhelming success and provided an extremely valuable education for all the participants, most of whom hold key positions in this field of endeavor; they acquired new insights and a new stimulus for their activities in the next four or five years. The broad conclusions that were reached are not new, but the conference developed a much deeper understanding among the participants of some of the realities of the problems which have to be faced in this area. There was general agreement that (a) there is extensive diversity in the conditions confronting assistance efforts, and (b) a highly complex interdependence exists among all factors at work. In view of these conclusions, extensive adaptive research is required, i.e., adaptation of proven methods to specific problems in specific situations. This adaptive research would focus not only on physical factors but also on organization and administration. Trying to achieve real improvement in productivity will depend on long-term complex package programs dealing with a great variety of factors. The conference has also looked more deeply into some specific problems such as the problem of mechanization, the psychological factors affecting young people in farm communities, and new innovation insurance schemes.

In the ensuing discussion, Dr. Parker stated that all participants admired Dr. Millikan's leadership and the excellent organization provided by M. T. He mentioned various steps that had been taken to apply what had been learned at this conference to A. I. D. operations. As far as research is concerned, the conference provided many new ideas for adaptive research on a wide range of subjects. Dr. Mosher pointed out that although at the beginning of the conference six weeks seemed a long period of time to devote to a study of this type, at the end this time seemed too short; in the future the briefing sessions could possibly be shortened in order to have more time to work on the final report. He thought that the implications for A. I. D. are clear -- more men with the specific competence required for agricultural package programs should be hired, for both research and operations, and more action projects should be used as instruments for the development of research findings. The members agreed that comments on the final report should be sought from the participants, although there is a likelihood that this would result in a postponement of the publication date.

2. Program Review. The Chairman stated that he thought that the time had come to discuss at some length some of the basic issues confronting the research program. He outlined some of the thoughts on

the subject which he had developed on the basis of his experience with this program. At present, a whole spectrum of tools for supporting research is available -- from grants helping scientists, but without specific social purpose, at one extreme to commissioned research (following the World War II pattern) at the other; and there is a whole range of intermediate arrangements which are available. Different tools are needed for tackling different groups of problems. Basically, there seems to be four groups of problems: (1) Problems with large technological components (i.e., desalinization, nuclear power, etc.) where a technological breakthrough of major proportion can be expected; (2) very broad problems in the fields of economics, political science, behavioral sciences, etc., where research findings may provide insights but not much direct applicability to A.I.D. operations; (3) a group of problems where questions can be defined much more sharply and where the results may provide a definite payoff to A.I.D.; (4) a group of problems created by obstacles to programs in specific operational situations. ORA's responsibility should not be to develop knowledge per se but to use research to define and answer questions with potential pay-offs for the Agency. Great expertise is needed to define questions; the government alone will never have this expertise and, therefore, cooperation with the academic world is necessary even in the definition of problems. One of the key difficulties is the fact that the knowledge the academic world is most interested in obtaining is the kind of knowledge that may not have any immediate applicability to A.I.D. operations. Thus ORA will have to take on a much greater responsibility in the identification of problems and the sharpening of research designs than would be the case in a program consisting chiefly of unsolicited or semisolicited proposals.

Dr. Wilkes pointed out some of the issues facing ORA at this juncture; for example, the whole problem of the allocation of research resources -- in what proportion should research monies be allocated among the various components of the Agency? How should research projects be phased in view of budgetary limitations? How to obtain valid and useful research results from A.I.D. action projects? How to break down the present operational wall between the regions and ORA and how to involve the regions more deeply in research efforts? How to develop a mechanism to identify researchable problems? How to approach a number of questions which have not been defined sharply enough to let out research contracts but for which solutions are needed? In this instance, the organization of ad hoc groups to strengthen the ORA program should be considered, as well as the possibility of establishing this type of problem. How to increase our perception of the relevance of results to actual A.I.D. needs, and how to create an Agency mechanism to provide ORA with a coordinating responsibility over research efforts within the Agency? After having indicated some of the central issues

facing ORA for the Committee's consideration, Dr. Wilkes presented briefly the highlights of the research and analysis program for FY 1965.

In the ensuing discussion several members stressed the importance of better coordination between the operational side of A. I. D., the research program, and the research community. They discussed several devices that could be used to stimulate interest in development research among the academic community. Other members emphasized the importance of improving the identification of problems and of sharpening the design of projects in order to obtain better payoffs.

Mr. Bell stressed the importance of setting limits to research projects sponsored by A. I. D.; in general, the time lead should not be more than five years. He also emphasized that both the research staff and the operational staff of A. I. D. should become involved in research efforts; ORA should provide the leadership, but inevitably it will remain a small part of the whole operation. ORA should, however, be supported by the research community and by the A. I. D. operational offices, for it will never be able to accomplish its assignment by itself. Dr. Mosher remarked that the ORA staff should participate much more actively in defining problems and in developing research projects. Dr. Weyl pointed out that there are two sectors in the academic world, one concerned with international development and the other one with national development and that it was of the utmost importance to interest the more advanced domestic sector in the problems of foreign assistance. He suggested a seminar of bright young scientists which would be exposed to A. I. D. problems. All the members stressed the importance of "reorientation" of the universities so that they would be better able to assist foreign assistance efforts.

Dr. Hornig, Special Assistant to the President for Science and Technology, joined the group during this discussion. The Chairman thanked him for the support he had given to the research and analysis program in the congressional hearings. Dr. Hornig stressed the importance of building a solid framework within which the program can operate with a maximum of freedom, of avoiding the impression of randomness in the selection of projects, of establishing a record that can be effectively displayed to Congress and to the American public, and of establishing this record within a reasonable amount of time.

### 3. Project Review.

#### (a) Capacity Expansion Planning Factor -- National Planning Association.

Dr. Charpie, Chairman of the subcommittee appointed to review this proposal stated that Dr. Wolman had not been able to participate in the review and that, therefore, the views expressed by the subcommittee represented only those of Dr. Brown and Dr. Charpie. Dr. Charpie recommended that A.I.D. undertake only Phase I of this project. Whether or not Phase II is undertaken should depend on A.I.D. Program needs; if A.I.D. does not engage in a program in industrial technology the Agency should not support Phase II.

Mr. Mayer presented briefly the background of this project and stated that the Agency proposes to go ahead with Phase I, but not with Phase II at this stage.

Decision: Phase I only endorsed by Committee, in view of A.I.D.'s decision not to support Phase II.

(b) Social Science Research to Facilitate Economic Development in the Indus Plain of West Pakistan -- University of Michigan

The Chairman presented the background of this project which had been reviewed originally by the RAC Ad Hoc Committee in June 1963. A revised proposal had been discussed with the Committee on June 3, 1964. At that time, the Committee had recommended that the revised proposal be reviewed by an appropriate subcommittee. This subcommittee chaired by Dr. Mosher, and consisting of Dr. Holmberg, Dr. Millikan, Dr. Parsons and Dr. Revelle, suggested another revision of this proposal, which was before the Committee.

Dr. Mosher, the Chairman of the subcommittee appointed to review this project led the discussion. He mentioned that he had not been in contact with Dr. Holmberg and Dr. Revelle, who would speak later for themselves. Dr. Mosher recommended support for this project but emphasized that the implications for long-term research are quite clear and that the Committee should recognize this situation. In the discussion, it was suggested that the contractor try to establish closer relations with Pakistani institutions and that the educational aspects of the project be emphasized. Dr. Holmberg stated that he would favor support of this project in view of the fact that the contractor had met the specifications stipulated by the subcommittee. Dr. Revelle agreed with him. The Chairman mentioned that this project raised some basic policy questions, as it did not seem apt to lead to results that could be applied to A.I.D. operations within a reasonable time span. In the future projects of this type may not win the support of the Committee. There was a consensus, however, that this project should be supported in view of its history, the quality of the investigators, and the fact that the concomitant action programs are progressing and need research support.

Decision: Recommended for funding.

(c) A. E. D. Agricultural, Education and Research Programs  
Abroad under Contract with the Land Grant Institutions --  
Committee for Institutional Cooperation

Dr. Mosher, the Chairman of the subcommittee appointed to review this project, stated that it had the wholehearted support of Dr. Moseman and himself. Dr. Holmberg, the third member of the subcommittee, backed Dr. Mosher and recommended support. Several other members agreed as to the merits of this project and supported the subcommittee's position. Dr. Parker announced that Dr. Baldwin would take the leadership of this project, supported by a well-qualified second man.

Decision: Strongly endorsed by the Committee.

(d) Cultural Change in Sudanese Nubia -- University of  
Colorado

Dr. Holmberg, Chairman of the subcommittee reviewing this project, stated that he was very favorably impressed by this proposal, and recommended it strongly for support. There remained only some minor questions concerning the research design which could be strengthened.

In the ensuing discussion, several members raised the following points: (1) The contractor should study carefully how he could strengthen his links with the University of Khartoum. (2) It would be wise to add an agricultural economist to the staff as the proposal shows a certain lack of understanding of agricultural economics. (3) The contractor should realize that (a) the population might be disorganized for several years; (b) the Egyptians who will be involved in the relocation will present a special problem. (4) A special research program on technical and social problems related to man-made lakes in Africa is being planned by the UN special fund. The contractor should establish close contacts with the staff in charge of this program.

Decision: Endorsed by the Committee, which requested that the points raised in the discussion of the project be conveyed to the contractor.

(e) Inter-University Research Program in Institution-Building - University of Pittsburgh

Dr. Millikan, the Chairman of the subcommittee reviewing this project, stated that there are certain questions about this project which have raised doubts in his mind and Dr. Fainsod's and which he would like to have clarified. He said that he would, however, reserve judgment until the Committee has had a chance to discuss this project. Dr. Holmberg, the third member of the subcommittee, agreed with this position.

The Committee discussed this proposal at length. There was general agreement on the high reputation of the team involved, but questions were raised as to (a) the potential usefulness of the results to administrators, (b) the adequacy of the conceptual framework, (c) the selection of the institutions to be studied, (d) the potential duplication with other projects such as the one proposed by the Committee for Institutional Cooperation and (e), more fundamentally, the wisdom of emphasizing the study of institution-building per se as a discrete field of scholarly endeavor. In responding to these queries, the staff clarified each point raised by the Committee members and emphasized that the purpose of the study was not an evaluation of projects but the generation of hypotheses which would be tested in projects expected to be submitted next year. The majority of the committee voted for support of this project, provided that the spirit of the discussion be conveyed to the contractor.

Decision: Recommended for funding by the Committee, which requested that the spirit of the discussion be conveyed to the contractor.

(f) Urban Power Structure and Decision-Making in Developing Countries -- Indiana University

In the name of the review subcommittee, Mr. Skolnikoff stated that although this proposal represented a major improvement over the first proposal from Indiana University, which he had the opportunity to see, he still felt that the subcommittee could not recommend support. The questions which had been raised concerning the relevance of this project to A.I.D. operations, the methods and techniques to be used, and the research design in general had still not been solved. Several members agreed with these criticisms.

Decision: Not recommended for funding at this time, without prejudice for future resubmission.

(g) New Techniques for Training Teachers of English, Phase III -- English Language Services, Inc.

Dr. Skolnikoff, representing the review subcommittee, consisting of Dr. Zacharias as chairman and of Dr. Painsod as the third member, briefed the Committee on the background of this project and stated that the subcommittee felt that this project should be continued. It would be advisable, however, that the panel of consultants originally appointed to review Phase I review every phase of the project. In the ensuing discussion it was suggested that after Phase IV had been completed, a conference of 30 to 40 outstanding specialists in this field should be asked to assess the results. Another suggestion was that a test of effectiveness should be devised and used after completion of the project.

Decision: Recommended for funding with the provision that the committee of consultants originally appointed to review this project review Phase II before initiation of Phase III.

(n) An Evaluation of Columbia Power Pack Project --  
Institute for International Services

Dr. Parsons and Dr. Cairns, representing the review subcommittee, led the discussion on this project. (Dr. Wolman, the third member of the subcommittee, being out of the country did not have an opportunity to review this proposal). Dr. Parsons presented briefly the history of this project and the problems confronting it in view of the repeated delays in starting operations. Mr. Mayer mentioned that an A.I.D. panel had selected the Institute for International Services as the potential contractor with the best proposal. Dr. Cairns suggested that an exploratory phase be initiated first to find out if this experiment was still scientifically valid, in view of the delays that have occurred. Dr. Parsons recommended that a study of the economics of electric power in this particular situation be included in Phase II, if Phase II is undertaken.

Decision: Project recommended for funding, provided that an exploratory phase (Phase I) which is estimated to cost about \$25,000 be conducted to find out whether the envisaged evaluation could still have scientific validity in view of the history of the project. On the basis of the findings of Phase I, the staff will determine whether to proceed with the remainder of the project (Phase II) and will report this decision to the Committee for its information. No further RAC review will be required. In case Phase II is undertaken the Committee recommends that a study of the economics of electric power in this particular situation be included.

(1) Research Information Service -- External Research Staff,  
State Department

Mr. Lachman, the Action Officer in charge of this activity, presented briefly the background of the services provided by the External Research Staff to CRA, and the need for continuation and expansion of these services. In the ensuing discussion, questions were raised as to the danger of A.I.D. paying for services not actually rendered or no longer needed. Mr. Lachman assured the Committee that CRA intends to pay only for services actually rendered, and that it will discontinue services that are no longer needed or are provided through other mechanisms.

Decision: Recommended for funding.

4. Rural Development Conference. Mr. Hilliard presented the background of the Rural Development Conference which was held in late July under the sponsorship of the Agency for International Development, the Association of State Universities and Land Grant Colleges, and the U.S. Department of Agriculture. This conference was one of the results of the Gardner Report. It provided the first significant opportunity, since the publication of the Report, to establish better relations between the universities and A.I.D. The conference made about 70 recommendations, including many major measures which are now under consideration by the Agency. The Agency has developed an action plan based on these recommendations, and has assigned specific tasks to its staff in order to carry out this action plan. There is no doubt that the universities have considered this also as a challenge to themselves. It is worthwhile to note that 80% of the land-grant colleges were represented. As far as research is concerned, the conference backed an increased expenditure for research. The concept of the use of graduate students for research, support for research by nationals in the less developed countries, and the importance of considering the increase of knowledge as an organic part of university programs were all emphasized by the conference. Mr. Hilliard announced that the position of "academic vice president", who will be in charge of relations between the Agency and the universities, will be filled soon.

Dr. Revelle pointed out that heavier emphasis on research will result in the improvement of the quality of the academic personnel willing to go overseas. Mr. Wiggins, from the Policy Planning Council, stated that the Council was particularly concerned about rural development, that there were very many aspects of this problem which should be pieced together.

5. Organization of the Research Advisory Committee. The Chairman remarked that the time had come to discuss the future organization of the Committee. He mentioned that Dr. Weyl had developed a plan which called for an annual rotation system of about 25% of the membership, an enlargement of the Committee and a time limitation for membership. This plan also included the principle that a member could not succeed himself. He stressed that it is the Administrator of A.I.D. who has the responsibility for the appointment of members and the chairman. The term of the Chairman would also be covered by a time limitation.

After a short discussion the Committee approved in principle these recommendations for the future organization of RAC which have been outlined in an attachment to the Minutes.



6. Other Topics. Dr. White presented to the Committee research findings developed by the A.I.D. research project on the sterility method for tsetse fly control or eradication. The purpose of this project, which is conducted in East Africa, is to determine whether the method of chemically induced sterilization developed and successfully applied to the control of other insects can be adapted to the control of the predominant species of the tsetse fly -- the carrier of sleeping sickness in vast areas of Africa where potentially productive land is now underdeveloped. The final results of this pilot project will be available in two or three years. The findings presently available seem promising and there is a possibility that this project will help immeasurably in efforts to eradicate sleeping sickness.

Mr. Tilson raised the question whether ORA could continue to use mail balloting for Committee review of symposia. The Committee agreed to this procedure. The Chairman asked Mr. Lachman to poll the members for the date of the next meeting as well as the dates of future meetings for a year in advance. He thanked the Committee members for their contribution to this session and the staff for their assistance in organizing the meeting, and adjourned the meeting.

Attachment: Organization of the Research Advisory Committee

Committee Members and Consultants to the Committee  
Present\* at the October 13 - 14, 1964 Meeting  
of the Research Advisory Committee

Committee Members

Dr. Walsh McDermott, Chairman  
Dr. Harrison Brown  
Dr. Robert W. Cairns  
Dr. Robert A. Charpie  
Prof. Allan R. Holmberg  
Dr. Max F. Millikan  
Dr. Arthur T. Mosher  
Prof. Kenneth H. Parsons  
Dr. Roger Revelle  
Mr. Eugene B. Skolnikoff  
Dr. F. Joachim Weyl

Consultants to the Committee

Dr. Irwin M. Tobin  
Dr. Donald F. Hornig  
Dr. James A. Shannon

\*Not all present for the entire session.

ORGANIZATION OF THE RESEARCH ADVISORY COMMITTEE  
(as approved at 10th meeting of RAC)

1. Membership

The A. I. D. Research Advisory Committee consists of sixteen (16) members (not including the Chairman), appointed by the Administrator of the Agency for International Development to serve each for a term of four (4) years. Members may be chosen from private industry, academic and other not-for-profit institutions, or government organizations, and should be individually of outstanding accomplishment in fields of research and development relevant to the growth and modernization of less developed countries, or to the application of foreign assistance towards such ends.

Arrangements will be made to insure that on the last day of each calendar year the terms of four (4) members expire, which would provide for a 25% membership rotation per year. No member can be reappointed to the Committee until at least one year after the expiration of his prior term.

2. Chairmanship

There shall be a Chairman whose term is set at four years. He is appointed by the Administrator of A. I. D. Upon expiration of his term, he can become a member, but cannot be reappointed Chairman until at least a year has elapsed. In the event the Chairman cannot attend a meeting, the Committee will elect a temporary chairman by majority vote. As the present chairman has served since December 1962, his four-year term of office will terminate in December 1966.

3. Meetings

The Research Advisory Committee will meet not less frequently than three times each year in accordance with a calendar, established by the Chairman with the advice of the Committee and the A. I. D. Science Director. It will also convene when and if requested to do so by the Administrator of A. I. D. The responsible officer present at each meeting shall be either the Administrator; his Deputy; the Assistant Administrator; TCR; his Deputy; or the Science Director.

Invitations to attend each of the Committee's regular meetings should be extended to:

Director, Office of Science and Technology, Executive Office  
of the President  
Director, National Science Foundation  
Director, National Institutes of Health  
Director, Office of International Scientific Affairs,  
Department of State

4. Transitional Arrangements

At its next meeting, the Committee should proceed to divide itself by lot into three groups of four (4) - the first group to serve until 31 December 1965, the second one until 31 December 1966, and the third one until 31 December 1967.

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AGENCY FOR INTERNATIONAL DEVELOPMENT  
Technical Cooperation and Research  
Washington, D. C. 20523

BI-MONTHLY  
REPORT

of

RESEARCH PROPOSALS

received and acted upon

by the  
Research and Analysis Staff

January 11, 1965

Distributed by the Management Support Staff

Mrs. Hilda Davis  
Code 182 Ext 7614

TCR/RA FORMAL PROPOSALS RECEIVED DURING DECEMBER, 1964 RU JANUARY 11, 1965

Institution	Investigator(s)	Subject	otal Cost and Time*	New or Renewal	Action Officer
<u>AGRICULTURE</u>					
California, University of	Dr.P.R. Stout	Desalinization and Salt Control Research on Agricultural Soils of Arid Regions	\$2,529,400 10 yrs	N	Dr. F. Parker Code 182 Ext 7210
Stanford Research Institute	W.O. Jones	Farm Marketing Facilities and Practices in Tropical Africa	560,000 30 mos	N	Dr. F. Parker Code 182 Ext 7210
<u>PUBLIC HEALTH</u>					
HEW Public Health Service	W.R. Simmons	Estimation of Birth Rates From Interview Data	113,291 18 mos	N	Dr. H. Frederiksen Code 182 Ext 6998
Pahlavi University Shiraz, Iran	W.F. Dutz	Pneumocystis Carinii Infestation in Iran	78,650 2 yrs		Dr. H. Frederiksen Code 182 Ext 6998
<u>HUMAN RESOURCES</u>					
Kansas, University of	Dr.J.O. Maloney	An Analysis of Engineering and Public Administration Students from the Near East and Africa Who Have Studied in the US	114,400 2 yrs	N	Dr. W. Lybrand Code 182 Ext 7654
American Institute for Research	Dr. P.A. Schwarz	Research and Development to Enable World-Wide Use of the I-D Aptitude Tests	239,100 18 mos	N	Dr. H. Leavitt Code 182 Ext 7654

\*Amount shown is for one year unless otherwise specified.

TCR/RA FORMAL PROPOSALS RECEIVED DURING DECEMBER, 1964 THRU JANUARY 11, 1965

Institution	Investigator(s)	Subject	Total Cost and Time*	New or Renewal	Project Officer
<u>SOCIAL SYSTEMS</u>					
New York, State University of at Buffalo	J.C. Wahle Roy C. Macridis	Youth and Political Consensus in Developing Countries: A Cross- Cultural Study of Problems of Political Development	\$266,955 3 yrs	N	Mr. C. Barker Code 182 Ext 7602
Stanford Research Institute	S.P. Blake	A Study of the Role of Individual and Institutional Factors in the Development of Science and Tech- nology in Newly Developing Countries	136,657 Phase I	N	Dr. Wilkes Code 182 Ext 7621
<u>OPERATIONS ANALYSIS</u>					
Colorado, University of	W.H. Tanttilla	International School for Post- graduate Study in Physics and Astrophysics	78,600 8 mos	N	Mr. Turner Code 128 Ext 21307
<u>SYSTEMS ANALYSIS</u>					
Brown University	M.J. Brennan	The Interregional Migration of Economic Resources	39,856 2 yrs	N	Mr. D. Mayer Code 128 Ext 22566



## TCR/RA STATUS OF PREVIOUSLY LISTS PROPOSALS AS OF JANUARY 11, 1965

Institution	Investigator(s)	Subject	Total Cost and Time*	Date Rec'd	Status	Action Officer
<u>AGRICULTURE</u>						
Joint Commission on Rural Reconstruction Taiwan		Regional Vegetable Production Research Center for Southeast Asia	\$909,000 1 yr	11/64	UC	Dr. McMillan Code182Ext7789
<u>HUMAN RESOURCES</u>						
Pittsburgh, University of	S. Spaulding	A Study of the Effectiveness and Impact of Literacy Programs in Four Countries	273,950 18 mos	8/64	D	Dr. Leavitt Code182Ext7654
South Florida University of	P.C. Wright	The Role and Effects of Literacy in the Department of Jutiapa, Guatemala	33,879 19 mos	3/64	UC	Dr. H. Leavitt Code182Ext7654
<u>MATERIAL RESOURCES</u>						
Stanford Research Institute	11 Staff Members	Choosing Manufacturing Industries for Different Environments	259,000 2 yrs	5/64	UC	Mr. S. Bergen Code 182Ext838
Stanford Research Institute	William Bredo	Industrial Location and Develop- ment Planning in Newly Industriali- zing Countries	285,073 2 yrs	8/64	UC	Mr. S. Bergen Code182Ext8386
<u>SOCIAL SYSTEMS</u>						
Cornell University	Glenn H. Beyer Tom E. Davis	Housing Policy in Latin America: Its Demographic, Economic, Health, Political and Social Implications	500,000 3 yrs	11/64	UC	Mr. C. Barker Code182Ext7602
Johnson Research Associates	R.B. Johnson W.B. Mitchell	Interdisciplinary Research Program for Examination of Changing National Power Structures in Underdeveloped Nations	92,282 10 mos	10/64	D	Dr. W. Lybrand Code182Ext7654

KEYS TO SYMBOLS: A - Accepted UC - Under Consideration  
D - Declined W - Withdrawn  
T - Transferred

## TCR/RA STATUS OF PREVIOUSLY LISTED PROPOSALS AS OF JANUARY 11, 1965

Institution	Investigator(s)	Subject	Total Cost and Time*	Date Rec'd	Status	Action Officer
<u>OPERATIONS ANALYSIS</u>						
U.S. Dept. of Agriculture Fed. Ext. Service	A.H. Maunder	Effectiveness of Agricultural Ex- tension Programs	\$733,988 30 mos	7/63	UC	Dr. McMillan Code182Ext7789
Arthur D. Little, Inc.	G.C. Sweeney, Jr.	A Study of the Distribution and Marketing of Fertilizers in Various Countries Throughout the World	92,700 6 mos	9/64	JC	Dr. F. W. Parker Code182Ext7210
Brookings Institution	F.E. Asher	Program of Studies Dealing With American Foreign Assistance	723,200 5 yrs	4/64	UC	Mr. D. Mayer Code128Ext22566
Hudson Institute	Herman Kahn	A Study of the Basic Issues of Foreign Aid	238,570	8/64	UC	Mr. D. Mayer Code128Ext22566
International Marketing Institute	J.A. Hagler	Survey, Handbook, & Training Program in Export Expansion for Less Developed Countries	160,000 18 mos	9/64	T	Mr. D. Mayer Code128Ext22566
Michigan State University	Charles Slater Harold Riley	A Comparative Study of Food Market- ing Systems in Latin American Countries in Early Stages of Economic Development	917,384 3½ yrs	10/6	UC	Mr. J. D. Turner Code128Ext21307
North American Aviation, Inc.	J.J. Benelisha	Methodology for Estimating the Capacity of Governments of Devel- oping Nations to Assimilate Foreign Aid Resources	135,200 10 mos	8/64	UC	Mr. D. Mayer Code128Ext22566

KEYS TO SYMBOLS: A - Accepted UC - Under Consideration  
D- Declined W - Withdrawn  
T - Transferred

\*Amount shown is for one year unless otherwise specified.

TCR/RA STATUS OF PREVIOUSLY LISTED PROPOSALS AS OF JANUARY 11, 1965

<u>Institution</u>	<u>Investigator(s)</u>	<u>Subject</u>	<u>Total Cost and Time*</u>	<u>Date Rec'd</u>	<u>Status</u>	<u>Action Officer</u>
<u>OPERATIONS ANALYSIS</u>						
Portland State College	Kingsley Davis Morton Paglin	A Method of Estimating the Impact of Economic Development on Labor Force Requirements in Agriculture and its Effects on Internal Migration	\$ 73,577 2 yrs	7/64	UC	Mr. D. Mayer Code128Ext22566
Wisconsin, University of	A.L. Larson	An Analysis of Factors Affecting the Development of Cooperatives in Africa, Near East, South Asia, and Far East.	500,000 5 yrs	11/64	UC	Dr. F. Parker Code 182Ext7210
<u>SYSTEMS ANALYSIS</u>						
California, University of	Roy Radner	Center for Quantitative Research in Development Planning	500,000 5 yrs	10/63	UC	Mr. D. Mayer Code128Ext22566
National Planning Association	Douglas Paauw	Planning and Planning Assistance Criteria	660,000 21 mos	11/64	UC	Mr. David Mayer Code128Ext22566
Research Triangle Institute	E.A. Parsons A.M. Huq	A Pilot Study on Skill Formation in Underdeveloped Countries (SPADE)	405,200 36 mos	10/64	D	Mr. David Mayer Code128Ext22566
Yale University	Gustav Ranis	Quantitative Study of Economic Structure and Growth	842,530	10/64	UC	Mr. David Mayer Code128Ext22566

KEYS TO SYMBOLS: A- Accepted UC-Under Consideration  
 D- Declined W- Withdrawn  
 T - Transferred

\*Amount shown is for one year unless otherwise specified.

January 8, 1964

PROPOSALS RECEIVED BY ORA IN FY 1964 AND 1965

FORMAL PROPOSALS REC'D TCR/RA FY 1964

Total number of proposals received:	86	Amount -	\$20,390,248
Total number of proposals rejected:	45	Amount -	6,816,090
Total number of proposals accepted:	19	Amount -	7,567,850
Total number of proposals withdrawn:	8	Amount -	1,336,525
Total number of proposals transferred:	4	Amount -	1,179,700
Total number of proposals under consideration:	10	Amount -	3,490,083

FORMAL PROPOSALS REC'D TCR/RA FY 1965

Total number of proposals received:	28	Amount -	\$9,172,052
Total number of proposals rejected:	4	Amount -	852,748
Total number of proposals accepted:	4	Amount -	891,180
Total number of proposals transferred:	2	Amount -	431,100
Total number of proposals under consideration:	20	Amount -	6,997,024

INFORMAL PROPOSALS REC'D TCR/RA FY 1964

Total number of informal proposals received:	74
Total number of informal proposals rejected:	41

INFORMAL PROPOSALS REC'D TCR/RA FY 1965

Total number of informal proposals received:	72
Total number of informal proposals rejected:	25

D

RESEARCH ADVISORY COMMITTEE

Eleventh Meeting

Project Review Subcommittees

	Industrial Location and Development Planning in Newly Industrializing Countries	Development of Planning and Planning Criteria	Study of Distribution and Marketing of Fertilizers in Various Countries throughout the World	Analysis and Study of Factors and Circumstances Influencing the Effectiveness of Extension Type Programs in Developing Countries	Comparative Study of Food Marketing Systems in LA Countries in Early Stages of Economic Development	Farm Marketing Facilities and Practices in Tropical Africa	Estimation of Birth Rates from Interview Data	Study of the Basic Issues of Foreign Aid	World-Wide Extension of Aptitude Testing
McDermott							Ch.		
Brown		x							
Charpie	x	x	Ch.						
Fainsod							x	Ch.	
Holmberg				x		x	x		Ch.
Millikan	x	Ch.			x	Ch.			
Moseman			x	x	x	x			
Mosher									
Parsons			x	Ch.	Ch.				
Revelle									
Skolnikoff	Ch.								x
Weyl								x	
Wolman							x		
Zacharias								x	x

February 2 and 3, 1965

E

Mission-related AID Research based on recent sessions  
with AID staff in New Delhi.

Walsh McDermott, M.D.  
December 1, 1964

It has been recognized from the beginning that if the AID research program is to succeed, its existence and potential usefulness must become a prominent part of the thinking in the missions. Various formulas for this purpose have been discussed at one time or another, but their implementation has had to give way to more pressing considerations. As a start in getting information on this subject I spent four days in late November interviewing key members of the staff of the AID mission in New Delhi. The expressed viewpoints on research were quite the opposite of what I had anticipated and led to the conclusion that the development of formulas for linking the research program with at least a few missions cannot be much longer deferred.

I had expected to be met with full knowledgeability about research but with polite skepticism as to its prospects for helping to solve the problems as seen by the Mission. On the contrary, the Mission staff were trying to convince me of the importance of research in helping them to do their job.

The four most vivid impressions were: (1) this acute awareness of a need for research and no lack of illustrations of the types of research needed; (2) the general attitude that there were feasible formulas whereby research could be conducted through the Mission, and the proposal of a number of such formulas by various members of the staff; (3) proposal of a particular formula that seems promising; (4) on the minor negative side, my realization that the circulation to the Mission of the unsolicited research proposals we receive, before they have been sharpened by the research staff and RAC, is not helping the reputation of our research program. This is



discussed in the appendix.

Acute awareness of need for research

All of the staff with whom I spoke expressed a feeling of need for access to a research activity in which problems they identify might be considered for systematic study. This was expressed strongly as a general need for the Mission as a whole and was usually reinforced as a specific need in terms of some problem troubling the speaker. The principal reason for the expressed research need, appeared to be that U.S. program decisions now all too often have to be made with key factors only shakily defined when one or more of these factors could be solidly defined.

Problems used as illustrations of the need for research ranged all the way from studies of price structure, currency and foreign exchange; through studies of whether rural development programs should be tailored separately for the "25 acre" and the "one half acre" land holder; to such questions as the wisdom of supporting specific Indian research projects on improving the technology of the leather industry or on the gaseous reduction of iron ore. Discussion of the illustrations seemed more crisp than discussion of proposals before RAC because the speaker could readily explain just why he needed that particular information and radiated the impression that if he had the information he would try to use it in operations.

An interesting point was made by Dr. Lewis at a mixed Indian-U.S. luncheon session when he said that the Indian government planners assume as a matter of course that the U.S. Mission has a research arm or access to one (in India) whereas in actuality it has none.

Formulas suggested as feasible

It was recognized that one arm of the AID research program was the present one through which the research is carried on in a country without

there being any special relationship between the research group and the AID mission there. What was under discussion was the feasibility of there being another arm whereby additional research could be carried on with a direct tie-in to the mission. All agreed that it was wholly unrealistic to think in terms of research by people with operational responsibilities. With that single proviso, however, several formulas were suggested as representing feasible approaches.

1. open ended research assignment

One formula suggested was that one or two persons with research competence in a particular field (probably some branch of economics) be assigned to the AID Mission for the purpose of conducting research. They would start with no preconceived research questions, but after a short period in the Mission would have no difficulty in identifying questions requiring study and would proceed to study them. It was not thought that the holder of this research position would have interpersonal difficulties on the grounds that he was a drone. It was also thought that many of the questions needing study would not require long term research but, in some cases at least, could be satisfactorily attacked in periods as short as three to six months. The feedback of the results to operations decisions would be ensured by the presence of the research workers in the Mission group.

The obvious advantage of this formula is that something worthwhile should be obtained; its feedback pretty well assured; and it would probably prove to be a highly rewarding experience for the research worker. The disadvantages are: Most experienced research workers of competence have become intellectually committed to some particular broad question and might find it hard to abandon its pursuit for a two year period or so.

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This same intellectual commitment might also make it hard for them to approach the mission's problems with clear eyes. While trying to concentrate on short term studies, even an experienced investigator is liable to end up principally engaged in a few longer term studies so that his availability for the study of new problems would steadily dwindle. Nevertheless, to say this formula has imperfections is not to say that it might not prove satisfactory and it merits consideration.

## 2. The Research Attache

Attitudes were lukewarm for the formula of a research attache in the sense of a functional replica of the science attache of the Embassies. Indeed, in considering the open ended formula presented above, there was some concern lest the person fall into an attache role in which he might become wholly preoccupied tracking down the logistics of non-Mission research.

The research attache presumably could be a person with research experience from any branch of science or technology. He would have to operate across the spectrum of science and technology and his principal function would be to serve as a bridge between the Indian research world and the U.S. AID Mission. He might also find himself occupied to some extent with administrative chores in an effort to help any AID-supported U.S. research going on in the country. It is not very likely that he would be able to make much of a research contribution on his own, but to some extent this would depend on the kind of research done in his particular professional field. There was no very strong support for this formula nor was there anyone who strongly opposed it. The general attitude seemed to be one that it would be better than nothing, but not amazingly better.

There was a modification of this research attache formula, however, that might have usefulness for a certain type of situation in industrial

research and development. This is discussed in connection with the "contract consultant" formula immediately below.

### 3. Contract Consultant Ad Hoc

By this formula a particular problem is identified in broad outline and a research worker or team is employed on contract to subject it to systematic study. This formula has actually been employed on a number of occasions. In some situations it has apparently been considered quite successful; in others, it has been less so. In a recent study made with the Indian Institute of Public Administration on citizen attitudes toward the government, the formula has apparently worked well. In this case the U.S. investigator happened to be in India at the time the project was conceived and a direct contract with him as an individual was set up. This has led to a more elaborate contract with the public opinion survey group at Ann Arbor.

The advantages of this formula are its pointedness and its simplicity. The disadvantages are two-fold: first, those who identify the question as needing study are not always in a position to know which groups in the U.S. would be most suitable to approach; second, there is bound to be a long delay between the identification of the problem and the actual arrival of the group to study it. Presumably this time lag might be shortened somewhat by the AID research unit in Washington serving in an "honest broker" role, but the time lag would still be considerable in any case. It is not so much that this formula is not workable because it can work quite well. But it is cumbersome so that it cannot be invoked rapidly or widely.

### 4. Contract Consultant Group Reinforced by Research Attache.

This formula was suggested with reference to a specific problem involving the Council of Scientific and Industrial Research of the government

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of India. This Council known as CSIR appears to be a sort of loose holding company for research and development work in the scientific and industrial application of modern techniques to further India's economic development. Under its umbrella some twenty-eight laboratories and institutes employing over two thousand scientific and technical staff are actively engaged in research in such diversified fields as coal, leather, electronics, cement, rare earths, and minerals. To what extent the Council actually sets the research policies for these laboratories is not clear, but it definitely serves as their representative in negotiations with US AID. In this capacity, it forwards applications for the support of research projects in the Indian laboratories and for training in the U.S. of personnel from the various laboratories and institutes. Until now it has apparently played pretty much of a passive transmittal role in this process. As a consequence the Council presentation consists of a diverse collection of applications for support of a variety of wholly unrelated projects or individual traineeships. In actuality, the problem the Council faces is quite similar in kind to the one faced by RAC. When one depends entirely upon unsolicited proposals, one receives a mixed bag of projects, each of which presumably has merit on its own but no particularly obvious "fit" in any larger pattern. Attempts are being made to improve this somewhat frustrating situation. The Council itself is planning to try to define more sharply the priorities for program support in its twenty-eight institutions, but those responsible for the AID side of the picture would also like help.

The formula suggested is actually a combination of the Contract Consultant Team and the Research Attache. For an initial short term, e.g. three to six months, the entire activity would be reviewed by a U.S. contract team including persons experienced in industrial R and D. After the team's

analysis and joint U.S.-Indian establishment of priorities, one man would remain attached to the mission on a full-time basis. In effect he would be serving as a research attache in that he would be serving as a bridge between this particular segment of Indian science and technology and the U.S. Mission (and presumably also, the corresponding technology community in the U.S.). His role would not be unlike that of the Foundation representatives in the science area; like them he would need great tact and would have to have something to offer as a consultant if he were to gain anything more than polite acceptance. To what extent a man associated with one aspect of R and D., e.g. electronics, could function across the entire industrial spectrum is uncertain. Obviously, if he were of high calibre, he presumably could make some contribution at least on methods of approach, in the other areas. In any case, he could serve to identify what appeared to be the most promising laboratories and research programs for AID support.

What is suggested here, therefore, in effect is a research attache, but one with a fairly structured role including some role as a technologic consultant.

5. A secondary formula - a period of free time for research

The suggestion was made that some operational tours of duty might be arranged so that the staff member could have a six month period to be used full time for research on some questions arising from his operational area. This formula is labelled "secondary" because it would probably prove most effective not when used alone, but when used in conjunction with an on-going program organized according to one of the other formulas.

\* \* \*

The outstanding feature of all of these proposed formulas is

not their specific structure, but the fact that any formula for conducting research within the framework of the Mission should be considered to be feasible by the people working there. All but one (the contract consultant team) have in common the continued residence of a person whose sole responsibility is one or more aspects of research on the problems identified in operations. By this continued residence, the program relevance and the feedback mechanisms are built in, and to some extent the capacity to react with reasonable speed to newly emerging problems, is built in. Each of the formulas has obvious disadvantages, perhaps the principal one being that with many of them, little or no actual research would be done by the research staff member.

The ideal formula would be one in which (a) research is actually conducted; (b) it is conducted by one or more skilled research people with an intimate knowledge of the mission's goals and operations programs; (c) the capacity to react with new research to meet new problems can be continuously maintained.

#### Mission linked to a university

In discussing these criteria and the various proposed formulas in a final "summary" session with Dr. John Lewis, he suggested still another formula, namely to make a direct link for research purposes between the Mission and a single U.S. university. At first glance this formula may seem to be merely the familiar and largely discredited university sister-to-sister mechanism. It is different in certain important particulars, however, and it may be that in these very differences lie the possibility of success.

What is visualized is the establishment of a formal and continued relationship for the purposes of research between a mission, e.g. AID/India

and a U.S. university. The university would have to be one that is strong in the subject areas most likely to be important to the mission and have faculty members committed to research on the various aspects of development. To undertake such a long term commitment, the university would have to receive some financial aid so that it could expand selectively as a reflection of the commitment. The university would have to agree to station a nucleus of researchers in the mission. Whatever other research activities these men might be engaged in, their primary responsibility would be to be able to react quickly with a research effort on questions identified as key problems by the mission. Without going into administrative details, it can be said that as the university group would presumably play an active role in helping to identify the problems in the first place, it is unlikely that they would find themselves in an unpleasant situation where they were "ordered" to do research not approved by them. Indeed, from the over-all research standpoint, the nature of the individual projects would not be too critical anyway. For, the great attraction to the university group would be the opportunity to do research on various aspects of the mission's program regarding the mission's total program as an experiment in itself. Thus, the desire that most knowledgeable researchers have today to study development on an inter-related basis, should be fulfilled. Assuming a group of high calibre, there should be no danger that this holistic research goal would be distorted into hostile studies of the power structure of the mission, etc.

It would certainly be possible to maintain the research capacity to react to new problems by thoughtful arrangements within the university and at the overseas mission. Basically, such arrangements would consist



of consciously over-staffing some long term research project or project complex both at home and abroad, in such a way that individual research workers could "drop off" on short notice to organize systematic studies of newly emerging problems. Obviously, the nature of that "central thread" long term project would have to be carefully scrutinized at the outset to ensure that it was indeed a low key long range affair and not something that would get in the way of the primary object of providing a rapid reactive capacity.

With this formula the major weaknesses of the sister-to-sister arrangement between two universities would not be present. The size ratio of the two elements to be linked is a tolerable one and each would bring strength to the union. With the sister-to-sister university arrangement, a U.S. strength organized to meet a particular educational responsibility, is linked to a foreign weakness but one with just as big an educational responsibility. Instead of trying to spread limited resources over a greatly expanded educational responsibility, with the proposed formula the university would be committed to an effort with definable limits, an activity—research on development—that is well within its purpose. The career problem for younger faculty would not arise because they would be carrying on their research and perhaps even teaching graduate students, under the immediate eyes of their own university faculty. Misunderstandings as to the purposes and terms of the arrangement should be lessened when the negotiations are between the two U.S. groups than when a U.S. university has to come to an understanding with the very different administrative "society" of a foreign university. Logistic matters that can be so devastatingly time-consuming in foreign research, while by no means abolished, should be

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something less of a problem when the university group is a welcome part of an AID mission than when the investigators are guests of a university overseas.

No attempt will be made to ring all the changes on the extent to which this formula, started in a small way, could be expanded to the advantage of both the mission and the university. Obviously there might be a place for some graduate students both in the mission-conducted research program and at the parent university. And, these graduate students could be from either country thus helping to increase the supply of professionals in development activities. Overlapping tours of duty could be arranged for the resident nucleus. If essentially the same larger group were engaged both at the university and at the mission, the total effort would have long term continuity even though only a relatively few faculty members would be on a one or two year "mission assignment" at any one time.

This proposed formula has certain disadvantages, too, quite aside from the many pitfalls that presumably would govern if it were applied without careful thought. The principal intrinsic disadvantage is that it is probably not wise to have all the U.S.-supported research and analysis of development in a country directly under the aegis of the AID mission. As virtually none of it is at present, however, this disadvantage is only theoretical and would not become real unless the proposed formula became the major thrust of AID research.

In my judgment, assuming a particular mission had a genuine desire to be helped by research, this formula would be a workable one in terms of the research community and the ways universities operate. As an instrument it appears to have the essential quality of harnessing two forces that are both going in the same direction. Neither side would be asked to make a sacrifice and there would clearly be rewards in it for both.

## Appendix

Memorandum (Dec. 1, 1964) on Mission-related AID Research

The last of the four major impressions I had from the various November 1964 conversations in New Delhi is really an administrative point, but : 3 that does have some importance to the research program. When a research proposal, whether solicited or not, is received in our research unit, a copy is sent to the AID mission in the country in which it is proposed to conduct the studies. Presumably this is done to ascertain that a research project of that nature on that subject, in that locality of the country and with that indigenous university tie-in, would not be something that was at cross purposes with what the mission was seeking to accomplish. I suppose that it also gives the mission an opportunity to express an opinion about a particular investigator if he happened to be known to them. Without question, information on these points from the mission is essential to an orderly consideration of the project by the research staff and by RAC.

In the mission at New Delhi, and I suppose at most missions, as there is no one with the special responsibility for research, the proposals tend to get routed around by subject matter to people with operational responsibilities in that subject. What seems to be happening is that some of these people simply address themselves to the broad questions mentioned above and let it go at that. Others, however, take the assignment more seriously and scrutinize the proposal carefully from a substantive standpoint. Not infrequently, this makes them unhappy in the same way that reading the same initial proposal might make us unhappy. From their vantage point in the field, their reaction on a particular proposal is very apt to be that whereas what the investigator proposes to do is presumably important, it certainly is not among the high priority unsolved questions "as we see them here". Another common reaction is that what it is proposed to do

is not quite on the target as seen from here "but if I could only have a chance to sit down with these investigators something could probably be very easily worked out that should meet our problem." Thus, the reactions of the thoughtful mission staff member are apt to be virtually identical with the reactions of the RAC member or staff member who also looks at the same proposal. The important difference, however, is that the man in New Delhi feels completely helpless to do anything about the situation in terms of substantive modification and as he is not really against the project, he throws up his hands and lets it go at that.

This situation is not an easy one to correct. First, there is obviously no point in spending much staff and RAC time on the proposal if it would be thought to be a "trouble maker" in the host country. Thus, the proposals must go out as they are received. But, the fact that these are unsolicited proposals that may or may not get final approval, is not appreciated by the mission reviewers. Likewise, they have no way of realizing what a great deal of change in many proposals occurs as a result of negotiation by the staff and sometimes even after review by RAC. What the mission sees, therefore, is the initial "raw" effort which may bear very little resemblance to the final product. It would be pointless for the mission staff to spend much time in substantive analysis of a proposal that is being changed significantly from the moment they received it; yet, if we hold up contract signing for mission review of the final proposal we may be adding a variable delay to an already too long process.

It seems to me that we should try to work out some mechanism whereby it is made clear to the mission staff that their first review, at least, is of a raw proposal and that what is sought at that stage has relatively little to do with the substance of the proposal. Then, when a

proposal is on its way to being recommended for approval, it perhaps could be sent out again with the suggestion that any substantive review that anyone cared to make would be most welcome.

I mention this problem not because it is a particularly major one at the present time, but simply in the interest of completeness in trying to report on this one mission's attitude on research.

\* \* \*

The impressions presented in the memorandum are based on four days of conversation with members of the AID/India mission in New Delhi last month (November 16, 17, 18, 19). I had three sessions with Dr. Lewis: The first one was a general discussion at the beginning at which Dr. Hewes and Mr. Swayze were also present. The second was a luncheon meeting at which in addition to other AID staff members, three representatives of the Indian research community were present, Dr. K. N. Rao of the Institute of Economic Growth, Dr. D. K. Malhotra of the Planning Commission and Dr. Tarlac Singh of the Planning Commission. The third session included just Dr. Lewis and myself; I summarized my impressions for him and we discussed the situation in considerable detail.

The members of the mission staff with whom I talked were: the economic advisor, Mr. Lindblom; the rural development advisor, Dr. Hewes; Mr. McComb (technical assistance), Mr. Hyde (management) and Mr. Carson in the Office for Physical Resources Development; Dr. Campbell and Dr. Humphreys (public health and agriculture, respectively) of the Office for Human Resources Development; Mr. Kaufman (economic analysis) of Office for Program and Finance, and one of younger associates; and Mr. Wilder of communications media.

In addition I had sessions on the subject with Dr. Leroy Allen of the Rockefeller Foundation, Dr. Hill and other representatives of the Ford Foundation, and Dr. Gillis of WHO. Largely ceremonial visits were paid to Dr. Fuller, the science attache at the U.S. Embassy; Dr. K. N. Rau, the Director General of Health Services, Government of India; and Dr. Shushola Nayer, Minister of Health of the Government of India.

Walsh McDermott  
12/1/64

## AID Research related to Overseas Missions

### Summary

The requirements of AID research are special and will not be met by existing patterns for the support and conduct of research. Specifically the classic pattern of careful choices from a collection of unsolicited or semisolicited research proposals will meet only a small fraction of AID needs. New patterns must be developed to ensure program relevance and proper feedback to operations; but in seeking such programs, we face a dilemma. On the one hand, the Agency has the best sense of program relevance, but it does not have the staff to do much of the research itself. On the other hand, when it tries to shape the research questions and approaches of outside research groups toward the needed degree of program relevance, there is risk that what energizes all good research — the imaginative powers of the researcher — will be hobbled. One escape from this dilemma might be found in organizing an important portion of the research program in a direct relationship to certain overseas missions. With this arrangement both forces, the research workers imaginative technics and the mission operator's perceptivity of what is relevant, would be going in the same direction and should be fusible into a workable instrument.

From talks with the Mission staff in New Delhi, some such arrangement seems definitely feasible. A number of possible arrangements were suggested and one in particular (direct university-mission contract) seems both realistic and promising. From the standpoint of research interest, the AID Mission/India is probably atypical. Nevertheless, it exists; it could provide an excellent basis for a beginning; and its keen interest in research might also exist in at least a few other places.

### recommendation

It is recommended, therefore, that two steps should be taken immediately: (1) several other missions should be visited to explore whether a similar strong research interest exists; (2) the university-mission formula suggested for India should be explored in detail with Dr. John Lewis by AID/Washington with the hope that it would be possible to start negotiating a research contract with a university group selected or approved jointly by AID/India and AID/Washington.

Walsh McDermott  
Chairman, Advisory Committee  
on Research and Analysis  
December 1, 1964

F

BIBLIOGRAPHY OF RESEARCH REPORTS  
SPONSORED BY THE AID RESEARCH AND  
ANALYSIS PROGRAM

AGRICULTURE

PROJECT: History and Current Status of Arid Lands Research in the U.S.

American Association for the Advancement of Science  
Aridity and Man

Washington, D.C., 1963, 584 pp., English (\$12.00) and Spanish edition  
(undetermined)

Describes the American experience in developing and using arid lands  
in the United States.

PROJECT: Analysis of Factors Associated with Differences and Changes  
in Agricultural Production in the Less-Developed Countries

Economic Research Service, USDA

How the United States Improved its Agriculture

ERS Foreign - 76, Washington, D.C., March 1964, 32 pp.

Brief description of U.S. experience in improving its agricultural  
production, with emphasis on implications for less developed countries.

Frank W. Parker and W. E. Hendrix

Foundations for Agrarian Development

September 1963, 21 pp.

Paper presented at Rural Development Symposium, Central Treaty  
Organization Countries, Tehran, Iran, examining the recent agri-  
cultural growth pattern in selected countries with respect to  
eight factors that seem to be highly important to agricultural  
development.

Raymond P. Christensen and Harold T. Yee

The Mechanics of Agricultural Productivity and Economic Growth

August 1964, 7 pp. ERS Foreign - 99

A brief discussion of factors affecting agricultural productivity,  
markets and consumption levels, labor mobility and national income  
growth in terms of a hypothetical country.

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NOTE: Only unclassified reports are included in this listing.



Raymond P. Christensen and Harold T. Yee  
The Role of Agricultural Productivity in Economic Development  
August 1964, 14 pp.

Paper presented at the annual meeting of the American Farm Economic Association, at Purdue University, discussing factors affecting agricultural productivity and economic growth in terms of actual conditions in specific countries.

#### HEALTH

PROJECT: Effects of Investment in Health on Economic Development

Robert H. Hamlin, M.D.  
Plan for the Study of the Economic and Social Effects of Investments in Health in Developing Countries  
January 1, 1964, 22 pp.

Problems and potentials of reasearch on the economic and social effects of investments in health and education in developing countries, to determine which investments have the maximum effect both on health and economic development.

#### MATERIAL RESOURCES

PROJECT: Usefulness of Small Power Sources in Remote Locations

General Electric Company, New York  
Preliminary Report of Field Survey Teams on the Generation and Utilization of Power in the Rural Areas of Developing Countries  
September 1962, 200 pp.

Presents the principal impressions and tentative conclusions of field investigators on small-scale power units for villages, approaches to rural development and implications for future activities in the underdeveloped countries of the world.

General Electric Company, New York  
Water Treatment Processes for Rural Communities in Developing Countries  
December 1962, 43 pp.

Reviews and evaluates water treatment methods and currently available process equipments capable of providing potable water at costs commensurate with local economic conditions in underdeveloped areas of the world.

General Electric Company, New York  
Refrigeration-Cooling Systems for Rural Communities in Developing  
Countries

December 1962, 40 pp.

Reviews and evaluates alternative refrigeration-cooling systems for application to fresh food preservation in the rural areas of newly developing countries.

General Electric Company, New York  
Trip Report of Visit to the Electrical Demonstration Branch - Tennessee  
Valley Authority

February 1963, 11 pp.

Presents the problem of promoting effective utilization of electricity as it is introduced in previously unelectrified and economically depressed rural areas.

General Electric Company, New York  
Field Survey Trip Logs - Itineraries and Activities of Field Survey  
Teams in India, Pakistan, Egypt and Italy - Peru, Chile, Colombia  
and Barbados - April - May - June 1962

February 1963, 79 pp.

Contains findings on energy generation and utilization, the need for a power utilization program and the need for technical support for rural development.

General Electric Company, New York  
Field Survey Report - Colombia, Peru and Chile  
March 1963, 276 pp.

Presents principal findings, conclusions and recommendations of the field survey teams on the generation and utilization of power for rural communities in the developing countries.

General Electric Company, New York  
India Field Survey Report  
March 1963, 66 pp.

Contains findings on energy generation and utilization, the need for a power utilization program and the need for technical support for rural development.

General Electric Company, New York  
Cost Analysis of Electricity Supply Systems for Rural Communities  
March 1963, 165 pp

Deals with cost analysis of distribution, small-scale generating plants and a comparison of different methods of supply systems or rural electrification in underdeveloped regions.

General Electric Company, New York  
Analysis of Demand for Electric Power in Rural Communities  
March 1963, 53 pp.

Defines and estimates potential power requirements in irrigation, processing of agricultural commodities, and in domestic illumination of individual sectors and integrating them into a systems demand for the village as a whole as well as for a cluster of villages.

General Electric Company, New York  
Small-Scale Power Supplies for Rural Communities in Developing Countries  
March 1963, 115 pp.

Describes and evaluates small-scale power technologies for supplying energy to rural communities in developing countries.

General Electric Company, New York  
Summary Report of Generation and Utilization of Power for Rural Communities in Developing Countries  
May 1963, 35 pp.

Summarizes principal findings and recommendations on generation and utilization of power, particularly the utility and feasibility of small-scale power supplies for rural communities in developing countries.

PROJECT: Research in Foam Plastics for Housing

University of Michigan, Ann Arbor  
The Potential Use of Foam Plastics in Underdeveloped Areas  
1963, 104 pp.

Presents the housing problem and the role of housing in international development; advantages of foam plastics in the light of project objectives; observations and recommendations for using foam plastics as a structural material; mechanical properties of foam plastics, and summarizes findings and recommendations for further research in this field.

PROJECT: The Impact of Transport on Economic Growth

Wilfred Owen  
Strategy for Mobility  
The Brookings Institution, July 1961.  
Washington, D.C., 247 pp. \$5.00

Discusses the relationships between poverty and immobility, historical background of breaking the transport barrier, transportation requirements for development, choices of technology, the meaning for foreign aid and development strategy.

HUMAN RESOURCES

PROJECT: Development of an Educational Research Center for Central America

Michigan State University/Universidad de San Carlos de Guatemala  
IIME -- Instituto de Investigaciones y Mejoramiento Educativo:  
A Central American Program of Inter-University Endeavor  
Ciudad Universitaria, Guatemala, C.A. 18 pp., Spanish and English  
Brochure describing IIME, an institute dedicated to the systematic  
improvement of education through research and its applications in  
Central America.

Michigan State University/Universidad de San Carlos de Guatemala  
Instituto de Investigaciones y Mejoramiento Educativo  
February 1963, 36 pp. USCG Press

Gamboa and Hernandez  
Preparation of Secondary School Teachers  
August 1963, 32 pp. USCG Press

Friedman  
The Public Administration of Education in Central America  
August 1963, 35 pp. USCG Press

Orr and Hereford  
Projection of Personnel Needs in Secondary Education  
August 1963, 21 pp. USCG Press

Michigan State University/Universidad de San Carlos de Guatemala  
Declarations and Recommendations of the First Central American  
Conference Concerning the Preparation of Secondary School Teachers  
August 1963, 16 pp.

Adis Castro  
Psychological Measurement in Central America: A Survey of Needs  
and Resources, IIME  
March 1964, 42 pp.

Michigan State University/Universidad de San Carlos de Guatemala  
Bulletin of University Statistics, USCG Office of Registrar  
November 1963, 84 pp.

Michigan State University/Universidad de San Carlos de Guatemala  
Course Descriptions of the University of San Carlos of Guatemala.  
USCG Office of Registrar  
November 1963, 370 pp.

Chavez, Mendoz, Munoz, Polance and Solane  
Report of Study of Experimental Laboratory School in Guatemala  
University of Costa Rica, 21 pp.

Dr. Mario Romero G.  
Preliminary Report of University Student Drop-Outs  
University of Costa Rica, 35 pp.

PROJECT: Mathematics Curriculum Development in Africa

Educational Services Incorporated, Watertown, Massachusetts  
Series of texts and materials on mathematics, prepared by the Entebbe  
Mathematics Workshops, including:

Pupil Book, Mathematics, Primary One, Vol. I-IV  
Teachers' Guide, Mathematics, Primary One, Vol. I-IV  
Pupil Book, Mathematics, Primary Two, Vol. I  
Teachers' Guide, Mathematics, Primary Two, Vol. I  
Entebbe Mathematics Teachers' Handbook, Primary I-III  
Student Text, Mathematics, Secondary One, Vol. I-III  
Teachers Guide, Mathematics, Secondary One, Vol. I-III  
Pupil Book, Mathematics, Secondary One, Vol. I-III  
Teachers' Guide, Mathematics, Secondary Two, Vol. I-III  
Student Text, Mathematics, Secondary Two, Vol. I-III  
Basic Concepts of Mathematics: An Introductory Text for Teachers  
and Supplement  
Basic Concepts of Mathematics: Errata

SOCIAL SYSTEM

PROJECT: Comparative Study of Social and Cultural Change

Henry F. Dobyns  
Social Solutions for Real or Perceived Aridity in the Andes  
Department of Anthropology, Cornell University  
December 1963, 22 pp.

Paper presented to the Committee on Desert and Arid Zones Research  
of the American Association for the Advancement of Science. Examines  
real and perceived aridity in the water-deficient Andes Mountains  
and discusses measures the Andean people are taking to remake their  
natural environment along more desirable water-supply lines.

Henry F. Dobyns  
Methodological Limits to Cultural Relativism  
Department of Anthropology, Cornell University  
November 1963, 12 pp.

Paper presented at the Annual Meeting of the American Anthropological Association. Discusses methodological limits to cultural relativism and warns that U.S. anthropologists called upon to serve as consultants on foreign areas may carry their cultural relativism too far and mislead those whom they are supposed to advise.

Cara Richards  
Dine Bitoh: Navajo Water Use  
Department of Anthropology, Cornell University, Ithaca, N.Y.  
January 1964, 42 pp.

Examines the current pattern of water use in the Many Farms Area of the Navajo Reservation.

Mario C. Vazquez  
The "Castas": Unilinear Kin Groups in Vicos, Peru  
Department of Anthropology, Cornell University, Ithaca, N.Y.  
January 1964, 62 pp.

Provides basic analysis of the Vicos family groupings termed "Castas", breaks new ground in the analysis of social structure in Peru and provides data required for comparing the Vicos kinship system with those of other social systems.

Henry F. Dobyns  
The Social Matrix of Peruvian Indigenous Communities  
Department of Anthropology, Cornell University, 142 pp.  
A comprehensive report on outstanding characteristics of 640 Peruvian indigenous communities.

Cara Richards  
Some Changes in Navajo Diet  
Department of Anthropology, Cornell University, Ithaca, N.Y.  
January 1964, 43 pp.

Analyzes some of the major changes in Navajo food habits, past and present, with some predictions regarding the future.

Mario C. Vazquez and Henry F. Dobyns  
Transformation of Manors into Producers' Cooperatives  
Department of Anthropology, Cornell University, Ithaca, N.Y.  
January 1964, 45 pp.

Outlines the results of the "Vicos Experiment" as a model for the transformation of Andean manors with serfdom and servitude into producers' cooperatives.

Mario C. Vazquez  
 The Varayoc System in Vicos  
 Comparative Studies of Cultural Change, Cornell University, Ithaca, N.Y.  
 January 1964, 61 pp.

Describes the system of indigenous authorities in Vicos, Peru, and recent structural changes.

Henry F. Dobyns and Mario C. Vazquez  
 The Cornell Peru Project: Bibliography and Personnel  
 Cornell Peru Project Pamphlet No. 2, Ithaca, N.Y.  
 1964, 60 pp.

Briefly describes the Cornell Peru project, an experiment in research-guided social and cultural change, undertaken jointly by Cornell University and the Peruvian Indian Institute and lists reports on the project published from 1951 through 1963.

PROJECT: Research and Training in Land Tenure in Latin America

Norman Rask  
 Farm Size and Income: An Economic Study of Small Farm Agriculture  
 in Southern Brazil  
 Department of Agricultural Economics  
 University of Wisconsin, Madison, Wisconsin  
 1964, 272 pp.

Examination of the question of farm size, particularly in relation to the possibilities and problems in owning and operating small farming units, in order to help anticipate the problems and to provide guides in the construction of agrarian reform policies.

Robert E. Price  
 Expropriation and Agrarian Reform in Brazil  
 Land Tenure Center, University of Wisconsin, Madison, Wisconsin...  
 February 1964, 52 pp.

Study of Brazilian legislation and policy dealing with expropriation and agrarian reform.

Peter Donner  
 Land Tenure, Income Distribution and Productivity Interaction  
 Land Tenure Center, University of Wisconsin, Madison, Wisconsin  
 November 1963, 18 pp.

Paper presented at Seminar on Land Reform, Sao Paulo, Brazil, discussing the complex inter-relationship between tenure arrangements, income distribution, and productivity.

Robert E. Price  
 Rural Unionization in Brazil  
 Land Tenure Center, University of Wisconsin, Madison, Wisconsin  
 August 1964, 83 pp.

Illustrates the importance of the organization of rural labor in an attempt at agrarian reform in an underdeveloped country.

A. Eugene Havens

Some Theoretical and Methodological Considerations for Research on  
Diffusion in Latin America

Land Tenure Center, University of Wisconsin, Madison, Wisconsin

Paper presented at the meeting of the Society for Applied Anthropology  
in San Juan, Puerto Rico, Spring 1964. Summarized in NEWSLETTER  
No. 17 (May-June 1964) pp. 9-10

Dale W. Adams and A. Eugene Havens

The Place of Socio-Economic Research in Developing a Strategy of Change  
for Rural Communities: A Colombian Example

Land Tenure Center, University of Wisconsin, Madison, Wisconsin

August 1964, 37 pp.

A discussion of the place of socio-economic research in development  
programs aimed at effecting change at the local level.

Joseph R. Thome

Title Insecurity in Colombia

Land Tenure Center, University of Wisconsin, Madison, Wisconsin

May 14, 1964, 10 pp.

The problem of title insecurity and the legal remedies available.

Russell H. Brannon

Coffee: A Background Study with Primary Emphasis on Guatemala

Land Tenure Center, University of Wisconsin, Madison, Wisconsin

April 1964, 51 pp.

A survey of some of the literature relating to coffee production in  
Latin America, with an emphasis on the Central American areas.  
Provides background information concerning coffee production  
practices in Guatemala, for use in future field research there under  
the auspices of the Land Tenure Center program.

Richard H. Wood, Jr.

The Effects of Recent Innovations and Trends in the Callejon de Huaylas  
on its Economic Development

Land Tenure Center, University of Wisconsin, Madison, Wisconsin

July 1964, 4 pp.

Summary of research paper on the effects of recent innovations and  
trends in the Callejon De Huaylas on its economic development. Shows  
why the development of the Callejon de Huaylas should receive special  
attention from the Peruvian government if it wishes to maximize  
economic growth in Peru.

George W. Hill

The Agrarian Reform in Costa Rica

Land Tenure Center, University of Wisconsin, Madison, Wisconsin

(Published in Land Economics, 40:1 (February 1964) pp. 41-48. Abstract  
published in Ekistics, 18:104 (July 1964), pp. 34-35)

The land situation in Costa Rica, its problems and solutions.



Belden Paulson

Difficulties and Prospects for Community Development in Northeast Brazil,  
Land Tenure Center, University of Wisconsin, Madison, Wisconsin  
(Published in Inter-American Economic Affairs, 17:4 (Spring 1964),  
pp. 37-58)

The situation concerning community development in Northeast Brazil,  
its difficulties and some prospects for its feasibility in that area.

Land Tenure Center: Newsletter

Monthly publication reporting on the Center's activities and on  
developments in the field of land tenure and reform.

PROJECT: Land Tenure and Reform in Puerto Rico

John Stahl

An Application of a Klein Growth Model to Puerto Rico, 1947-1961  
Economic Research Service, USDA  
Washington, D.C., January 1964, 15 pp.

An application of growth model analysis to the Puerto Rican  
economy which identifies productivity changes in the industrial,  
agricultural, service and governmental sectors and thus provides  
a framework within which changes in the sugar producing sector  
can be viewed and measured.

PROJECT: Diffusion of Information through Radio and Supporting Media  
(Pilot Project in Ecuador)

American Institute for Research

Communication and Motivation in Community Development: An Experiment  
Washington, D.C., November 1963, 200 pp. English and Spanish

Describes a study in which various communication media (radio,  
audio-visual and radio-audio-visual combination) were used in a  
systematic campaign to induce people in the Andean highland of  
northern Ecuador to adopt several innovations.

American Institute for Research

Diffusion of Information Through Radio and Supporting Media  
Report of Follow-Up Interviews

Washington, D.C., April 1964, 11 pp. English and Spanish

Describes follow-up study designed to determine whether  
immediate impact made by information campaign would persist  
over a period of several months; includes discussion of results.

SYSTEMS ANALYSIS

PROJECT: Quantitative Study of Economic Structure and Growth

Economic Growth Center, Yale University  
A System of National Economic Accounts and Historical Data  
New Haven, Connecticut, 1963, 29 pp.

Manual in two sections, the first one developing a system of national economic accounts for country analysis, and the second, covering the problem of collecting time series and benchmark data.

Werner Baer  
Industrialization and Economic Development in Brazil  
Economic Growth Center, Yale University  
1964, 210 pp.

An analytical view of the growth and current status of Brazilian industrialization and economy. Containing an appraisal of the development-related data available in Brazil.

Donald A. Snodgrass  
Ceylon: An Export Economy in Transition  
Economic Growth Center, Yale University  
June 1964, 463 pp.

An analysis of growth in a common type of underdeveloped country, and export economy beset with pressures. Containing an appraisal of the development-related data available in Ceylon.

PROJECT: Development of Planning and Planning Assistance Criteria

John C. H. Fei and Douglas S. Paauw  
Foreign Assistance and Self-Help: A Reappraisal of Development Finance  
Center for Development Planning, National Planning Association  
December 1963, 55 pp.

An econometric analysis of the likely range of requirements for foreign aid according to various assumptions as to the recipient country's future performance, especially in the field of mobilizing savings and directing investments.

Gerhard Colm  
Certain Aspects of Planning as a Tool for Social and Economic Development  
National Planning Association  
April 1964, 18 pp.

Paper presented to the Experts' Meeting on Administrative Aspects of National Economic Development Planning. A general review of the planning process with special emphasis on problems of putting the plans into action, and continually modifying the plans to reflect experience with them.

Douglas S. Paauw and John C. H. Fei  
Statistical Implementation of the Fei-Paauw PMSR Model: Capital Inflow  
Requirements of Developing Countries  
April 1964, 7 pp. plus tables

Report estimates values for the model's five primary parameters -- the initial average savings rate, the per capita marginal savings ratio, the capital-output ratio, the target rate of growth of per capita GNP, and the rate of population growth -- and for two scale factors, initial population and initial GNP. Estimates were made for 31 countries.

Pierre P. Crosson  
Capital-Output Ratios and Development Planning  
Center for Development Planning, National Planning Association  
November 1964, 55 pp. and appendix

Focuses on the use of capital-output ratios for projecting aggregate investment requirements, from the standpoint of the development planner.

Pierre R. Crosson  
Planning Data and Information Flows in Malaysia  
Center for Development Planning, National Planning Association  
January 1965, 30 pp.

A close examination of the supply of data in Malaysia relevant to making aggregate and sectoral projections and also to consider planning techniques employed in the country and plan formulation through the execution of development policies and programs.

Douglas A. Paauw and John C. H. Fei  
Development Strategies and Planning Issues in Southeast Asian Type  
Economies  
Center for Development Planning, National Planning Association  
December 1964, 27 pp.

A discussion of the general methodological issue applied to Southeast Asia and the implications from this analysis for development strategy and planning.

Joseph L. Tryon and Forrest E. Cookson  
Project Planning in Less-Developed Countries: A Framework and Major  
Issues  
Center for Development Planning, National Planning Association  
November 1964, 44 pp.

Highlights the most important unsolved problems in project planning arising from actual conditions of less developed countries. Presents a detailed framework within which the project planning can be properly set and discusses within that framework the important problems with which the planner must deal in project planning.

Douglas S. Paauw

Notes on the State of Development Planning in the ECAFE Region  
Survey of Planning Experience Series, Working Paper No. 1  
Center for Development Planning, National Planning Association  
November 1964, 37 pp.

A survey to evaluate both planning practices in the ECAFE area and the current state of Asian thought on Asian development planning.

Paul B. Huber

Programming U.S. Assistance: A Case Study, Liberia 1964-1968  
Center for Development Planning, National Planning Association  
November 1964, 62 pp. and appendix

Examines the prospective impact of United States economic assistance on the development of Liberia over the next five years.

J. Price Gittinger

Planning for Agricultural Development: The Iranian Experience  
Center for Development Planning, National Planning Association  
September 1964, 106 pp. and appendix

A recounting of how the agriculture portion of the Third Five Year Plan for Iran was prepared. Describes the planning process as it was carried out and its implications.

Bruce Edwards

A Primer in Development Planning Typology  
Center for Development Planning, National Planning Association  
November 1964, 55 pp. and appendix

A look into development planning issues, including why societies have plans and what the role of the planner is, how planning is carried out and how it should be carried out, the nature of the less developed world, its heterogeneity and the problem of classifying its members in a useful way.

Bruce Edwards

Time Preference and Development Planning: Screening and Selection of Projects  
Center for Development Planning, National Planning Association  
May 1964, 30 pp. and appendix

A study of the time preference aspect of approving and vetoing projects.

Forrest E. Cookson

Planning in Small, Open Economies: A Model for Relating Capital Inflows, Debt Service and Profit Transfers  
Center for Development Planning, National Planning Association  
November 1964, 59 pp.

Concerned with a class of planning models appropriate to studying the interrelations among growth, foreign capital and debt service.

Pierre R. Crosson

Export and Economic Growth: Malaya, A Case Study  
Center for Development Planning, National Planning Association  
May 1964, 32 pp. and appendix

Deals with one aspect of the studies of aggregative projection techniques. The focus of the paper is on the relationship between exports and economic growth in Malaya, examining this relationship closely to determine the role of export expansion in Malaya's economic growth.

PROJECT: World Trade Patterns

Bela Balassa

Trade Prospects for Developing Countries  
Yale University Economic Growth Center  
1964, 450 pp.

Deals with past developments and future prospects in the trade of less developed countries and presents estimates on prospective changes in the exports of these economies, their future import requirements, and payments and receipts on the service account.

OPERATIONS ANALYSIS

PROJECT: Evaluation of AID Participant Training Programs in the U.S.  
(Pilot Study)

American Institute for Research

Survey of Participant Training Program - Interviewer's Manual  
Washington, D.C., February 1963, 100 pp.

Contains background information on the participant training program and provides detailed instructions to interviewers in conducting interviews.

American Institute for Research

A Pilot Study of Participant Training in the United States - Executive Report

Washington, D.C., June 1963, 28 pp.

Describes a research project designed to obtain better understanding of AID's participant training program in the United States. Contains (1) summary of the research methods and results, and (2) conclusions and recommendations.

American Institute for Research  
A Pilot Study of Participant Training in the United States - Technical  
Report

June 1963, 67 pp.

Presents the methodology and results of a research project in the light of the following objectives: developing a procedure for collecting data on participant training in the United States; conducting the pilot study; and analyzing the substantive results of the study.

PROJECT: Research on Factors Contributing to Maladaptation of U.S. Employees Overseas (Joint AID/State/USIA/Carnegie Foundation Study)

Regis Walther

The Overseas Adjustment of Department of State, USIA and AID Personnel  
May 1964, 29 pp.

Presents factual data obtained in this research study on the extent and nature of maladaptation of State, AID and USIA employees overseas; includes tentative conclusions and recommendations.

PROJECT: Research on Job Performance Standards

American Institute for Research

A Study of Some Key USAID Jobs

June 1964, 660 pp.

Examines, in considerable detail, major components and unique characteristics of four key jobs in AID overseas missions: the Deputy Director, the Program Officer, the Executive Officer, and the Division Chief. More briefly, suggests topics for orientation and training; relates findings to considerations in recruitment, selection, and performance evaluation; and summarizes incumbents' attitudes and opinions about the Agency's general policies and procedures.

PROJECT: Study of U.S. Public and Private Cooperation in Stimulating  
Indigenous Enterprises in Latin America and Africa

Theodore Geiger and Winifred Armstrong  
The Development of African Private Enterprise  
National Planning Association, Washington, D.C.  
March 1964, 158 pp., \$2.50

Analyzes the main problems which impede the mergence and develop-  
ment of modern forms of indigenous private economic activity in  
countries of tropical Africa and describes measures for mitigating  
them which could be undertaken by African entrepreneurs themselves,  
by their governments, by European, American and other private com-  
panies operating in Africa and by foreign governments and inter-  
national organizations providing aid to African countries.

Frank Brandenburg  
The Development of Latin American Private Enterprise  
National Planning Association, Washington, D.C.  
May 1964, 137 pp., \$2.50

Examination of private entrepreneurship in Latin America as a whole,  
with emphasis on industrial entrepreneurship in the six Latin  
American countries with the highest national product; surveys  
methods to promote the development of private enterprise that could  
be used by Latin American entrepreneurs and governments, foreign  
private investors and governments, and international agencies.

SCIENCE INFORMATION

Agency for International Development  
Report of the United States Delegation to the United Nations Conference  
on the Application of Science and Technology for the Benefit of the Less  
Developed Areas, held in Geneva, Switzerland, February 4 to 20, 1963.  
Washington D.C., August 1, 1963, 335 pp.

Contains reports on general and specialized sessions (natural resources,  
human resources, agriculture, industrial development, transportation,  
health and nutrition, social problems of development and urbanization,  
organization and planning of scientific and technological policies,  
international cooperation and problems of transfer and adaptation,  
training of scientific and technical personnel and communications).

Agency for International Development  
Contract Program in Research and Analysis  
Washington, D.C., April 1964, 18 pp.

Brochure on the objectives, organization and scope of the Agency's  
Research and Analysis Program, including guidelines for the submission  
of research proposals.

2



Chapman  
~~Fainsood (Chairman)~~  
Moseman  
Parsons

## SUMMARY

Project: A Study of the Distribution and Marketing of Fertilizers in Various Countries throughout the World

Proposed Contractor: Arthur D. Little, Inc. of Acorn Park, Cambridge, Mass.

Duration: Six (6) months

Estimated Cost: \$92,700

Reasons for this Project: The increased use of fertilizers in the less developed countries is of utmost importance in order to increase the yields of food and other crops. Most attention has been directed toward the need for additional fertilizer production plants. However, discussions at the MIT Seminar on agricultural productivity in less developed countries led to the realization that a companion effort must be directed toward adequate distribution and proper marketing of fertilizers. Otherwise the actual use of fertilizers by the thousands of farmers in the less developed countries almost certainly will be restricted, regardless of the quantities available from production plants. The analytical study proposed herein will compare the systems of distribution and marketing which have been developed by several advanced countries with the systems presently followed in several less developed countries. Conclusions and recommendations will be prepared to guide less developed countries toward the best systems adapted to their conditions so that the actual use of fertilizers by farmers should be considerably greater than otherwise would occur.

Objectives: (a) To make a study of the fertilizer distributing systems in several agriculturally advanced countries in comparison with relatively ineffective systems followed in less developed countries.

(b) To examine price levels at various points in the distribution channels which effect the final prices paid by the farmers.

(c) To delineate the salient features of the most effective systems which might be adapted advantageously in the less developed countries.

Methods: It is intended to make analyses for 12 advanced countries in comparison with 12 less developed countries. The proposed contractor recently completed a confidential study of the world fertilizer production, markets, and distribution. Considerable information in that study will be useful in the analyses of this project. In addition, however, substantial field work will be necessary to obtain data in the countries concerning ten important characteristics associated with distribution systems plus seven basic items concerned with market prices.

(These characteristics and items are listed in the proposal in reasonable detail.) Information will be obtained by personal contact with local government ministries and agencies, importers, manufacturers, wholesalers, distributors, and retail merchants. In addition A.I.D. personnel familiar with the problem will be contacted both in Washington, D. C. and in the country Missions. Tentative arrangements have been made for the consultation services of the Center for International Studies at MIT to assist in analyzing social problems that may impede the transfer of successful distribution techniques.

Reasons for Selecting the Contractor:

Arthur D. Little, Inc. has a good record for furnishing high quality analyses of this type within a relatively short time. Their recent experience in a world study of the fertilizer situation can be of immediate value to our needs. In addition, they are prepared to initiate the work promptly without the customary delay associated with assembling a staff.

SUMMARY OF THE NOVEMBER 10, 1964 ASAG  
CONSIDERATION OF THE ARTHUR D. LITTLE, INC. PROPOSAL

Arthur D. Little, "An Evaluation of Fertilizer Distribution Practices"

Mr. Farrar, FE/DP, Chairman of the panel (Messrs. Draper, TCR/IDTH and Rees, NESAS/SA), reported the failure of the panel to reach consensus, and led the summary of the individual views. He recommended approval of the proposal on the basis of the priority assigned to the problem by the M.I.T. Conference on Agricultural Productivity and of A.D.Little's excellent qualifications to do the work. Mr. Draper felt that the problem of improving distribution in general should receive emphasis rather than limiting the study to one group of products. Mr. Rees on the basis of the experience of India and Pakistan, sees highest priority in this problem area attaching to research on incentives to the private sector, since present knowledge of distribution is proving adequate to handle current problems. The ensuing discussion, drawing on the broad experience and expertise of the M.I.T. conferees who had identified fertilizer distribution and utilization as a critical problem in increasing agricultural productivity, confirmed the high priority of the problem being addressed. It also noted the unique opportunity presented by this proposal for drawing at relatively low cost on comprehensive research already accomplished by A.D.Little, and it pointed up the need to study distribution in its broadest aspects, including the social ones. Dr. Chenery noted the consensus to recommend approval of this proposal once the TCR/RA staff is satisfied that the resulting manual will be of the form most useful to A.I.D. and the LDCs.



Arthur D. Little, Inc.

ACORN PARK  
CAMBRIDGE, MASSACHUSETTS 02140  
AREA CODE 617 864-8770

October 16, 1964

Department of State  
Agency for International Development  
Washington 25, D.C.

Attention: Dr. Frank Parker, Deputy Director  
Agriculture Service  
Office of Human Resources and  
Social Development

Subject: Proposal for Study of Fertilizer  
Distribution Practices

Gentlemen: 2-2683

We are happy to submit this proposal for a study of the distribution and marketing of fertilizers in various countries throughout the world. This proposal is being submitted as an outgrowth of the MIT seminar on Agricultural Productivity in Underdeveloped Countries, held in Dedham, Massachusetts in July 1964.

#### SCOPE OF WORK

As detailed in the attached memorandum, we propose to analyze in considerable detail the distribution of fertilizers in twelve relatively developed countries and in twelve developing countries. We will then determine those factors present in fertilizer distribution practices in the developed countries that may be usefully transferred to developing countries, in order to stimulate the maximum use of fertilizers in these latter countries.

#### REPORTS

During the period of performance, meetings with your technical representatives would be arranged at appropriate intervals to discuss the progress of the program. In addition, we will submit a written final report after completion of the study.

HEADQUARTERS • CAMBRIDGE, MASSACHUSETTS  
CHICAGO    SAN FRANCISCO    NEW YORK    WASHINGTON    SANTA MONICA  
EDINBURGH    LONDON    MEXICO CITY    TORONTO    ZÜRICH

October 16, 196

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Department of State  
Agency for International Development

PERFORMANCE PERIOD

The work outlined will require a performance period of approximately six (6) months after receipt of a contract award.

CONSIDERATION

We would expect to devote our best efforts to the performance of the proposed study under a fixed price contract at a total contract price of \$92,700, which includes the cost of professional services and an estimated amount of \$23,600 for expenses.

METHOD OF PAYMENTS

We would expect to be paid \$15,450 per month for each of six (6) months, final payment to become due and payable upon our completion of all requirements and submission of the final report.

NONDISCRIMINATION IN EMPLOYMENT

Arthur D. Little, Inc. has complied with Executive Order 10925 and has filed SF 40 with The President's Committee on Equal Employment Opportunity on 30 March 1964. We have named the Department of Defense as our Predominant Interest Agency in light of the total dollar value of our Government contracts with branches of that Executive Department.

CONFLICT OF INTEREST

Arthur D. Little, Inc. certifies that it has examined its obligations and responsibilities under this proposed assignment and finds that there appears to be no conflict of interest, either in respect to its own professional standards or standards established under DOD Directive 5500.10.

CONTINGENT FEE STATEMENT

Arthur D. Little, Inc. represents that it has not employed or retained a company or person (other than a full-time employee) to solicit or secure this contract, and agrees to furnish information relating thereto as requested by the Contracting Officer.

October 16, 1964

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Department of State  
Agency for International Development

Arthur D. Little, Inc. looks forward to undertaking this interesting work in your behalf. Any additional information about this proposal or the Company will be furnished immediately upon receipt of your request.

Very truly yours,

ARTHUR D. LITTLE, INC.

John M. Whittier  
Contracting Officer

/jc

Letter in sextuplicate

Attachments:

Technical Memorandum (6)  
Government Proposal Information (6)

PROPOSAL TO THE AGENCY FOR INTERNATIONAL DEVELOPMENT  
FOR AN EVALUATION OF FERTILIZER DISTRIBUTION PRACTICES

INTRODUCTION

It became quite clear during discussions at the recent MIT seminar on Agricultural Productivity, and it has been increasingly apparent to people working in the international fertilizer industry, that one of the critical problems in stimulating the consumption of fertilizer in many developing countries is the lack of efficient and properly organized channels of distribution through which fertilizer would move from the point of production or point of import to the ultimate consumer, the farmer. To date much attention has been focused on a need for additional production facilities for fertilizer materials; only recently has it become apparent that an equal effort must be exerted in the development of proper distribution channels and organizations.

The US/AID program is quite conscious of this problem and feels that a detailed analysis of it would assist them materially in formulating plans and programs that would lead towards the development of increasingly efficient and effective fertilizer distributing and marketing organizations in many of the developing countries, where the greatly increased use of fertilizer is critical to their further agricultural development. In this connection they have asked Arthur D. Little, Inc., to submit this proposal, which would in essence compare the effective distributing systems in several developed countries with the distributing systems (or lack of them) in some of the developing countries, and would analyze the possibility of transferring certain aspects of the effective systems to the developing countries.

We feel that Arthur D. Little, Inc. is in a good position to undertake this analysis on the basis of substantial work we have undertaken in the international fertilizer fields, with particular reference to a recently completed study of "World Fertilizer Production, Markets and Distribution", which was jointly supported by 33 fertilizer organizations in the United States and abroad. In the course of this study we visited over 50 countries and made a particular point of obtaining information where possible on the distribution of fertilizers in these countries. Our attendance at the recent MIT seminar was valuable both in permitting us to bring some of our observations in this field to the attention of the various specialists attending the seminar, and also in bringing to our own attention the relation of fertilizer consumption to the other agricultural inputs.

In comparing the effective distributing organizations in the developed countries with the less effective organizations in the developing countries, we would attempt to delineate the salient features of the more successful systems that might be usefully transferred to the less developed areas. In this connection we would pay particular

attention to the vastly different social environment in developing countries that would often make transfer of affective systems a particular problem. We would also examine to the relative price levels at various points in the distributing channel, since the final price of the fertilizer to the farmer is of critical importance in determining his incentive to use fertilizer.

#### THE SCOPE OF THE STUDY

As indicated in prior discussions, we propose to make a comparison between the effective distributing systems in several agriculturally mature countries with comparable systems in a number of less developed countries. There is obviously a great diversity among the various distributing organizations in the many developed countries, and we think it would be useful to analyze these systems in detail in a number of countries. We have selected twelve developed countries which we propose to examine in detail, as follows:

France	Japan
United Kingdom	Mexico
West Germany	Taiwan
Italy	United States of America
Denmark	Greece
Austria	Netherlands

An examination of this distribution of fertilizers in such a wide variety of countries would enable us to examine effective systems with many diverse aspects and would better enable us to find certain components of the distributing organization that might be effective in less developed countries.

We would then make a similar analysis of the existing distributing organization (or their lack) in a number of less developed countries. For this purpose we would suggest studying an equal number of countries, selected as follows:

Peru	Costa Rica
Brazil	Morocco
India	The Philippines
Pakistan	Ghana
Thailand	Turkey
Colombia	Nigeria

In making the analysis of the distributing organizations both in the developed countries and in the less developed countries, we would pay particular attention to the following points:

1. The pattern of production--large or small plants, locally produced or imported.



2. The nature of the distributing channels:
  - a. National companies--government, private, or cooperative.
  - b. Wholesalers or distributors if in existence.
  - c. Retail outlets--independent or affiliated with wholesalers or producers.
3. Kinds of fertilizer used--mixed fertilizer or single materials.
4. Transportation--methods and cost.
5. Storage facilities and requirements.
6. Credit requirements and credit facilities, including barter.
7. Sales and promotional activities--by producers, by retailers.
8. Educational efforts--by national government, by regional governments, by sellers, by others.
9. Farm characteristics as they affect fertilizer distribution and marketing.
10. The differences in social environment that might impede direct transfer of distribution techniques to developing countries.

In addition to determining the specific characteristics of the distribution systems in the various countries, it will be important to make an examination of price levels. It is a common observation that the margins added to the basic manufacturers price for fertilizers in many of the less developed countries are far higher than seems justified, and consequently lead to inordinately high fertilizer prices. We propose therefore in these same countries to get detailed information on the various price levels for fertilizers, covering particularly the following points:

1. The manufacturers or importers basic prices, f.o.b. manufacturing plant or port of import.
2. A comparison of retail prices paid by the farmer.
3. A breakdown of the various margins and costs which go to make up the difference between the manufacturers' price and the farmers' price, including such items as transportation, storage, wholesalers margins, retailers margins, etc.

4. Any controls or restrictions on prices placed by national or provincial governments.
5. Any subsidies, direct or indirect, paid by federal provincial governments.
6. The relations between fertilizer prices and crop prices in the various countries, put on a common basis for ease of comparison.
7. An over-all comparison of basic prices at the manufacturers level, and at the farmers level, among the various countries studied.

#### HOW WE PROPOSE TO UNDERTAKE THIS STUDY

We have as a result of our recent study "World Fertilizer Production, Markets, and Distribution" considerable amount of information on the above points in the various countries. Nevertheless, it will be necessary to do substantial additional field work to get the detailed information required on all of these points, on a comparable basis, for the 24 countries concerned.

We expect in undertaking field work in these countries, to talk with a diverse spectrum of people familiar with the various aspects of this problem. We would particularly talk with various local government ministries and agencies, with importers, with manufacturers, with wholesalers and distributors, and with operators of retail outlets.

To assist us in analyzing social problems that may impede the transfer of successful distribution techniques to developing countries, we expect to make use of appropriate consultants with experience in developing countries. We have discussed this proposal with the Director of the Center for International Studies at MIT. They have indicated active interest in it and have offered to assist us through consulting arrangements if it seems appropriate.

We would also hope to be able to contact the US/AID missions in various countries, and US/AID personnel with some familiarity on this study in Washington.

COST BREAKDOWN FOR ARTHUR D. LITTLE, INC.  
FERTILIZER DISTRIBUTION STUDY

The details comprising the total fixed price amount of \$92,700 in our proposal letter dated October 16, 1964 are furnished below.

Direct Labor (1)	\$21,420
Pension Plan Costs (2)	3,214
Employee Fringe Benefit Expenses (3)	2,571
General Operating Overhead (4)	33,845
Consultants (5)	6,000
Travel and Subsistence (6)	11,400
Report Preparation (7)	5,000
Communications (8)	1,200
Profit (9)	<u>8,050</u>
 Total Fixed Price for Six (6) Month Period	  \$92,700

(1)

<u>Classifications</u>	<u>Hourly Billing Rate</u>	<u>Estimated No. Hours</u>	<u>Amount</u>
Senior Staff	\$11.56	30	\$ 347
Senior Staff Associate	9.66	640	6,182
Staff Associate	7.39	380	2,808
Staff Associate	7.13	320	2,281
Staff Associate	7.13	320	2,281
Staff Associate	6.97	320	2,230
Senior Professional	6.82	160	1,091
Senior Professional	6.65	320	2,128
Associate Professional	5.18	<u>400</u>	<u>2,072</u>
 Total Estimated Direct Labor		 2,890	 \$21,420

(2) This amount represents the amount allocable to direct labor charges for the employee pension program, is allowable under ASPR 15-205.6 (f)(2) and FPR 1-15.205.6 (f)(2), and has been approved by the Internal Revenue Service.

(3) This amount represents the allocation of such fringe benefits as social security, unemployment taxes, workmen's compensation, group insurance, etc. to direct labor charges.

- (4) This amount represents the general overhead expense realistically estimated to be allocable to direct labor charges during the stated period of performance and includes no costs indicated to be unallowable in Part 2, Section XV of the Armed Services Procurement Regulations or in Subpart 1-15.2 of the Federal Procurement Regulations.
- (5) This amount is budgeted to cover the cost of retaining the services of consultants at an estimated cost of \$150 per day for forty (40) days.
- (6) Following is a breakdown of this estimate.

<u>Destination</u>	<u>Trans- portation</u>	<u>Internal Transportation</u>	<u>Total Travel</u>	<u>Subsistence @ \$20/Day</u>
Boston/Japan/Taiwan/ Philippines/Thailand/ Boston @ \$1,240	\$1,240	\$370	\$1,610	\$560
Zurich/Turkey/Greece/ India/Pakistan/Zurich @ \$710	710	370	1,080	560
Boston/Nigeria/Ghana/ Boston @ \$875	875	250	1,125	280
Boston/Peru/Brazil/ Colombia/Boston @ \$675	675	250	925	420
Mexico City/Costa Rica/ Mexico City @ \$200	200	70	270	280
Zurich/Denmark/U.K./ W. Germany/Zurich @ \$110	110	250	360	420
Zurich/France/Netherlands/ Zurich @ \$80	80	70	150	280
Zurich/Italy/Morocco/ Zurich @ \$190	190	150	340	280
Zurich/Austria/Zurich @ \$70	70	100	170	280
Boston/Washington, D. C./ Boston @ \$55	110	100	210	280
Boston/Zurich/Boston @ \$555	1,110	130	1,240	280

- (7) This amount is estimated to cover the cost of the preparation of the required reports.
- (8) This amount is estimated to cover the cost of long distance telephone calls and telegrams. General telephone expenses and the cost of local telephone calls are included in overhead.
- (9) The profit represents the amount applicable for the work or services to be performed, the rate of effort to be expended, and the period of performance as stated herein.

QUALIFICATIONS AND EXPERIENCE OF  
ARTHUR D. LITTLE, INC. AND PROJECT LEADER

ARTHUR D. LITTLE, INC.

Arthur D. Little, Inc., a private consulting, engineering, and research firm in Cambridge, Massachusetts, has had continuing work in the fertilizer field both in the United States and abroad during the last 15 years. This work has covered both technical and economic aspects of fertilizers and has included examination of basic raw material deposits, engineering work in the design and estimation of various types of fertilizer plants, extensive marketing and market research work in the use and demand for fertilizers, and a detailed analysis of future consumption trends throughout the world.

ADL has also done considerable work related to other agricultural problems in developing countries, including studies of cooperatives, of over-all agricultural development, and of the potential demand for tractors in developing countries.

Some studies which are typical of work ADL has done in this area are as follows:

- 1953-56 ADL had a continuing contract under the Point IV program in Egypt to assist the National Production Council of the Egyptian Government in assessing industrial opportunities. Included in the program of studies was one relating to the fertilizer industry.
- 1957 ADL undertook a study of the agricultural cooperative system in the Philippines, under a contract with the U. S. Government.

- 1957 ADL undertook a study of the possibilities for petrochemical manufacture in Mexico for a major U. S. oil company, and examined in detail the fertilizer opportunities in Mexico.
- 1957 ADL studied the market opportunities for Mexican phosphate rock in the Far East, principally including Japan, Taiwan and the Philippines.
- 1958 ADL evaluated the opportunities for nitrogen fertilizer manufacture in the Philippines for a private company.
- 1959 As part of a general study of the industrial opportunities for the Guayana Region of Venezuela, ADL examined in detail possible fertilizer opportunities.
- 1960 ADL made a broad study of the industry development possibilities in Peru, for the Ministry of Development of the Peruvian Government and included as a major component of the study opportunities for the manufacture and use of fertilizers.
- 1961 ADL undertook a study of the petrochemical opportunities in Chile including nitrogen and phosphate fertilizers, for a private U. S. company.
- 1962 ADL made a study for the planning commission of the Government of Pakistan for the opportunities to manufacture chemicals from large natural gas fields found in that country, and included a study of fertilizer production and use in Pakistan.
- 1962 ADL undertook a major study of the production, markets and distribution of fertilizer throughout the world, for a group of 34 organizations in this country and abroad. This study,

which took 14 months to complete and employed some 25 persons on ADL's staff, examined individually the fertilizer situation in 80 countries. Staff members visited 53 of the countries, and looked in detail not only at fertilizer production facilities in each country but at consumption and use patterns, on marketing and distribution channels, and generally assessed the future opportunities and requirements for each country. ADL then summarized the result on a world basis and came up with 10-year forecasts of consumption and required production facilities for the world as a whole.

- 1964 ADL is presently undertaking a study of the potential development of small farm tractors in developing countries for the Standard Oil Company of New Jersey. In connection with this ADL is undertaking extensive field work in Japan and other countries of Asia.
- 1964 ADL is presently undertaking a detailed study of the feasibility of a triple superphosphate plant in Chile, for the Chilean Government Development Corporation.
- 1964 ADL is presently carrying out a study of the world demand for the various grades of phosphate rock, for one of the world's leading producers of rock and will include an evaluation of future developments in phosphate fertilizer consumption.
- 1964 ADL has just completed a detailed study of the opportunities for fertilizer manufacture and distribution in a foreign country for a private company.



In all of the work outlined above, ADL has undertaken extensive field work in the countries in question. Therefore, we have on our staff a number of people with first-hand familiarity with the fertilizer situation in a number of developing countries, and a realistic conception of what type of information is necessary for proper analysis, and how it can be obtained.

In addition to the overseas work outlined above, we have carried out over 50 studies relating to the fertilizer industry in the United States, ranging from evaluation of mineral deposits of phosphate and potash, and evaluations of the engineering aspects of manufacturing fertilizer products, to detailed analysis of marketing and distribution practices in the fertilizer industry, how these will probably develop in the future, and estimates of future requirements both for plant nutrients and individual fertilizer materials.

PROJECT LEADER, GEORGE C. SWEENEY, JR.

Mr. Sweeney graduated from Massachusetts Institute of Technology with a Bachelor and Master of Science degree in Chemical Engineering in 1948, and worked for four years in process development in the Dewey & Almy Chemical Company. Joining Arthur D. Little, Inc. in 1952, he has worked in the Industrial Economics Group in that company, and has been primarily concerned with economic questions in the chemical industry. He has been in charge of a number of the studies described in the previous section and has participated in others. Specifically, Mr. Sweeney was in charge of the analysis of Far Eastern opportunities for Mexico phosphate rock, for the chemical section of the Peruvian study, was in charge of the study

of petrochemical opportunities in Chile, and of the chemical section of the study in Pakistan. He directed the multiclient study entitled World Fertilizer Markets, Production and Distribution. He directed the recently completed study of the fertilizer opportunities in a specific foreign country and participated in the study in Egypt and in the petrochemical study in Mexico. During his assignment in Egypt he resided in that country for 20 months, and during other work has visited India, Pakistan, Japan, Taiwan, Thailand, Morocco, France, Mexico, Peru, and Chile in connection with various aspects of the fertilizer situation.

Mr. Sweeney was one of the participants in the recent seminar at MIT sponsored by U.S./AID and organized by the Center for the International Studies at MIT, and contributed material on the fertilizer industry.

PH

Skolnikoff (Chairman)  
Chaprie  
Millikan

SUMMARY

PROJECT : Industrial Location and Development Planning  
in Newly Industrializing Countries

Proposed by : Stanford Research Institute, August 7, 1964

Principal Investigator: William Bredo, and others

Duration : Twenty-four months\*

Estimated Cost : \$285,073\*\*

A. Background

This is a second revision of a proposal by Stanford Research Institute for work on this general subject. The previous version of the proposal was discussed at the June 1964 RAC meeting. The RAC declined the proposal as then drawn, but asked that Stanford submit a more modest scope of work, confined chiefly to an empirical study of comparative costs of infrastructural elements relative to the size of urban centers.

Since this new version of August 7 is not fully responsive to the request made by RAC, a "counter-proposal" was made by ORA to restrict the scope of work. Stanford has said that in general it could proceed on the basis of the ORA counter-proposal. (Details remain to be worked out.) Main features of the counter-proposal are given below under heading C.

It is important to recall that the proposal is regarded by Stanford as only a first step in a larger research effort on the complex aspects of industrial location and decentralization policies.

The objectives of the larger program are stated in the proposal as:

1. To advance the understanding of the economics and sociology of industrial centralization and decentralization with particular reference to ways in which industrial spatial patterns interact with patterns of urban growth, the efficiency of industry, social and private costs and benefits, and the gap in rates of modernization between metropolis and countryside.
2. To develop improved analytical guidelines by which development planners may deal more effectively with such problems as (a) promoting industrial growth and general economic and social

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\* Duration would be less if alterations in proposal, suggested by ORA, are followed. See heading C. below.

\*\* Cost would be less if alterations in proposal, suggested by ORA, are followed. See heading C. below.

development outside the major cities, (b) selecting the most promising secondary cities and provincial towns for industrial development effort, and (c) using industrial location policy in a manner that helps to overcome the dual economy problem rather than to intensify it.

B. Study Plan in Proposal of August 7

The following steps are outlined:

Step 1. Search of the literature to see how problems of "over-concentration" of industry are regarded in developing countries; what actions governments are taking with respect to them; how effective these actions appear to be; and how economists and others explain "the spatial patterns by which economic growth takes place and measures they propose for influencing the pattern of industrial location".

Step 2. An attempt to clarify the term "over-concentration" of industry by examining, for a wide range of countries, the statistics of size distribution of urban centers and of industrial advancement as measured by selected indices.

Step 3. Re-examination and re-working of the study hypotheses on the basis of 1. and 2.

Step 4. Design of field studies.

Step 5. Field work:

(a) Collection of demographic and geographic data on urban communities of various sizes (from 5000 population up to large metropolitan areas).

(b) Collection of historical data on growth of urban areas, and "the corresponding continuities or discontinuities in infrastructural services that have occurred in the last decade or two of urban development".

(c) A subsidiary inquiry on population migration trends of the economically active members of the population.

Step 6. Inquiry (India only) on how effectively industrial estates incorporate the type of external economies required for a viable industrial sector. Do such estates satisfy infrastructure requirements of small- and medium-scale enterprise? Can they be improved in this regard, and made more effective in attracting

industry? Can the effectiveness of estates be related to the size of urban centers involved, that is, in order to draw enterprises to smaller centers? This step is to clarify merits of the estate as a device for decentralization.

Step 7. Drawing on the work of Steps 1-6, a testing of the hypothesis that it is possible to devise location policies which, using chiefly investment in infrastructure and other policy tools (tax policies and subsidies), would influence decisions on locations favorably.

Step 8. Building on the descriptive data collected in Step 5, an analysis of comparative cost of investments in the various infrastructural elements, as related to the size of urban communities. This would involve an attempt to measure costs per industrial worker and costs as related to infrastructure scale, by size of community. Economies and possible diseconomies of scale in providing infrastructure investment will be analyzed in relation to the size of an industrial estate, the industrial complex, and the size of urban community of which they are a part.

Unit costs of "social" infrastructural services (sanitation, schools, roads, banking facilities, etc.) would be sought. Making these costs explicit should clarify the trade-offs, in location decisions, between economies for single enterprises and possible diseconomies for major cities.

It is an hypothesis of the study that when the cost data are plotted against some measure of urban center size, "families of curves" should emerge, that is, continuities and discontinuities in infrastructure requirements and costs should emerge as a function of size of center. These cost-size relationships would be useful elements to be considered in devising location policy.

Step 9. This step would develop guidelines for locating industry and its associated infrastructure so that faster rates of economic growth would take place (over a 20 to 30 year period) than might otherwise occur without such deliberate location strategies. There would be social and political benefits (besides those due to faster economic growth) if such strategies could be devised, benefits such as extending income and employment opportunities to less-developed regions.

### C. ORA Counter-proposal

#### 1. Changes in study plan given above (heading B.)

Step 4. Field work would be restricted to India.

Step 5. Step 5(a) on migration trends, to be omitted.

Step 7. To be omitted.

Step 8. India only, as in Step 4.

Step 9. To be omitted.

Thus, the work would concentrate on:

- (a) Review of the literature and preliminary analysis of available data to sharpen hypotheses (steps 1-3).
- (b) Data collection and analysis to test the hypothesis that infrastructure costs are significantly related to size of urban centers, India only (steps 5 and 8).
- (c) A related inquiry on the effectiveness of present industrial estate programs in supplying infrastructure (India only) (step 6).

2. As an integral part of the project, a special advisory committee would be available to SRI and ORA for advice along the way. SRI would present, for committee discussion, its work at the following stages:

- (a) A draft of the literature review. This report to be published as a scholarly contribution.
- (b) The study plan for the field work in India on infrastructure costs. The draft report of the study would also be reviewed by the committee, for eventual publication.
- (c) The study plan for the field work in India on industrial estates. Similar review, as in (b), of the study report.

3. If ORA were satisfied with SRI's work, a proposal from SRI for further work in this field would be requested.

Proposal No. II-63-359  
(2nd Revision)

Dr. John D. Wilkes, Science Director  
Office of Technical Cooperation and Research  
Agency for International Development  
Department of State  
Washington, D.C.

August 7, 1964

A Proposal for Research

INDUSTRIAL LOCATION AND DEVELOPMENT PLANNING IN  
NEWLY INDUSTRIALIZING COUNTRIES

with special reference to

REGIONAL DISPERSAL OF INDUSTRY, PATTERNS OF  
URBAN GROWTH, AND RURAL-URBAN LINKAGES

Introduction

It would be hard to name a newly industrializing country in which political leaders and development planners do not express concern about a set of problems variously referred to as "decentralization of industry," "urban overconcentration," and "rural industrialization." In action terms, common questions are: "How do we get industry to take hold in the provinces?" and "What can be done to counteract the excessive growth trend of . . . [the metropolis--Calcutta, Athens, Mexico City, Caracas, Cairo]?" and "How can industry be brought to the rural areas to relieve underemployment and to spread modernizing influences?"

These problems have tremendous ramifications. With respect to economic policy, they involve the relative costs and benefits of locating economic activity at points of great concentration versus dispersing economic activity over a region or country. Socially and politically, they



bear on issues such as the growth of slums and the tendencies toward political extremism in the great cities, the willingness to modernize (usually strongest in the cities), and the tensions arising out of differences in income, opportunity, and outlook between the modern and traditional sectors of what in many countries is a dual economy. These differences are often expressed in regional disparities, such as the contrasts between Southwest and Northeast Brazil, and in disparities between city and country, metropolis and hinterland (Thailand, for example, has been described as two countries--Bangkok and rural Thailand). Can industrial location policy be planned and implemented in ways that allow industry to serve as a catalyst and carrier for spreading modern influences into the less-developed areas of industrializing countries, rather than as a means of furthering concentration? Can industrial growth open new types of employment opportunities for people near where they live, instead of fostering massive migration to central cities? These questions, and many more, have come to the fore in many newly industrializing countries, and the indications are that they will become more insistent and more widespread in the next five or ten years.

These are problems in the geographic or spatial structure of industry and are interlinked with urbanization patterns, relative regional growth and regional disparities, the speed and the concentration or diffusion of social change, employment and un- or underemployment, and political tensions.

From the viewpoint of development planners (including U.S. officials concerned with foreign aid programs) several policy issues come into focus in decisions on the location of industry and related infrastructure for area development--transport, power networks, water and sewage facilities, schools, hospitals, housing, and other amenities of living. Each country has vast demands for infrastructural development. Whether most of the new facilities are to be built in a few megalopolitan centers or spread over a large number of urban centers is a crucial issue. The cost of carefully devised programs to encourage decentralized development may well be offset by savings achieved through reducing metropolitan problems to more manageable proportions.

The Institute has observed current practice in planning (or lack of explicit planning) with respect to these issues of industrial location in newly industrializing countries and has examined the literature, theoretical and applied. Unquestionably, some valuable contributions have been made in recent years, but it is a considered judgment that this segment of development theory and practice has received far less attention to date from students and practitioners than its urgent, widespread, and growing importance demands. Some of the really significant issues

have been neglected. SRI therefore proposes to undertake systematic research designed to advance both the theoretical and empirical knowledge on which to base solutions of the problems mentioned.

### Objectives

The objectives of the proposed research are:

1. To advance the understanding of the economics and sociology of industrial centralization and decentralization with particular reference to ways in which industrial spatial patterns interact with patterns of urban growth, the efficiency of industry, social and private costs and benefits, and the gap in rates of modernization between metropolis and countryside.
2. To develop improved analytical guidelines by which development planners may deal more effectively with such problems as (a) promoting industrial growth and general economic and social development outside the major cities, (b) selecting the most promising secondary cities and provincial towns for industrial development effort, and (c) using industrial location policy in a manner that helps to overcome the dual economy problem rather than to intensify it.

### Scope

Within the context of the above objectives, it is proposed to direct the inquiry into the comparative costs of building the physical and social infrastructure required for industrial growth in urban centers of different sizes.

The elements of infrastructure to be considered in the study include water-supply and distribution systems, waste-disposal systems, electricity supply and distribution systems, telephone and telegraph systems, street and road systems, housing, schools and training institutes, wholesale and retail distribution facilities, banking facilities, restaurant and hotel accommodations, public safety, and welfare activities.

Another essential part of the study will include the costs of alternative highway networks to connect smaller urban communities with the major markets of a country.

Various public policies can encourage or discourage industrial growth in large cities or in smaller urban communities. The scope of this research will generate valuable data and analyses that can be referred to and used in making private and public decisions and policies on the spatial aspects of development planning.

This project is conceived as a part of a larger program of research designed to deal comprehensively with the question of formulating policy concerned with sound national strategies for the location of industry and industrial decentralization generally. It is focused especially on determining the costs associated with building the infrastructural features required for establishing industry in the developing countries. This information will be a key element for an analysis of the industrial location problem of an economy. Obviously, other factors need to be taken into account in formulating location policy and in making location decisions. It is expected that subsequent research will be focused on them.

#### Method of Approach

It is proposed that the research be conducted over a period of approximately two years by a team of development economists with professional background and interest in problems concerned with the strategy of national and regional industrial development. The research team will from time to time retain local overseas consultants who have particular access to information on the costs and effectiveness of alternative urbanization and industrialization patterns. The method is detailed below.

1. The background search of the literature will concentrate upon the following issues:
  - a. The extent to which the problems of overconcentration of industry in a few centers and disparities of regional income are matters of grave concern in the developing countries.
  - b. Actions that governments are taking to solve these problems, the reasons why they appear to be compelled to take them, and the apparent effectiveness of various actions.
  - c. The theories of economists and social scientists to explain the spatial patterns by which economic growth takes place and measures they propose for influencing the pattern of industrial location.

2. Statistics for a wide range of countries will be analyzed to define the possible relationship between size distribution of urban centers and industrial advancement of countries. From this, it may be possible to identify the presence of overconcentration in measurable degree.

3. On the basis of the above studies, the hypotheses of this study will be reexamined and redefined.

4. The design of the field procedures will be worked out in detail, and countries will be selected where meaningful work in the field can be undertaken. Tentatively, we now intend to recommend India and Pakistan (South Asia) as one area, and Peru, Chile, Ecuador, and Colombia (Western South America) as the second area, although the selection will be agreed upon by the Agency for International Development and SRI.

5. Within the selected regions the research team will gather available data on urban communities of various sizes, from metropolitan areas of more than 1 million population to towns of 5,000 population. Data to be collected will include demographic and spatial information, and information that can lead to the estimation of costs of infrastructure as defined under Scope. Data on trends will be collected, particularly growth rates and the corresponding continuities or discontinuities in infrastructural services that have occurred during the last decade or two of urban development.

To introduce the dynamic element, a subsidiary inquiry will examine population migration trends, particularly origins and destinations of the economically active. Migrations predominantly from rural to urban settings imply infrastructural impacts somewhat different from those that might be experienced under other patterns of labor mobility.

6. Concurrently with the last step, the research team will make an inquiry on industrial estates and industrial complexes to determine how effectively industrial estates incorporate the type of external economies required for a viable industrial sector.

This substudy will probably be conducted only in India where a large industrial estate program is in existence and where the government has made a determined effort to use the industrial estate as a means of extending industry throughout the country. It will in no way duplicate studies already conducted in India on the industrial estate program. The study will be focused on whether industrial estates generally are able to satisfy the infrastructural requirements of small- and medium-scale enterprise and what modifications should be introduced in the infrastructure to make the estates more effective in attracting industry and improving its viability.

The study will also investigate the degree to which the effectiveness of estates in attracting industry can be related to the size of urban centers; that is, can the industrial estate concept be applied in stimulating the movement of small- and medium-scale enterprises to the smaller urban centers. There has been some controversy on whether the viability of industry can be retained when it is dispersed to smaller urban communities. This examination would test the now controversial hypothesis that industry can satisfactorily be established in the villages. It is hoped that this study will assist in identifying communities whose population size or degree of industrialization is below the minimum for economic dispersion of industry. In short, the emphasis of this survey is not on the industrial estate as such, but on the industrial estate as a device by which the clustering of industry can be accomplished and by means of which industry can be decentralized effectively. The survey should thus assist in determining the limitations of the industrial estate as a device for decentralization.

7. The data and analyses of the preceding six steps will be brought together to permit an examination of our major hypothesis, namely, that investments in the critical infrastructural elements can become more discriminating tools for influencing the future location of industry and pattern of urbanization. Reference has been made to the importance of other critical elements, such as the tax structure or special incentives to location, that will also have a decisive effect on the location of industry.

In this context, infrastructural investments should be examined in broad terms. They may be undertaken by the state or by large private enterprises. From the standpoint of small- and medium-scale industrialists, the question of who provides the infrastructure is immaterial, although its presence is most important as a factor in affecting the location of the enterprise.

8. An analysis will be made to determine the comparative cost of investments in the various infrastructural elements as related to the size of urban communities. It will involve an attempt to measure the level of costs per industrial worker and the scale of infrastructural investments required, as related to the size of the urban community. Economies and possible diseconomies of scale in providing infrastructural investment will be analyzed in relation to the size of an industrial estate, the industrial complex, and the size of the urban community of which they are a part.

The study will be extended as far as possible into the social infrastructure. An attempt will be made to determine unit costs (e.g., per

capita or per employee) costs of such social services as sanitation, schools, vocational training institutes, banking facilities, public health, public safety, welfare, traffic control, and street improvement and maintenance, as each of these costs relates to size or degree of urbanization. These services particularly tend to be neglected in location decisions at the community level. Yet they are costs in the complex of private and public investment decisions. Making these costs explicit should help in understanding the trade-offs between economies for single enterprises and possible diseconomies for major cities.

The data collected in the preceding steps will be analyzed to synthesize as nearly as possible families of curves of infrastructural cost versus some measure of urban size. From the empirical data on urban-industrial complexes of varying size, it should be possible finally to establish regularities (continuities and discontinuities) in infrastructural requirements and costs as a function of size, from small towns to the largest metropolis. Attendant network costs, such as those of inter-city highways, will be included.

The study will determine the differences that exist in the average cost of investment per industrial worker in the metropolitan center, the city, the town, and the large village. If the study should establish that the average costs of these infrastructural investments are in proportion to the size of the community, then it would be presumed that industry might justifiably be moved to the smaller centers if the total investment costs on a per worker basis in manufacturing are to be minimized.

9. The findings of the preceding step will be arrayed to facilitate forming policies on industrial centralization and decentralization. The problem is to allocate investment funds for the industrial sector among urban centers and complexes with the greatest prospects for growth over a 20- to 40-year period.

The analytical framework will include putting together data that bear on decisions involved in urbanization, in industrial location, and in transportation from a cost standpoint, in order to facilitate the evaluation of alternative spatial development strategies. On the one hand, there are benefits from extending industry into the interior, if it can be demonstrated that lower total costs are involved in the smaller communities; on the other hand, costs of transportation increase as penetration of the interior takes place. At some point under each alternative situation, the point of indifference that will represent the "best" solution is reached. From these various solutions, the study will present a range of suitable strategies for guiding the geographical pattern of locating industry in the future.

It is anticipated that this study will provide guidelines for allocating investments in industry and the associated infrastructure in urban communities in a pattern different from that which has been taking place. It will test the proposition that an improvement in the spatial strategy of making investments conceivably could enhance long-term industrial growth of the country as a whole, and could achieve important social and political goals as well.

### Basic Hypotheses

The first basic hypothesis of this study is that the existing pattern of industrial location in many countries now emerging industrially is not necessarily the "best" of various possible alternatives from economic, political, and social points of view. Criteria for weighing the "efficiency" of existing industrial location and urbanization patterns will be presented in the study, and research methodology will be developed for evaluation purposes.

One economic criterion is that the national or regional industrial growth of an economy could be accelerated by extending the geographical dispersion of industry away from the large metropolises to smaller urbanizations. This means that a given investment combining fixed private or public investments in industry and supporting social overhead investments could produce greater industrial growth (that is, more employment and income) over a long term period, if these investments could be distributed spatially in a pattern superior to that which would prevail without deliberate government action to direct the forces affecting the locational pattern of industrial investments.

A second but noneconomic criterion is that improvement of the industrial location pattern (probably in the direction of reducing spatial concentration) would achieve identifiable social and political benefits to the nation. For example, an extension of income and employment opportunities to less-developed regions should ameliorate social and political tensions as it would have the effect of reducing regional income disparities. It would also dampen political hazards arising from the social problems of large urban slums by reducing urban congestion and by providing more adequate facilities and amenities for the use of the public.

The second hypothesis presumes that it is possible to modify over a reasonable period of time the less-than-optimum pattern of industrial location that commonly exists in the underdeveloped countries. The assumption is that it is not only feasible to formulate policy meaningfully

but to implement an industrial development program to achieve a "better" size distribution of industrialized urban community centers than that actually existing.

This second hypothesis is double-pronged in its effect on the methodology of the study. First, it requires an identification of those elements of the physical and social infrastructure which governments are in a position deliberately to direct and to control, and which individually and collectively influence the locational decisions of industrial entrepreneurs in a significant way. The object is to find those elements that it is possible to control through direct or indirect policies, and to utilize them more effectively to achieve the desired long run objectives of an important regional industrial location policy. In this context, the physical infrastructure has reference to the provision of facilities principally for transportation, power, water, sewage disposal, and communications.

In the social infrastructure may be included (1) institutional facilities, such as elementary and technical schools, colleges, and universities; (2) industrial and commercial services, such as technical consulting services, banking, wholesaling, production subcontracting, and repairing services; and (3) social amenities, such as restaurants, hotels, and residential housing, especially those that influence the decisions of entrepreneurial, managerial, and technical staff who are concerned with servicing, selecting, and staffing industrial sites.

Second, besides identifying the significant infrastructural elements, which are subject to control and usable in affecting industrial location policy, the study will examine the powerful location-determining tools inherent in the taxation and subsidization policies of governments. An imperfectly developed tax structure--for example, one marked by the absence of a property tax, may significantly affect the location of industry directly, as well as private investments in amenities and services serving industry and its employees.

Aside from an important criterion, such as the location of natural resources (e.g., minerals) in determining the location of industrial plants, businesses tend to be established in centers where suitable infrastructure exists. The rapid growth of large cities therefore induces even further investments in their infrastructure to maintain adequate supporting institutions and services. This in turn would be further stimulated and reinforced by governmentally sponsored infrastructural investments which are considered essential. Such situations appear to exist in many countries, and may reflect a major deviation between the immediate private interest of enterprises and the longer run interest of



the society concerned. That is, the well-meaning and rational private decisions of industrial entrepreneurs may not produce the maximum social benefits for the economy in the long run.

Therefore, it is postulated that more defensible economic and social policies could be followed in many countries in stimulating the private location of industry. This might entail a revision of existing fiscal measures at all governmental levels, and the coupling of these with positive measures to build up and establish industrial complexes in other suitable cities with growth potential, by using industrial estates, for example, as an agglomerating device, and by extending the elements of the infrastructure essential to industrialization.

Closely allied to this last hypothesis is the probable fact that the lack of spatially decentralized decision-making by government agencies means that industrial leaders prefer to be near the seat of government for the sake of convenience and to reduce the cost and time required for obtaining vital government decisions. This is especially the case in countries where foreign exchange is short for investment purposes and licensing of new investments and of imports and exports is involved. This problem is obviously compounded where communication services are poorly operated.

#### Staff Deployment Schedule

The following table shows the approximate pattern in which staff would participate in the various steps described in the Method of Approach.

#### Qualifications of Stanford Research Institute

##### General

Stanford Research Institute is a not-for-profit, nonendowed organization, affiliated with Stanford University and chartered in California. It has a large diversified professional staff supplying research services to industries and governments in the broad fields of engineering, physical sciences, life sciences, economics, behavioral sciences, and management sciences. It maintains research offices or representatives in several cities of the United States, Canada, Switzerland, the United Kingdom, and Japan.

<u>Step</u>		<u>Man-Months</u>			<u>Inter- national Trips</u>
		<u>Super- visory</u>	<u>Professional</u>	<u>Overseas Consultants</u>	
1-4	Formulation	2	9		
5	Field data				
	Home-based	1	3		
	South Asia		4	12	2
	Western South America		4	6	2
6	Industrial estate				
	Home-based		2		
	India		2	4	1
7-8	Analysis				
	Home-based	2	7		
	South Asia		3	3	1
	Western South America		3	3	1
9	Synthesis and Testing				
	Home-based		7		
	South Asia	1	2		2
	Western South America	1	2		2
	<b>Total</b>	<b>7</b>	<b>48</b>	<b>28</b>	<b>11</b>

The Institute has had wide experience in techno-economic research related to industrial development, development of human resources, and related problems fundamental to economic progress. Studies have been conducted for a variety of industrial firms, foundations, and government agencies on problems of selecting industrial opportunities, feasibility of new industries or individual plants, expansion or modernization of existing industries, selection of technological alternatives for production, industrial location, transportation and other utilities, availability of material resources, and development of human resources. While the majority of these projects have been for clients in the United States, more than 120 have been carried out for private or government clients abroad. More than 150 SRI staff members have engaged in research in one or more foreign countries. Individual projects have been undertaken in some 37 countries, giving the Institute a background of experience and a mass of pertinent data from every region of the world.

The SRI research staff has experience in work involving industry data, both technological and economic, and in practical industry studies in highly industrialized and in newly developing countries. This results from the Institute's emphasis on combining technical research with economic analysis in a wide variety of studies for large and small industrial firms as well as for government clients. Some research groups specialize in the problems of important industry groups--such as chemical processing industries, electronics, or forest products. Other groups specialize in studying the problems of land use, regional development, marketing and distribution, finance, or manpower. Still other research groups provide support on problems of gathering and analyzing statistical data, designing and evaluating sample surveys, or constructing and testing complex mathematical models. To conduct a specific research task, a team is formed of specialists from each of the appropriate research groups under the direction of a qualified project leader.

The Institute manages its research for developing countries through its International Development Center, which has a staff of professionals experienced in development economics, problems of newly developing countries, international trade, and the techniques for stimulating industrial growth in developing countries and attracting investment to private industry. Many projects conducted by the Center provide for collaboration with development agencies or research institutions in developing countries, enabling SRI staff members to assist these organizations in building local capabilities.

### Specific Work on This Topic

For some years SRI staff members have been devoting thought to the problems proposed for this research. Several have already gone a long way in developing hypotheses and analytical approaches. Several have also been involved in policy appraisals on behalf of development planning authorities concerned with these problems.

As additional information on the interests and capabilities of staff members in this field, a binder of documents was submitted with the original proposal, December 6, 1963. A list of these documents appears herewith as Appendix B. Biographies of staff members who may be available for work on the project are included in Appendix C.

### Working Relationships in Specific Countries

In India, SRI personnel have worked intimately with industrial development authorities, planning officials, and research organizations since 1955, particularly on India's very extensive small-industry development program and on state industrial opportunity surveys. Three staff members participated in the work of the International Perspective Planning Team on Small Industries in 1963; part of the report of this Team to the Ministry of Industry was concerned with industrial dispersal policy. During 1964 and 1965 another will be resident in New Delhi as a consultant to The Ford Foundation and the Ministry of Industry. His assignment includes aid in organizing research on factors related to decentralization of industrial development.

An SRI team is currently engaged on a project in the five Central American Common Market republics on a study which will be the basis for long-term investment in industrial estate programs. This study is concerned with the theme of project identification of high-growth industrial complexes and decentralization of industry.

An extensive new long-term program for the development of small industry in Pakistan is being initiated in August 1964 under Ford Foundation sponsorship. This program will become intimately involved with industrial location problems and particularly with plans to establish industrial estates for small- and medium-scale industry. In Pakistan, the Institute has worked for several years with the Pakistan government and The Ford Foundation on problems of rural industry development. The central government and the two provincial governments are keenly aware of the need to bring industry to the people in interior regions. As a

part of the program for the development of small- and medium-scale industry the Institute has helped evaluate the industrial estates program which is planned to foster regional industrial dispersal.

In Peru, the Institute now has a team of industrial development specialists as advisers under an AID contract to assist the Government of Peru in industrial development with special emphasis on regional programs.

In Argentina in 1960, the Institute investigated the feasibility of undertaking an industrial estates program as a means of implementing a program of industrial dispersal to less-developed regions of the interior.

In Colombia, an SRI team in 1962 cooperated with the Banco Popular and other Colombian organizations in a study and report on "Small and Medium Industry in Colombia's Development."

In Chile, SRI has undertaken a study of manpower and educational planning under the auspices of the Chile-California program.

In Ecuador, SRI has recently completed two studies, one on the role of artisans in development of the country and another on manpower and educational planning.

#### Time and Cost

Reports will be prepared in connection with each task, and a final report will summarize the findings of the entire project.

The estimated total cost to complete the proposed research, including a final report in 25 copies, is \$285,073, and the time required for completion is twenty-four months. A detailed cost estimate is attached.


#### Contract Form

It is requested that any contract resulting from this proposal be written on a cost-plus-fixed-fee basis, and include the standard provisions agreed to between AID and SRI in previous contracts. The Institute is prepared to begin the project within six weeks after acceptance of the proposal.

Acceptance Period


This proposal will remain in effect until October 31, 1964. If a decision regarding it requires a longer period, the Institute will be glad to consider a request for an extension of time.

Respectfully submitted,



William Brede, Manager  
International Development Center

Approved:



William J. Flatt, Director  
Economic Development Division

Appendix A

**COST BREAKDOWN**

Appendix A  
COST BREAKDOWN

<u>Personnel</u>	<u>Man-Months</u>			
	<u>Overseas</u>	<u>Total</u>		
Supervisory	2	7	\$12,390	
Professional	20	48	58,800	
Clerical		34	<u>18,700</u>	
Total				\$ 89,890
Payroll Burden @ 16%*				<u>14,382</u>
Total Salaries and Wages				\$104,272
<u>Overhead @ 90% of salaries and wages*</u>				93,845
<u>Direct Costs</u>				
Domestic travel			\$ 1,000	
Consultants				
South Asia		19	5,700	
Western South America		9	5,400	
Travel and subsistence			6,400	
Report costs (1,000 pages)			17,500	
International travel (jet economy)				
S.F. - South Asia (6 round trips)			8,400	
S.F. - Western South America (5 round trips)			3,500	
Subsistence (22 man-months, or 660 days @ \$20/day)			13,200	
Excess baggage (660 pounds) and air freight (1,320 pounds)			1,980	
Overseas premium @ 10%			<u>2,760</u>	
Total Direct Costs				
Total Estimated Costs				\$263,957
<u>Fixed Fee</u>				<u>21,116</u>
Total Costs plus Fixed Fee				\$285,073

\* The rates quoted are those currently approved for billing and estimating purposes. It is requested that contracts provide for provisional reimbursement on this basis subject to retroactive adjustment to fixed rates negotiated on the basis of historical cost data. Included in payroll burden are such costs as vacation and sick leave pay, social security taxes, and contributions to employee benefit plans.



Appendix B

LIST OF DOCUMENTS

Appendix B

LIST OF DOCUMENTS PREPARED BY SRI STAFF  
ILLUSTRATING INTERESTS IN THE PROPOSED RESEARCH AREA

- Bredo, William
- "Industrial Decentralization in India." Chapter XII from India's Urban Future, edited by Roy Turner, University of California Press, 1962. 21 pp.
- "An International Comparative Study of the Economics of Alternative Industrial Location Policies," November 4, 1959. Unpublished memorandum. 6 pp.
- "Proposed Study of the Locational Economics of the Development of the Calcutta Region," October 13, 1961. Unpublished memorandum. 5 pp.
- Morse, Richard
- Report of seminar on "Rural Industrialization in Economic Development" held in New Delhi, March 14-15, 1960, New Delhi office of The Ford Foundation. Mimeographed. 28 pp. (Eugene Staley of SRI chaired this seminar, Richard Morse of SRI was its rapporteur.)
- Royce, William S.
- "India's Case for Industrial Dispersion." Memorandum submitted to the Planning Commission of India, April 20, 1960. Processed. 19 pp.
- Spiegelman, Robert
- Review of Techniques of Regional Analysis. Stanford Research Institute, June 1962. Processed. 73 pp.
- Application of Activity Analysis to Regional Development Planning: A Case Study of Planning in South Central Kentucky. A Stanford Research Institute study for the U.S. Department of Agriculture, July 1963. Processed. 81 pp. plus appendixes.

Stepanek, Joseph E.  
(with coauthors)

"Industrialization beyond the Metropolis: Current Developments in India." Far East Conference of the Regional Science Association, Tokyo, September 11-14, 1963. Mimeographed. 39 pp.

Staley, Eugene

"Dispersal of Industry and the CSIO Program." Chapter VI in Development of Small Scale Industries in India: Prospects, Problems and Policies, Report of the International Perspective Planning Team, sponsored by The Ford Foundation, Government of India, Ministry of Industry, New Delhi, 1963. 14 pp.

Staley and Morse

"Small Industry and Geographic Decentralization." Chapter 11 from the manuscript of a book about to be published on Modern Small Industry for Newly Industrializing Countries. 26 pp.

Condliffe, John B.

"The Location Problem," AICC Economic Review, January 4, 1962. 3 pp.

"The Congestion of the Cities," Chapter 6 of The Development of Australia. Stanford Research Institute, Menlo Park, California, 1963. 285 pp.

Appendix C

**BIOGRAPHIES**

Phillip L. Adams, Industrial Economist  
Economic Development Division

Techno-economic studies and planning relating to economic development for domestic and overseas areas form Mr. Adam's basic professional interest and experience. In conjunction with his overseas projects, he has traveled extensively throughout the world. His current work at the Institute involves economic feasibility, land use, and plant location studies. He recently made an economic analysis of alternative transportation systems for the Kingdom of Jordan in cooperation with a consulting engineering firm. Prior to this, he spent two years as an adviser to the government of Pakistan on all economic aspects of small industry development, including general economic and marketing surveys, industrial estate feasibility studies, and evaluation of development projects; he was also responsible for staff training in applied economic research techniques and for developing management and industrial extension training courses.

His experience at the Institute has further included studies involving the logistic support for a tactical field army missile system and for ground-to-air-missile systems for the defense of the United States. Both projects included analyses of maintenance, storage, distribution, and transportation systems, with the latter involving the simulation of air deployment and support operations by means of computer programs.

He came to the Institute from the Operations Research Office of Johns Hopkins University, where he was for several years a senior research member of study groups doing work in the fields of transportation planning, gaming techniques (including applications to training), supply control, and tactical concept development. Previously he worked in France and Greece for almost four years as a general engineer in charge of construction engineering planning that included general feasibility studies, preliminary design, cost estimates, and site acquisition. In addition, he worked in industry as a systems analyst concerned with all aspects of management organization and operation, and as a technical sales representative. During World War II he was a Naval Communications Officer on an admiral's staff doing planning for amphibious operations in the South Pacific and Far East.

He holds a B.S. degree in engineering from the California Institute of Technology and an M.B.A. degree from Stanford University. He has done work toward a doctorate in economics at the University of Illinois and taught courses in marketing theory there. In addition, he has taken special courses in operations research and statistics at the Case Institute of Technology and the American University.

Robert K. Arnold, Economist  
Economic Development Division

Dr. Arnold has concentrated at the Institute on problems of economic development in regions of the United States and underdeveloped countries. Most recently he completed work on a regional development program for the Conference of Appalachian Governors and the Area Redevelopment Administration of the U.S. Department of Commerce. The suggested regional development program for Appalachia incorporates sector programs on transportation, water, community facilities, and the like in a framework that distinguishes between immediate, intermediate, and long-range programs to alleviate the problems of chronic unemployment and low income. In another major study, Dr. Arnold was project leader and principal author of The California Economy, 1947-1980. This study of the growth of the California economy was undertaken over a period of two years and includes detailed analyses and projections of major individual industries in the state, such as aircraft-missiles and electronics, primary metals, metal-using industries, agriculture and wood products, energy, construction, government, transportation and communications, and other service industries. In the field of regional economics he has done original theoretical work on the problems of forecasting growth and has analyzed a number of models used to project regional economies.

A third major study in regional economics was conducted for a western transportation company on the present and future commodity movement within the West and between the West and other regions of the United States. Dr. Arnold has also made a number of plant locations and feasibility studies for manufacturing and service industries. His principal work in underdeveloped areas was done as a member of a group studying transportation problems in the Philippines. He analyzed development problems of major sectors of the Philippine economy and provided the framework of economic analysis for the transportation study.

Before coming to the Institute in 1955, Dr. Arnold was a lecturer in economics and business administration at the University of California for a number of years. He was also assistant professor of economics at Antioch College.

Dr. Arnold holds A.B. and Ph.D. degrees in economics from the University of California.

He is a member of the American Economic Association and the American Association of University Professors. He was awarded a Fulbright Fellowship to the Philippines for 1952-53.

William Bredo, Manager  
International Development Center

Dr. Bredo has conducted many economics research projects in the United States and overseas. Studies in the United States have been largely concerned with regional development, marketing research on agricultural and industrial products, economics of corporate development strategy, and problems relating to national economic policy. For the past ten years, he has worked chiefly on problems on the strategy of industrialization and economic development in the United States and abroad.

In 1954, Dr. Bredo was a member of an Institute team studying industrial development opportunities in Israel. During 1956 and 1957, he served as economic adviser to the Pakistan National Planning Commission on the Harvard University team assisting in the preparation and implementation of the First Five Year Development Plan. In 1958, he helped prepare plans for setting up the Pakistan Rural Industrial Service. In 1960, in Argentina, Dr. Bredo led a team investigating the feasibility of using industrial parks for decentralizing Argentine industry. Later in 1961 he evaluated the extensive regional industrial development program then being launched in Pakistan and helped to improve the eligibility of projects for international financing. More recently in 1963 he was a consultant to the Government of Pakistan concerned with the redirection of the small industries program. Most recently, Dr. Bredo has performed research for the Greek government on problems of regional economic development and has periodically acted as a consultant on related matters.

Before coming to the Institute in 1952, Dr. Bredo had extensive experience as section chief of a marketing research group in the then Bureau of Agricultural Economics, U.S. Department of Agriculture. For two years he was assistant professor of agricultural economics at the University of New Hampshire. For three years he was executive secretary of the New England Research Council on Marketing and Food Supply concerned with coordinating research in agricultural marketing among the state universities.

Dr. Bredo holds a B.A. magna cum laude in economics from the University of Alberta, an M.S. degree from Iowa State University, and M.A. and Ph.D. degrees from Harvard University.

He is the author or contributor to numerous articles, papers, reports, and books on economic development problems. One of these studies received national recognition in 1952 from the American Farm Economic Association and the American Marketing Association for its contribution to research method. His latest book is Industrial Estates - Tool for Industrialization (The Free Press, Glencoe, Illinois, 1960).

Juan A. A. Casasco, Development Planner  
Economic Development Division

Mr. Casasco's areas of specialization are transportation, urban, regional, and industrial planning; public housing and community development; the physical, socioeconomic, and political aspects of comprehensive regional development; and appraisal and development of natural resources. His professional experience has included: planning, designing, and supervising construction of a company town for 10,000 people; housing and zoning research and neighborhood rehabilitation; feasibility of a new location for the national capital of Argentina; and developing a regional master plan for a river basin. This work has been accomplished both in the United States and abroad.

Before coming to the Institute in 1964, Mr. Casasco served as a visiting lecturer in urban planning at the University of Washington. Prior to that, he was a consultant with the Federal Investment Council (CFI) in Argentina. For CFI, he served as regional planner and coordinator of (1) a group of consultants to the provincial government of San Luis on a preliminary study directed toward programming economic development in that province and (2) the regional development programs of the Mesopotamia region, including the provinces of Misiones, Corrientes, and Entre Rios. From 1961 to 1963, he was the urban and regional adviser to the Argentine Military Industries. His work with this group involved studies of the development of the Norpatagonia region and the San Nicolas Industrial Complex and other related projects. He has also served as a planning consultant to the city of Omaha, Nebraska, and concurrently, as a visiting professor in architecture and planning at the University of Omaha.

Mr. Casasco holds a master's degree in architecture from the University of Buenos Aires and a master's degree in city planning from Harvard University. He has also completed graduate work in advanced architecture and advanced city and regional planning at the Illinois Institute of Technology. He has been the recipient of numerous awards including a Fulbright and several other fellowships.

He is the author of a number of publications and technical papers, including "Patterns of Regional Development and Transportation in Argentina" reviewed in the Journal of the American Institute of Planners (February 1963). He is a foreign correspondent member of the American Institute of Planners, American Society of Planning Officials, American Academy of Political and Social Science, Town and Country Planning Association (London, England), Inter-American Planning Society (San Juan, Puerto Rico), and Argentine Society of Planners (Buenos Aires, Argentina).

He speaks Spanish, Italian, French, and Portuguese.



Robert W. Davenport, Economist  
International Development Center

Dr. Davenport is presently completing an international comparative study of the financing of medium and small scale industry. He has recently prepared a series of reports on investments in Latin America, in Asia, and in other newly developing countries for the Long Range Planning Service. From 1958 to 1960, he served on behalf of the Institute as the regional economic adviser to the Government of India's Small Industry Program and previously worked with the Institute's international programs in the field of International Comparative Studies on Development Methods. He also worked on projects at the Institute dealing with industrial finance, industrial development programming, and studies of transport costs and the movement of trade between regions.

Before coming to the Institute in 1957, Dr. Davenport taught economics at Oregon State College and Long Island University. He also spent two years in the United Kingdom and South Asia conducting a study on the management of British overseas enterprises under a grant from The Ford Foundation. His other professional research experience includes positions with the Columbia School of Business and the U.S. Department of Commerce, where he was responsible for developing a number of the Department's studies on foreign investments.

Dr. Davenport has a Ph.D. degree in economics from Columbia University. He received his B.A. degree from the University of Washington and an M.A. degree from Fletcher School of Law and Diplomacy. He was trained in Japanese affairs at the University of Chicago and served as a Criminal Investigation Agent for the U.S. Forces in Japan. He has intensively studied a wide variety of languages, cultures, and economics and has conducted investigations requiring reliance on such foreign languages as Spanish, French, Russian, and Japanese.

His most recent study, soon to be published, is entitled Financing the Development of Modern Small Industry. He is also the author of "The Role of a Consultant: Guiding Economic Research for the Assistance of India's Small Scale Industry," Soviet Economic Relations with Iran, and the Long Range Planning Series on investment abroad cited above. He is coauthor of Small and Medium Industry in Colombia's Development and Investment in India, and a contributor to Investment in Pakistan, Factors Limiting U.S. Investments Abroad, and Housing Market Behavior in a Declining Area.

Eric E. Duckstad, Senior Industrial Economist  
Economic Development Division

Mr. Duckstad is assistant manager of the Economics Studies group, which encompasses studies of land use; civic facilities and recreational economics, including tourism; and regional and urban development in the United States and abroad. Among the projects he has directed or participated in are (1) land utilization and plant and store location in the West; (2) markets for housing; (3) economics of industrial parks, auditoriums, office buildings, and stadiums; (4) economic, recreation, and industrial development opportunities in Mexico, in Guam, in Hawaii, and in the Appalachian region; (5) development opportunities for a California port and for small boat harbors; (6) population studies in the West; (7) long-range highway planning programs; (8) potential peaceful uses of nuclear energy in a marine environment; (9) the market for newsprint and paper and paperboard products in western North America; and (10) pipeline economics in the West.

Before coming to the Institute in 1954, Mr. Duckstad had extensive experience in the fields of nuclear energy and business administration, including management engineering and organization of classified document control systems. He was with Argonne National Laboratories for more than three years and at California Research and Development Company in staff administration for over two years.

Mr. Duckstad received an A.B. degree in mathematics, physics, and languages from Gettysburg College and a master of business administration degree from the Stanford Graduate School of Business. He is a member of the American Society of Planning Officials.

Richard Morse, Industrial Economist  
International Development Center

Mr. Morse's international experience has centered on the economic development of new nations in southern Asia, with focus on industrial, agricultural, and vocational education programs. He served as Institute consultant in industrial economics research to the Government of India from 1958 to 1960, and wrote the report of the seminar on "Rural Industrialization in Economic Development," held in New Delhi. He returned to India in April 1963, as a consultant to The Ford Foundation on an evaluation of India's small industry promotion program. In 1962, Mr. Morse was consultant to the Banco Popular of Bogotá, coauthoring the report Small and Medium Industry in Colombia's Development.

Mr. Morse has participated in major studies of the U.S. textile, wood products, and electronics industries. In late 1960, he planned and directed seminars in the Stanford International Program in Small Industry Management (SIPSIM). He is currently collaborating with Dr. Eugene Staley on the book, Modern Small Industry for Newly Industrializing Countries. Before joining the Institute in 1958, Mr. Morse was assistant to the representative of The Ford Foundation in Burma, with responsibilities in planning, negotiating, and supervising technical cooperation projects. He earlier developed a program of educational and scientific assistance to Burma while serving with the U.S. Economic Cooperation Administration in that country.

Mr. Morse was a research fellow of the Institute of Current World Affairs in India from 1946 to 1949, reporting on the economic, social, and political changes that accompanied India's independence. As preparation for firsthand observation, he studied in India at Banaras Hindu University, Aligarh Muslim University, and the Gokhale Institute of Politics and Economics.

He holds a B.A. degree summa cum laude in economics and government from Dartmouth College, where he was elected to Phi Beta Kappa, and an M.A. degree in economics from Harvard University, where he is a candidate for a doctorate in economics. He has also done graduate work in agricultural extension methods at Columbia University. During World War II, he served with the U.S. Army in India, Burma, and China.

Mr. Morse has written on Burma's national development for the Foreign Policy Bulletin and on Indian Land reform for the Far Eastern Survey. He chaired the panel on Southeast Asian economic and social studies at the Johns Hopkins-Rangoon University conference in Rangoon in 1955. Mr. Morse is a Governor of the Institute of Current World Affairs.

William S. Royce, Assistant Director  
Economic Development Division

Mr. Royce assists the division director in planning and supervising domestic and international research programs in the broad field of economic, social, and political development. He is especially concerned with the respective roles of private enterprise and government in the development process.

He has supervised a variety of studies in regional economics, resource development, industrial planning, recreation, and civil defense. Areas covered by the research include the Pacific Northwest, Western Canada, Alaska, and Washington, D.C. In 1957 and 1958, he was manager of the Institute's Pacific Northwest office in Portland. Overseas, he has served as technical adviser to new economic research organizations in Lebanon (1956) and India (1959-60), and in 1962 led an Institute team in developing an industrial promotion program for Peru. In 1962-63, he managed the Institute's International Development Center.

Before joining the Institute in 1954, Mr. Royce had served as a consultant on nonmilitary defense programs for the National Security Resources Board and the Office of Defense Mobilization. Prior to that he represented a group of Pacific Northwest industries in their relations with the federal government. From 1946-50, he served as principal assistant to a U.S. Congressman; his major concern in this position was with problems of western industrial and resources development. During World War II, he served with the Army Signal Corps in Alaska and, later, as a military government officer in Europe. Between 1937 and 1941, he worked for a Spokane publishing firm and as a staff correspondent for the United Press.

Mr. Royce received a B.A. degree in 1940 from Gonzaga University, Spokane, where he was elected to Alpha Sigma Nu. He did graduate work at Gonzaga and at Northwestern University. In 1963 he was instructor for a new Stanford University School of Engineering graduate course on "Economic Problems of Developing Countries."

He is a member of the Society for International Development, the World Affairs Council of Northern California, the Catholic Association for International Peace, and the Reserve Officers Association. He is also a past national director of the Military Government Association.

Robert G. Spiegelman, Economist  
Economic Development Division

Dr. Spiegelman has done considerable work at the Institute in the fields of regional economic development, transportation, and industry location. He was project leader of a pioneering study applying mathematical programming techniques to development planning in low income rural areas of the United States. He is a coauthor of the Institute's major study of the California economy. Other regional studies in which he has participated are an analysis of the growth of San Bernardino County, California, and a study of economic opportunities for the Colville Indian Reservation, Washington.

In the transportation field, he was responsible for the projection analysis in the recently published City-County Highway Plan for San Mateo County. In this study, he developed new techniques for projecting population, employment, and trip generating characteristics of small zones in urban areas. He has also participated in a study of trends in California's trucking industry and a study of the future demand for railroad freight transportation. In the field of industry location, he has developed a procedure for analyzing the location patterns and determinants for "footloose" industries. He is project leader of a study to use multiple regression analysis to determine how area characteristics affect industry location patterns.

Before joining the Institute in 1959, Dr. Spiegelman was instructor in economics at Pomona College and research coordinator for the Southern California Research Council. He spent one year in India on a Ford Foundation grant, studying India's protective tariff and the development of the steel industry.

Dr. Spiegelman holds a B.S. degree in business administration from the University of California and a Ph.D. degree in economics from Columbia University.

He is coauthor of The Cost of Metropolitan Growth, published in 1958 by the Southern California Research Council, Committee for Economic Development. He is a member of the American Economic Association.

Eugene Staley, Senior International Economist, and  
Director of Basic Research, International Development Center

Since joining the Institute in 1949, Dr. Staley has been concerned with research on economic development and the influence of science and technology on human values and international relations. A study for the Council on Foreign Relations resulted in his 1954 book The Future of Underdeveloped Countries (Harper & Brothers), reissued in 1961 in a revised edition and also as a paperback (Frederick A. Praeger, Inc.). From 1955 to 1957, during four months of 1960, and again for a time in 1963, he served in India as a consultant to The Ford Foundation and the Government of India, particularly on small industry development and establishment of an organization for applied economic research. In 1959, Dr. Staley conducted a study for the Committee on Foreign Relations of the U.S. Senate on potential effects of future scientific developments on problems of foreign policy. He is currently summarizing the results of several years of research which he has directed on small industry in economic development.

Earlier, Dr. Staley taught at the University of Chicago, the Graduate Institute of International Studies in Geneva, Switzerland, at the Fletcher School of Law and Diplomacy, and at the School of Advanced International Studies, Washington, D.C. At Stanford University he was lecturer on international trade in the Graduate School of Business, and research associate in the Hoover Institution. He has served in the U.S. Bureau of the Budget, the Office of Foreign Relief and Rehabilitation Operations of the Department of State, and the United Nations Relief and Rehabilitation Administration. He was a member of the international secretariat of the U.N. charter conference in San Francisco in 1945 and has subsequently served several times as a consultant to the U.N. In 1947-49, he was instrumental in forming and was the first director of the World Affairs Council of Northern California. He was chief economist of the World Bank's mission to Cuba in 1950, and in 1961 he led a special U.S. economic and financial mission to Vietnam.

Dr. Staley has an A.B. degree magna cum laude from Hastings College and a Ph.D. in economics from the University of Chicago. He held two successive fellowships from the Social Science Research Council for advanced study and research in Europe. He is the author of numerous books and articles, among them War and the Private Investor, World Economy in Transition, Raw Materials in Peace and War, and World Economic Development.

He is a member of the American Economic Association, the Council on Foreign Relations, the World Affairs Council of Northern California, and the American Association for the Advancement of Science.

Frank L. Turner, Senior Industrial Economist  
International Development Center

Mr. Turner specializes in research projects regarding underdeveloped countries, with particular reference to industrial growth. His studies have covered many specific industries, such as ceramics, food processing, iron and steel, petroleum refining, sugar refining, pineapple canning, fisheries, weaving, coffee processing, and power generation.

He has conducted research on problems of small industry including financing, quality control, marketing, management, electric power requirements, and shortages of skilled manpower.

Studies prepared by Mr. Turner include: Comments and Recommendations Regarding a Proposal To Assist the Japan Small Business Research Institute (1960), Significant Issues in Economic Aid to Newly Developing Countries (1960), Economic Development of Small Countries and Islands (1960), A Survey of the Resources and Economic Potential of Iriomote Island - Priorities for Economic Expansion (1961), Rural Electrification in Colombia (1962), Observations on Rural Electrification in Peru (1962).

Mr. Turner has also conducted research regarding industries in rural areas, identifying those that have proved viable despite the competition of similar industries operating on a larger scale in urban areas.

Before coming to the Institute in 1959, Mr. Turner served in Japan for five years as program planning officer for the International Cooperation Administration. In this work, he studied Japan's small industries, visited numerous small plants, and worked with trainees from underdeveloped countries who were seeking vocational training through on-the-job experience in Japanese industry.

Mr. Turner holds a B.A. degree from the University of North Carolina and an M.A. degree in international economics from the Fletcher School of Law and Diplomacy. He is a member of Phi Beta Kappa, and was awarded the Bronze Star from the U.S. Navy for intelligence work in World War II. He speaks Japanese and Spanish fluently.

I



Millikan (Chairman)  
Charpie  
Brown

SUMMARY OF NATIONAL PLANNING ASSOCIATION PROPOSAL FOR RENEWAL OF DEVELOPMENT  
PLANNING PROJECT CONTRACT

Principal Investigator: Douglas Paauw

Cost: \$660,000

Duration: 21 months (December 22, 1965 to September 22, 1967)

1. Background

The initial contract with NPA for \$735,600 covered 42 months of work in the seven following research areas: (1) critical survey and analysis of the present state of the art of development planning in LDCs; (2) adaptation of techniques for making national accounts projections for long-range planning; (3) methods for integrating annual budget processes with long-range planning; (4) integration of investment projects, local and regional activities, and functional programs into national development plans; (5) relationships between governmental and private sector planning; (6) government policies for plan implementation; (7) methods and techniques of evaluating planning efforts.

A number of reports and working papers on these subjects have been prepared and transmitted to AID, most of which have been recommended for wider circulation to program offices and, at the discretion of USAIDs, to the governments of LDCs. Additional manuscripts are understood to be in the final stages of editing and reproduction; still others are scheduled for completion in the next 12 months, including the final report summarizing all these activities. In addition, the contract provides for technical assistance on specific planning and programming problems to the LDCs and to AID; this provision has been formally used twice, but recently three to five times a month on an informal basis by PC and the regional bureaus.

The proposal for renewal summarizes the status of work in each of the seven research areas noted above, listing the papers produced in connection with each. It also points out that the experience gained in the work to date has convinced the staff of the need for a new sense of priorities to govern the work which should be done after the terminal date of December 1965. The new directions outlined below also result from the deliberations of the project's advisory committee, on which several outstanding economists serve who are acquainted with the problems faced by AID (e.g. Max Millikan, Edward Mason, Stephen Robock, Hans Singer, and John Lewis).

The National Planning Association has served for the last thirty years or so as a private forum in which the views of business, labor, and agriculture have been brought to bear on problems of public policy. In the late 1940's the trustees recognized that the studies sponsored by NPA to develop the thinking underlying their policy recommendations were falling into certain categories. Consequently, they began to regularize their study programs by establishing

some research capability in NPA within each of these categories. By the early 1960's there were four study centers maintained by NPA through financing by the government and by the private sector, mostly on a contract basis. These centers include the Economic Programming Center under the direction of Marshall Wood, the Center for Economic Projections under Joel Darmstadter, the Center for Priority Analysis with Dr. Gerhard Colm acting as director, and the Center for Development Planning under Dr. Douglas Paauw. The last of these had been under discussion for some time before it was finally launched just prior to the signing of the A.I.D. contract now up for renewal. A.I.D. is the principal source of funding for this Center.

## 2. The Renewal Proposal

The renewal proposal is intended to narrow the present wide gap between existing development planning techniques which are available and the development planning activities which are actually carried on. The abstract models and sophisticated analytical techniques which have been developed by leading thinkers in the field are not readily adaptable to the situations in most LDCs because of the lack of skilled manpower and reliable data necessary for their use. It is believed to be feasible, however, to draw upon the studies that have been made and gain from them a series of practical techniques for dealing with certain key planning problems encountered by LDCs which have roughly similar economic structures. The renewal proposal suggests limiting the scope of work to this area.

This implies completion of the work on developing a set of country categories. Within these categories, attention will focus on countries of moderate to small size which are strongly dependent upon international trade. The renewal proposal advances certain arguments supporting both the importance of this emphasis and its practicality. This focus would change the current approach to one involving much more field work by teams of investigators to study in depth the relatively few countries where the key planning problems can most significantly and effectively be studied.

From this basis has been derived a work plan covering three major research areas, and advancing the possibility of more intensive provision of technical assistance activities linked to A.I.D.'s own operations. The area of research on aggregate planning problems includes studies of the role of the export sector (with special relation to domestic savings, inter-industry linkages and income distribution investment projections, extension of the model now being developed for moderate size open economies, integration of planning and annual budgeting, and empirical analyses of the plans of selected countries. The area of research into sectoral and project planning problems includes further study of the relationships between aggregate plans, sectoral plans and individual projects, and extension of the present work on integrated central planning and private sector activities. The third research area on non-investment policies will include studies of foreign exchange policies and domestic savings policies.

The proposal for renewal has been framed to cover a 21-month period in order to tie subsequent applications for renewal to the academic recruitment process. The reason for this is that the research team will be seeking employment in the

academic community whenever A.I.D. decides that some or all of the project should be terminated. Since academic recruitment is at its peak toward the end of the calendar year, the terminal date has accordingly been set for September. This means that, if this renewal is approved, the next application for renewal would be submitted during the late summer of 1966 and would be considered by A.I.D. over the next three months. Consequently, the termination of any of the work would be known to the employees affected by December of 1966 and they could then announce their availability to the organizations seeking employees during December and in the early months of 1967 for work to begin in September or October 1967.

In spite of the fact that the annual cost of this work would nearly double under the proposal, the staff will not be greatly increased. The increased cost derives from the somewhat higher salary scale (tied to U.S. Government salary scale) and the significant increase planned in field activities. In addition, there will be at least one new full-time member and an appreciable increase in the use of consultants and of others who are now serving only part time.

With regard to the full-time staff, the people involved will be essentially the same as are now working on the contract.

11/30/64

NATIONAL PLANNING ASSOCIATION  
1606 New Hampshire Avenue, N. W.  
Washington 9, D. C.

M-8125  
November 18, 1964

DEVELOPMENT PLANNING PROJECT: RENEWAL PROPOSAL

PART I: BACKGROUND: REVIEW OF CURRENT WORK

This proposal grows out of NPA's Development Planning Project experience during the present AID Contract (June, 1962 - December, 1965). Under this contract, the Project has been responsible for research work in several broad areas in the development planning field, in addition to being subject to AID requests for technical assistance.<sup>1/</sup> Prior to December, 1965, the Project will submit to AID the required final reports "covering the respective fields of work specified." In the meantime, under an informal arrangement working papers comprising raw material for the final reports are submitted to AID as they are drafted if they are considered useful in their preliminary form.

Staffing of the Project was completed by September, 1963; by February 1, 1963, the Director and two additional staff members were at work.<sup>2/</sup> Three staff members reported for duty during the summer of 1963, the last one on September 1. The Project's first statement of its research program and plans was submitted to its Research Advisory Committee on May 1, 1963.<sup>3/</sup> In the following year, research was conducted within this

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<sup>1/</sup> An extract of the pertinent sections of the AID/NPA Contract, outlining the Project's research, technical assistance, and exchange of information responsibilities, is attached as Appendix I.

<sup>2/</sup> One staff member began in August, 1962. The Director was appointed in late December, 1962, and the Chief Economist began in late January, 1963.

<sup>3/</sup> "Research Agenda for Development Planning Project."

framework and several working papers were submitted to AID. On June 5, 1964, the Project submitted for discussion by its Research Advisory Committee its "Development Planning Project: Review for Research Advisory Committee." This document served as the basis for crystallizing the Project's research program into a number of definite projects in areas specified in the Contract; there was general agreement that the original contract called for more research work than the Project's limited staff could complete. Hence, a number of research priorities emerged from the June 5 meeting; and with this guidance, an agreement was reached between AID and the Project on the scope and focus of the Project's work during the remainder of the present contract period (originally to end June 22, 1965, but extended to December, 1965).

The results of this agreement are presented here against the background of the "problem areas in the field of development planning" listed in the AID/NPA Contract. (The relevant section of the Contract is reproduced as Appendix I.) The specific research activities agreed upon and their current status are presented in Appendix II.

Problem Area I: A comprehensive, detailed survey and analysis of the present "state of the art" of development planning.

It was agreed that work in this area be given high priority. Plans call for a critical survey of the literature classified into approximately ten substantive categories, and staff members have been at work on their specific assignments. The first section to be completed, covering literature on project planning techniques, will be submitted to AID in the near future.

In addition, a series of papers reviewing planning experience by broad geographic areas, and in a few cases by country, are anticipated. Several of these surveys of experience are now available in working papers or are nearing completion.<sup>1/</sup> It was also agreed that emphasis continue to be given to the Project's efforts to classify countries, country plans, and planning techniques so that specific country situations and planning approaches may be carefully matched. By its very nature, this work requires a vast amount of empirical and conceptual work before a framework can be evolved. Several preliminary working papers have been circulated internally, and two are now being prepared for submission to AID.<sup>2/</sup>

Problem Area II: Adaptation of techniques for making national accounts projections for use in long-range development planning in developing countries.

It was agreed that several studies in this area be given high priority, while one or two be discouraged or given lower priority. The studies that were encouraged include:

(1) the relationship between foreign assistance and self-help efforts to raise domestic savings on the basis of a per capita marginal savings model;

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<sup>1/</sup> Paauw, "The State of Development Planning in the ECAFE Region," Tryon, "Survey of Development Planning in Latin America," Gittinger, "Planning for Agricultural Development: The Iranian Experience," and Crossen "Planning in Malaya."

<sup>2/</sup> Edwards, "Country Typology: Preliminary Considerations," and Paauw and Fei, "Development Strategy and Planning Methodology in Southeast Asia."

(2) application of the per capita marginal savings model to additional domestic planning problems, such as the foreign exchange bottleneck;

(3) development of projection methods for export-oriented economies;

(4) evaluation of capital-output ratios for use in long-run projection models; and

(5) construction of a planning model adapted to the specific development problems of small, open economies, as exemplified, for example, by many of the small, newly-independent African countries.

Preliminary working papers have been completed on (1), (3), (4), and (5).<sup>1/</sup>

The objective of work in this problem area is to develop realistic, simple projection methods adapted to the distinctive characteristics of a number of country types. Much of the new work we propose below builds on our preliminary work in this problem area.

Problem Area III: Methods for integrating annual budget planning and long-range development planning.

Given the specialized nature of this problem and the scope of the subject, it was agreed that work should be limited to a survey of existing literature, essentially a component of problem area I. This work is being done by a consultant, and a first draft of the results is expected by mid-1965.

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<sup>1/</sup> Re (1) Fei and Paauw, "Foreign Assistance and Self-Help: A Reappraisal of Development Finance" and Paauw and Fei, "Statistical Implementation of the Fei-Paauw PMSR Model: Capital Inflow Requirements of Developing Countries."

Re (3) Crosson, "Export Models of Economic Growth: Malaya, A Test Case."

Re (4) Crosson, "Capital-Output Ratios and Development Planning."

Re (5) Cookson, "Development Planning in the Small, Open Economy."

Problem Area IV: Integration of specific investment projects, local and regional activities, and functional programs into the long-range national development plan.

Work in this area was given high priority. The research underway is aimed at establishing procedures for project and sectoral planning useful for effectively integrating these activities into the aggregate plan. Given the magnitude of this task, some of the promising approaches cannot be fully pursued during the present contract period, and they are included in the proposal for additional work. Two preliminary papers have been completed in this problem area,<sup>1/</sup> and additional papers on the sectoral framework will be available in 1965.

Problem Area V: Governmental and private planning.

The Project's current work in this area, a broad survey of problems of methodology, issues, policies and institutions relevant to harmonizing central and private planning, was encouraged. The present survey consists of a review of the problems confronted in the literature and in practice. Some policy guidelines will emerge from this study, but intensive case studies are needed on this neglected aspect of development planning. New work of this type is proposed below. A first draft of results in this problem area will be available in March, 1965.

Problem Area VI: Government policies for implementing development plans and programs.

In this area it was agreed that the Project's two-pronged approach

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<sup>1/</sup> Edwards, "Time Preference and Development Planning: Screening and Selection of Projects," and Tryon and Cookson, "A Framework for Project Analysis."



should continue to be given emphasis. On the one hand, effort is being made to develop policy conclusions in several specific areas (e.g., fiscal and monetary policies, import and export policies, stimulation of private activity) from underlying research on country typology and planning methodology. On the other hand, the Project is making an effort to develop a framework for coordinating and evaluating non-investment policies of several types; e.g., productivity and absorptive-capacity, foreign assistance and trade, and private incentives. These preliminary studies point to the need for additional work on a more systematic approach to specific development policy issues, as described in the proposals below. Two working papers in the non-investment policy area have been completed.<sup>1/</sup>

#### Problem Area VII: Methods and techniques of evaluating planning efforts.

The Project discovered in its early stages that this area was highly specialized and that progress requires intensive case studies beyond our present capacities. Work in this area, therefore, has been limited to a survey of the literature (problem area I), and some attention to what factors have tended to produce an effective mechanism for data feedback and corrective action in one or two rather untypical situations.

### PART II: PROPOSALS FOR FUTURE RESEARCH WORK

#### A. NEW DIRECTIONS: RELATIONSHIP TO PRESENT WORK

The research work outlined in Part I above is very broad in scope. In carrying out this work, the Project staff has accumulated experience of several kinds. First, an acquaintance with a vast literature in many fields

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<sup>1/</sup> Huber, "Absorptive Capacity and Its Relationship to Planning," and Huber, "Programming United States Assistance: A Case Study, Liberia, 1964-1968."

of development planning has been made. Secondly, new work on a variety of substantive problems has been undertaken, currently at various stages of completion. Thirdly, actual planning operations in developing countries have been studied both from available literature and by means of field trips. In this field work our approach has been more extensive than intensive in coverage.

From this diverse experience, the staff has evolved a strong sense of priorities for new work when the first phase of our work is completed in December, 1965. The research emphases we propose here, therefore, represent our judgment of the new directions in which we should move to contribute most effectively to progress in certain specific areas of development planning. Moreover, the new work is designed to take advantage of competence in special fields built into the Project during this first phase.

The major conclusion emerging from our experience is that there continues to be a wide gap between development planning techniques and planning activities in the real world. Development planning activities have spread so rapidly throughout the less-developed world that they have not yet been backstopped by an applied science productive of results. Development theories and planning models still fail to provide concrete guidance to those who make decisions and take action in development activities.

NPA's Development Planning Project proposes to concentrate on research designed to assist in closing this gap. We have learned that the search for abstract, general methods to provide a universal master blueprint for planners is unlikely to yield simple methods for solving actual planning problems in the real world. From our own work on idealized planning models,

we have discovered the difficulty of adapting them to useful problem-solving functions in specific situations. It is our conviction, therefore, that progress in closing the gap between theory and reality can best be made by concentrating on the development of simple, workable methods to solve concrete policy problems confronted in actual planning situations.

To make this approach feasible we believe that it is essential to concentrate intensively on a relatively small number of key planning problems, focusing during the 21 month period under consideration on a group of developing countries with relatively similar economic structure. The review of our current work demonstrates that we have devoted a substantial part of our resources to the study of planning techniques adapted to the open economy. Accordingly, we propose to limit the scope of our future research work by concentrating mainly on the study of planning problems germane to this type of situation.

This emphasis is based upon our working assumption that country grouping is likely to be productive in the process of adapting planning techniques to specific situations. Much of the work by others in the field of development planning is based either on case studies of individual countries or on universal models designed to apply to all countries. Consequently, the results tend to be so specific as to defy generalization or so general that they are of little practical use. In our work, we have sought a middle ground that would provide a more powerful framework for development planning studies. Our empirical work has led us to the conclusion that significant progress can be made in developing specific planning methods for identifiable groups of countries. Such methods would not be universally applicable, but their gain in realism would considerably

enhance their usefulness and would also enable data and behavioral relationships developed for one country within a particular class to be applied in another for which such information is lacking. Considerable work on the nature of these classifications has been undertaken and should be substantially completed before December, 1965.

#### The Export-Oriented Economy Emphasis

Any distinction between export-oriented economies and non-export-oriented economies is arbitrary. Yet there appears to be a fairly clear distinction based upon structure of production, which in turn appears to be related to factors such as size and per capita income. It should be noted that trade ratios (e.g., the ratio of exports plus imports to GDP, or of exports to GDP) tend to change in a more or less systematic way as size and/or per capita income increase. In practice, emphasis on the export-oriented economies at the present stage of historical development excludes from our purview a limited number of large developing countries in which the structure of production is already more or less diversified, and trade dependence is relatively small, measured, for example, in trade-ratio terms. As a practical matter, this emphasis would exclude such giants among the developing countries of the Free World as India, Brazil, Pakistan, and Indonesia.

Concentration on the export-oriented developing countries has the advantage of limiting our scope to countries which are not so complex and large as to require much larger field research teams than our Project could mount. The more or less common economic characteristics of these medium-size and small countries would facilitate intensive study by a small research group

Typically, their structure of production is relatively simple, and a model tracing the flow of resources among a few major sectors is likely to be useful for many planning purposes. By definition, much of the important economic activity centers in the foreign trade sector but under conditions in which the outside world can be taken more or less as given. External repercussions of domestic actions can ordinarily be assumed to be unimportant but the reverse is not true. Generally, changes in foreign economic conditions tend to have important consequences for the domestic economy.

The relatively simple economic structure and the commanding position of foreign trade in the export-oriented economies means that data problems tend to be less serious in these countries than in larger, more complex countries. This is an important advantage, given the empirical orientation of our work. Moreover, the data requirements for the research we propose fall within a fairly definite framework, so data can be checked for consistency and accuracy. Hence, a systematic canvass of the data available and required for empirical work on a specific set of planning problems in a limited number of countries will be a major by-product from the proposed work. Such a canvass may help to stimulate collection of more meaningful and more accurate data both in the countries in which we work and in other countries now less well endowed with data relevant for planning purposes.

#### The Importance of Team Field Work

To make progress in applying our problem-solving approach to countries of the open-economy type, intensive field work is needed. This constitutes the basis for a further new direction for the Development Planning Project. It is proposed that a limited number of case study countries of this type

be selected and that these countries be studied intensively by the Project staff. Each staff member would be responsible for bringing his specialized training and interest to bear on the problem of planning for the development of the export-oriented economy. The specific areas in which research is envisaged are presented below.

We view the team approach to the study of planning in a specific type of situation to be unique as well as an important new departure in the search for methods to close the gap between development planning theory and its application in actual decision-making situations. We are not thinking of duplicating the current broad social, cultural, political, and economic surveys of individual societies (such as the HRAF series or AID's own LAS studies) or the surveys of development problems and prospects in a large number of economies (such as Yale Growth Center's Country Analysis Program). Rather, our approach would be to select a limited number of countries on the basis of their relevance to specified substantive issues in the planning field. These issues would be studied in depth in the case study countries by a team of specialists, a type of empirical research that is not now underway on an organized basis. The AID/University of Wisconsin Project, for example, is concerned with studying prospects for regional cooperation in Southeast Asia, although it appears that field work in the area is not emphasized. Incidentally, our emphasis on export-oriented economies complements this type of research on regional cooperation. Much of the specific research we propose will result in methods which could be used to sharpen the analysis of individual countries as potential components of regional economic arrangements.

## B. AGGREGATE PLANNING PROBLEMS

### 1. Role of the Export Sector (Crosson)

The performance of the export sector is of critical importance to most of the developing countries. We believe that the impact of the export sector on the economy can be discerned and evaluated most clearly in the open, export-oriented economies. Our work on Malaya under the present contract suggests strongly that the multiplier-accelerator relation between the export and non-export sectors of less developed economies are quite weak. However, we discovered a strong relation between exports and domestic savings in Malaya. Preliminary scrutiny of data for Ceylon, Taiwan, and Venezuela indicate that both of these findings may apply to those countries also.

We propose to follow up this work on the role of the export sector by intensive investigation of two or three additional countries and such comparative work as time and data permit. In particular, we will explore in depth the hypothesis that domestic savings and exports are closely linked. This incidentally will provide a test of the hypothesis that domestic savings are importantly influenced by the terms of trade. A first step in this investigation will be an analysis of the domestic savings data available for the countries studied, done in conjunction with the detailed study of domestic savings proposed below. It is believed that the results of this analysis will be useful even if the hypotheses tested are not positively verified. Other useful by-products of this work will be an account of inter-industry linkages between the export and non-export sectors of the countries studied and of patterns of ownership and income distribution in their export sectors.

## 2. Investment Projections (Crosson)

Our work under the present contract indicates major difficulties in the use of capital-output ratios for projecting aggregate investment requirements, primarily because of the high degree of instability in these ratios over time. We propose to subject the capital-output ratios for a few countries - probably the same studied in the export impact analysis - to intensive analysis in an attempt to evaluate the sources of this instability. The influence of shifts in relative importance of producing sectors, of changes in the rate of capacity utilization, of variations in the weather, and similar influences that appear to be significant will be weighed and evaluated. Should it appear that aggregate capital-output ratios exhibit instability even after account is taken of as many apparent factors as possible, then alternative aggregate investment projection techniques will be considered. Useful by-products of this work will be evaluations of the aggregate and sectoral investment and output data for the countries studied, clarification of the concept of sectoral and aggregate capacity, and comparative information on sectoral production functions.

## 3. Extension of the Small, Open Economy Model (Cookson)

A small, open economy is one species in the genus of export-oriented, trade dependent economies; but it is one which has become increasingly numerous as a result of the rapid process of decolonization, especially in Africa. In this type of economy, there is a very close relationship between small populations and heavy dependence upon foreign trade. Important consequences for development planning include: (1) The balance of payments



is a major constraint during development, since the opportunities for import substitution are substantially less the smaller the country, and the need for imports of intermediate goods is likely to be greater than for larger countries at the same level of development. (2) The supply of domestic saving is likely to be dependent upon the level of exports. (3) Government revenues are tied to the foreign trade sector and consequently the capacity of the government to absorb public foreign capital is dependent on the behavior of components of the balance of payments. (4) The small country is relatively more dependent on foreign sources of capital and so incurs heavier future burdens of profit transfers or debt repayment. Taken together, these factors have striking implications for development strategy and planning methodology.

The "small, open economy model" developed during the present contract period is designed to assist the planner in handling special problems typical of these economies. In our present work, the model is being applied to the problem of associating future transfer payments with capital inflows and related balance of payments problems.

#### Integration of Planning and Annual Budgeting

Our analytical studies of small country models have indicated that careful coordination of development planning with the balance of payments and with government fiscal policy is vital to the realization of good planning. Aggregate planning, sectoral programming, and project analysis are rarely unified for this purpose. One of the strategic functions where these considerations may be brought together is the integration of planning with annual budgeting.

During the second contract period we propose to investigate explicitly this critical problem in the context of small, open economies. The heart of this system would be the application of our small, open economy model to yield detailed projections of government revenues and various classes of expenditures. Such projections, reinforced by refined methods for selecting development projects will constitute the basis for integrated long-run plans and the annual budget. It will allow allocation of government expenditures in a way consistent with maintaining balance of payments stability as well as explicitly forecasting future recurrent costs as the development plan becomes implemented. This system would be built from empirical work in one or more of the case study countries, and an effort would be made to test its usefulness in the same setting.

#### 4. Empirical Analysis of Country Plans (Edwards and others)

Our survey of the planning experience of the less developed countries indicates that it seldom can be determined whether plan targets have been set on the basis of objective knowledge of country economic structure and potential or on some "non-objective" basis, such as political palatability. In most countries both objective and non-objective criteria influence the setting of plan targets, but the relative importance of the two criteria apparently varies widely from country to country and in no easily discernible pattern.

We believe that planning in the less developed countries and the administration of foreign assistance to these countries would both benefit from a clearer perception of the relative importance of objective and non-objective criteria underlying plan targets. No doubt some planning decisions

always will be made on non-objective criteria. But when this is done, it should be done consciously and deliberately, not as now frequently seems to be the case, under the misapprehension that there is an objective basis for the decision.

We propose an intensive examination of the planning experience of a few countries to determine the extent to which various plan targets could have been justified on the basis of objective criteria available to planners at the time the targets were set. Analysis of time series on national income, for example, will provide the basis for evaluating the plausibility of national income targets. More generally, all major plan targets will be analysed for plausibility, given the objective information available and relevant to those targets. Simple tests for plausibility will be devised, such as maximum and minimum values a variable could reasonably be expected to take in the future, given historical experience. Detailed description of the methodology we have in mind for this analysis is too technical to warrant inclusion here.

We envisage two useful products of this effort. One would be a heightened awareness among planners of the importance of distinguishing those plan targets which are objectively plausible from those which are not, and the provision of simple techniques for making this distinction. Secondly, evaluating the objective plausibility of plan targets necessarily will require an examination of the planning models which were, or might have been, used in the countries studied. Hence, the studies will provide empirical tests of the relevance and usefulness of a variety of planning models in a variety of specific situations differing with respect to data availability and political and economic structure.

## C. SECTORAL AND PROJECT PLANNING PROBLEMS

### 1. Aggregate Plans, Sectoral Plans and Individual Projects (Tryon)

Effective development planning requires a connection to be made between the aggregate plan and decisions to undertake specific projects and programs. Current planning practice is particularly weak in making this connection, and this weakness is frequently cited as a factor in unrealistic and ineffective development planning. Typically there are too few good projects and programs in a plan to make full and effective use of available resources, and the various parts of a plan are not consistent with each other. As a consequence, a plan does not perform the function of closely guiding decisions about individual projects. This situation is particularly prevalent in the small, open countries where planning procedures are apt to be rather rudimentary, but there are special problems in all export-oriented economies.

Ideally, the choice of individual projects would be accomplished by making a comparison of various combinations of projects and choosing the combination which provided the maximum benefits within the aggregate limitations on resources. This ideal is completely impractical, and some sort of workable solution to the problem must be used. One approach has been to do detailed planning on a sectoral basis rather than try to accomplish it on an overall basis. This procedure recognizes that as a practical matter it is impossible to make meaningful comparisons between projects of all kinds, but projects of a similar nature, i.e., those within a given sector, can be compared to each other and choices between them made. Thus the detailed project planning is done as carefully as possible within sectors,

and adjustments are made when inconsistencies develop between sectors or with the aggregate plan. The coordination and adjustment of sectoral plans thus becomes the link between projects and the aggregate plan.

In this approach, the development of sectoral plans is generally the responsibility of governmental agencies outside the planning office, while the coordination of sectoral plans to achieve balance and consistency, and to keep within resource limitations, is the responsibility of the planning office. This assignment of responsibility has the very practical advantage that it puts project planning at the level of the agency which must carry out the projects. As a result, more attention is given to project planning within the overall planning framework.

Considerable research has been devoted to methods for planning specific sectors, some of it being undertaken by organizations under AID sponsorship. Agriculture, transportation, and education are examples of sectors for which extensive work has been done on sectoral planning methods. However, the problem still remains to devise workable methods for coordinating sectoral plans. Highly sophisticated methods such as input-output and linear programming are probably not useful for this purpose because of technical and data limitations. Simpler methods seem to be needed. Pragmatic solutions have evolved which usually proceed on a step-by-step basis with adjustments being made between sectors as inconsistencies become apparent.

The procedure suggested here is essentially iterative or "cut-and-try." Such a system is practically forced on a planner in most export-oriented economies where economic dualism makes for weak inter-sectoral relationships. Methods using input-output and similar techniques are entirely inappropriate,

and attempting to arrive at a plan by starting with a collection of individual projects is impractical. Without the flexible sort of procedure suggested here, in which the sector plans are intermediate steps, it is not possible to take into account the effects of projects which have a particularly heavy impact on the economy and yet not get bogged down at the project level for all projects. This is equally true whether it is necessary to determine the consequences on national income of a given project decision or its foreign exchange effects. This last is particularly important for export-oriented economies because foreign exchange requirements are such an important part of any plan.

The sectoral, iterative system outlined here requires that certain types of information about individual sectors must flow from outside agencies to the planning office, the planning office must process it and other information, and in turn the planning office must send back further information to the outside agencies. The process should be a fairly continuous one. We propose to examine the whole problem in order to establish what types of information flows are needed and how to proceed in planning without excessive wasted effort. Involved in the problem are several areas in which the Center has already developed competence: project planning, sectoral planning, foreign exchange projections, and government budgeting. Thus this proposed study of coordinating aggregative, sectoral, and project planning will build on accumulated knowledge and make full use of the team approach to research.

## 2. Integrating Central Planning and Private Sector Activity (Geiger and new staff member)

The present survey of literature on this subject, supplemented by field surveys in a number of countries, indicates that the relationships between central planning by the government and the activities of the private sector is one of the major neglected fields in development planning. Very few countries using aggregative techniques base their projections upon actual data derived from or prepared for the private sector. In most cases, the private sector is treated as a residual obtained by subtracting the public sector from the national accounts as a whole. Our preliminary survey of experience in this field indicates the need to develop data and methodology for integrating the private sector effectively into the national planning process. This involves not only problems of technique but also of organization and of implementation policies.

Accordingly, we propose to devise appropriate projections methods for private sector investment and output based upon the experience of individual countries, both developing and developed. Attention will particularly be paid to the development of appropriate assumptions and methods for handling the activities of the private sector in export-oriented economies. Some modest productivity and future demand studies will be attempted if data permit. Institutional arrangements will be explored for involving the private sector in the national planning process within the framework of a country's social, political and cultural milieu. In addition, we propose to extend our work further into the very important area of implementation of targets for the private sector, including such policy problems as detailed controls versus market incentives, monopoly and competition, etc.

These subjects will be investigated in our case-study countries using our country-typology approach. It is anticipated that initial attention will be devoted to the problem of data and methodology for private sector projections.

D. NON-INVESTMENT POLICY PROBLEMS

As a result of research activity under the present contract, it has become apparent that an inadequate amount of attention has been devoted to aspects of planning not directly concerned with investment and its allocation. A vital, yet neglected, planning problem concerns the consistency and complementarity between non-investment policies and the investment plan. Fiscal, monetary, commercial, and other policies, as well as institutional structure, affect incentives to improved economic performance not only in the private sector but in government enterprise as well. Lack of data and unplanned time-phasing of decisions give actual practice a tendency toward ad hoc decision-making on the basis of crude rules of thumb or political expediency. Frequently this has produced acceptable outcomes, but sometimes - too often - the result has been a crisis. Crisis avoidance, therefore, might be termed one of the essential functions of planning as actually practiced. We propose to conduct research on this issue with regard



## 1. Foreign Exchange Policies (Huber)

In economies in which foreign trade plays an important role, a frequently recurring crisis concerns shortage of foreign exchange. Some times such crises are precipitated by excessively ambitious investment plans; in other cases they appear to result from inappropriate government non-investment policies. These policies interact in complex ways and have an important influence on imports, exports and capital flows; yet the planner has been given little guidance regarding the proper policy mix. A study in depth of at least one country's policy response to this problem may provide useful insights into the range of policy choice, the reasons for apparent inconsistency, the types of interactions among policies which are prevalent, and the effects of policy selection in terms of development goals.

It is proposed to concentrate on commercial, tax, and exchange policies which affect import substitution, since this strategy is the basis of the investment plans of a number of countries. Our initial hypothesis is that some of the policies typically pursued seriously hamper the achievement of growth through the strategy of import substitution. Through work in this area we hope to be able to apply the framework being developed under the present contract to evolve some simple operational guidelines for policy choice in the context of open, less developed economies. Cross-country comparisons may be possible by making use of material from our case study countries and by following the results of the Williams College Project on import substitution.<sup>1/</sup>

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<sup>1/</sup> Consultation with the principal investigator of the Williams Project reveals a somewhat different research orientation from that proposed here. This should preclude duplication of effort, while continued consultation will promote broader and more significant research results.

In addition, it is proposed to apply the absorptive capacity model developed under the present contract to the data from our case study countries in order to investigate the impact of foreign assistance on the foreign exchange gap problem. This will test the usefulness of the model, with a view to providing planners with a method to evaluate assistance proposals in a more rational manner than is presently possible.

## 2. Domestic Savings Policies (Paauw and Consultants)

The Project's forthcoming survey of literature will demonstrate that there is a wide gulf between the domestic savings requirements emerging from aggregate planning models and realistic policy guidance for raising domestic savings rates. There is no framework for systematically evaluating sources from which additional savings can be mobilized in a real situation. Moreover, the interplay between development finance - both fiscal and monetary - and economic stability raises special problems. Methods have not yet developed to give the planner the perspective needed in his own situation to maximize the rate of growth of savings consistent with the financial stability constraints imposed by his society.

Research of several kinds are needed to bring order to the field of fiscal and financial planning. Aggregate planning models must be more closely adapted to the financial prospects of particular societies. This task will be tackled in the case study countries (in conjunction with Crosson's study described above), beginning by careful investigation of the behavior and composition of domestic savings. Aggregate savings will be disaggregated, and the determinants of sector savings explored. It is hoped that this will make possible accurate and realistic projections of domestic

savings, as well as clarify the impact of alternative policy instruments on savings by sector. This is tantamount to adapting the aggregate planning framework to the problems of raising the domestic savings rate by formulating the savings functions employed in appropriate ways, thus moving in the direction of specific policy guidance to the decision-maker.

Moreover, there are data and institutional aspects to the problem. Research is needed to adapt fiscal and monetary data and the analysis they may support, as well as institutional prerequisites, to the austerity requirements for growth in particular countries. This will be attempted for our case study countries. Finally, we propose to explore methods for more effectively integrating fiscal and financial policy for development with stability objectives. Presently available tools - such as flow of funds accounts and national financial balance sheets - may be appropriate for this purpose with necessary adaptations to conditions in less-developed countries.

Research of this kind can best be undertaken in the context of a given society, exploring the analysis that is possible on the basis of existing fiscal and financial data and investigating what policies and institutional changes are most likely to be effective in mobilizing savings for development. From such studies in our case study countries, progress toward generalization and comparative austerity strategies is envisaged.

### PART III: TECHNICAL ASSISTANCE

By December, 1965, the Development Planning Project staff will have devoted approximately three years to building staff expertise in the general field of development planning. In view of the current demand for professional services in this field, the Project recognizes a responsibility for making its services available for limited periods of advisory and/or training purposes. Specific short-term activities of this kind would be likely to strengthen the Project's research activities, and we welcome discussion of possible opportunities with appropriate offices of AID.

PART IV: TENTATIVE BUDGET

(December 22, 1965, to September 22, 1967)

I. Salaries and Compensation <sup>1/</sup>	\$373,000
II. Consultants	15,000
III. Travel and Field Work	70,000 <sup>2/</sup>
IV. Rent and Utilities	27,000
V. Printing	25,000 <sup>3/</sup>
VI. Office Equipment, Furnishings, Supplies and Miscellaneous	<u>18,000</u>
	Sub-total \$528,000
VII. Overhead (25%)	<u>132,000</u>
	Total <u>\$660,000</u>

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- <sup>1/</sup> This component includes: (1) all present regular professional staff members plus one additional full-time professional economist in connection with the work proposed in II C 2 above; (See Present Professional Staff list in Appendix III);  
(2) full-time Project employment of Mr. Crosson, Chief Economist, rather than 60 per cent as during the present contract period;  
(3) 10 per cent of the time of NPA's Chief Economist and secretary and 10 per cent of the time of NPA's Chief of International Studies and secretary;  
(4) an administrative assistant, research assistants, and secretaries.
- <sup>2/</sup> Exact figure depends on amount of country field work agreed upon.
- <sup>3/</sup> This figure will be adequate only if printing funds from present contract can be carried over to the renewal period. This estimate is based on the assumption that this will be possible.

## APPENDIX I

### STATEMENT OF WORK FROM NPA-AID CONTRACT

#### A. Research

As soon as practicable ..... the CONTRACTOR shall supply the necessary personnel, equipment, materials and supplies, and do all other things necessary to conduct programs of research and publications -- as hereinafter set forth -- to adapt existing and devise new and improved planning and programming techniques for specific use in dealing with the economic and social development problems of Asian, African, and Latin American countries (hereinafter called the "COOPERATING COUNTRIES"). The CONTRACTOR shall focus the research program primarily, though not exclusively, on the following particular problem areas in the field of development planning:

1. Meet the need for a comprehensive, detailed survey and analysis of the present "state of the art" of development planning with respect to the economic and social development problems in underdeveloped countries. The study shall appraise experience with, and the literature on, planning methods and techniques both in industrialized and underdeveloped countries.

2. Adaptation of techniques for making national accounts projections for use in long-range development planning in developing countries:

It is recognized that long-term projections of the growth potentials of an economy provide the essential framework for more detailed operational planning of functional (sectoral) programs and specific investment projects; that many underdeveloped countries have no, or inadequate, systems of national accounts; and that, even where the national accounts exist, there is often a lack of knowledge about the methodology of making useful projections that can serve as a framework within which long-term development goals and targets can be defined and their consistency with potential resources checked. The CONTRACTOR shall, therefore, devise and adapt techniques for making national accounts projections specifically for use in long-range development planning.

3. Methods for Integrating Annual Budget Planning and Long-Range Development Planning:

Since the need exists, in many underdeveloped countries, for techniques and concepts which make possible translation of development plans and programs into annual government expenditures, and for determining possible inconsistencies between the short-term financial operations and policies of the government as expressed in the budget and those required to achieve long-term physical development goals, the CONTRACTOR shall provide research on

existing budgetary and development planning practices and deficiencies; on the conceptual problems of inter-relating short and long-term operations and financial and physical planning; and on methods and procedures of control, accounting, progress reporting and evaluation; and other related subjects.

4. Integration of Specific Investment Projects, Local and Regional Activities, and Functional Programs into the Long-Range National Development Plan:

In many underdeveloped countries methods are lacking, or are inadequately understood, for relating specific investment projects, operating programs in functional (sectoral) fields, and local and regional activities to the assumptions and goals of the longer-range national development plan as a whole. The CONTRACTOR shall, therefore, develop concepts and techniques for ensuring consistency between macro and micro analyses. Rather than using a diverse methodology which exists in the United States for grappling with this problem -- i.e., mathematically elegant models -- the CONTRACTOR shall establish pragmatic procedures which will reconcile component projects and programs with the overall development plan and ensure consistency among many diverse kinds of resource requirements and availabilities and, shall conduct research into methods of modifying, preparing and using matrices which are practicable in the special circumstances of the underdeveloped countries.

5. Governmental and Private Planning:

Since the underdeveloped countries lack private sectors which possess the capital, motivation and experience required for playing a role in economic growth, it is envisaged that positive steps shall be taken to encourage the growth of the private sector and to stimulate its capacity for planning its own activities and for playing an increasingly significant part in the national planning effort. The CONTRACTOR shall, therefore, devise techniques for enabling such private entrepreneurs, cooperatives and other decentralized non-governmental institutions as already exist (as well as those that will develop) in these countries to participate in the planning of economic and social development and to begin to use planning techniques in their own operations. Research conducted by the CONTRACTOR in this field shall include: adapting the investment, production and market planning practices of United States business firms, public authorities, cooperatives and other private organizations -- as well as of similar institutions in other countries -- to the needs of underdeveloped countries; devising methods for taking such private plans into account in preparing development programs; establishing flows of information and procedures for consultation between the national planning agency and other central government departments and the decentralized non-governmental planning units; determining the form and amount of detail in which the national development plan and constituent major programs should be published, and the legal status thereof.

**6. Government Policies for Implementing Development Plans and Programs:**

Since government fiscal and monetary policies, import and export policies, regulatory policies of various kinds, and incentive arrangements are relevant to the full range of development strategy, and not simply to the implementation of development programs per se, the CONTRACTOR shall relate its research to the appropriate use of various kinds of government policy measures (in addition to capital expenditures) specifically designed to implement or to stimulate private activities required to achieve development plans and programs. The CONTRACTOR shall, also, devote attention to the relationships between policies for long-term growth and policies to cope with short-term cyclical problems and with difficulties arising from the instability of international commodity markets.

**7. Methods and Techniques of Evaluating Planning Efforts:**

The CONTRACTOR shall develop techniques and methods for evaluating the progress and growth of the planning efforts to assure the feedback of data to determine the corrective measures to be taken.

**B. Technical Assistance**

The CONTRACTOR agrees to provide technical assistance on specific planning and programming problems to underdeveloped countries, to United States Government agencies, and to research institutions. If requested in writing by A.I.D., the CONTRACTOR shall supply personnel from CONTRACTOR'S staff and, as required, from other appropriate institutions, for the purpose of providing short-term consultive or advisory technical assistance in the United States of America or in the COOPERATING COUNTRIES, in the field of development planning.

**C. Exchange of Information**

In consultation with the appropriate offices of A.I.D. the CONTRACTOR shall facilitate exchange of information in development planning through such means as appropriate studies, meetings, conferences and publications.

**D. Research Products**

**1. Final Reports:**

On or before the respective estimated completion dates indicated therefor in the interim progress reports required, but not later than three years after the date first hereinabove written, the CONTRACTOR shall prepare and deliver to A.I.D. three hundred (300) copies of each final report covering the respective fields of work specified.



## 2. Publications:

In addition to the final reports, the CONTRACTOR shall deliver to A.I.D., as soon as practicable after completion but within the contract period, three hundred (300) copies of each monograph, publication, training manual, teaching manual, and case study published.

The results of the research done under this contract or any documents setting forth the results of said research may be published by the CONTRACTOR and/or A.I.D., giving due credit to the contribution of the parties hereto, provided, however, that the CONTRACTOR will not publish without consulting A.I.D., and provided, further, that if the Director of Research, A.I.D. has any objection to the publication in whole or in part of the results of said research or documents setting forth said research results, he shall consult with the CONTRACTOR with respect to such objection.

APPENDIX II: STATUS OF RESEARCH ACTIVITIES

Contract Problem Area	Title of Research Activity	Investigator(s)	Date of First Draft of Results
<b>I</b>	<b>Survey of Planning Literature</b>	<b>All Staff &amp; Consultants</b>	<b>Summer, 1965</b>
Survey of "State of the Art"	<b>Surveys of Planning Experience:</b>		
	ECAFE Area	Paauw	November, 1964
	Latin America	Tryon	November, 1964
	Malaya	Crosson	December, 1964
	Iran (Agricultural Planning)	Gittinger	September, 1964
	French Methods in former French Colonies*	Cockson	Spring, 1965
	Middle East and Africa	Edwards	Spring, 1965
	<b>Country Typology and Planning Approaches:</b>		
	Preliminary Considerations	Edwards	November, 1964
	Further Results	Edwards	Summer, 1965
	<b>Development Strategy and Planning Methodology in Southeast Asia</b>	<b>Paauw and Fei</b>	<b>December, 1964</b>
<b>II</b>	<b>Foreign Assistance and Self-Help:</b>		
Long-Run Projections	PMSR Model	Fei and Paauw	December, 1963
	Statistical Implementation	Paauw and Fei	March, 1964
	Foreign Exchange Projection Problems	Paauw and Fei	March, 1965
	<b>Projections in Export-Oriented Economies:</b>		
	Export-Growth Models	Crosson	May, 1964
	Further Statistical Work & Conclusions	Crosson	Fall, 1965
	Capital-Output Ratios & Development Planning	Crosson	November, 1964

\* If fieldwork proves feasible.

APPENDIX II: STATUS OF RESEARCH ACTIVITIES (Continued)

Contract Problem Area	Title of Research Activity	Investigator(s)	Date of First Draft of Results
II (Continued)	Small Open Economy Model:		
	Model Structure and Workings	Cookson	November, 1964
	Statistical Implementation:	Cookson	
	First Application	Cookson	January, 1965
	Other Applications	Cookson	Summer, 1965
III Budgeting & Planning	Annual Budgeting and Long-Run Planning: Survey	Abraham	Summer, 1965
IV Integration of Project, Sectoral and Aggregate Planning	Project Screening and Analysis:		
	Time Preference and Project Screening	Edwards	May, 1964
	Framework for Project Analysis	Tryon and Cookson	November, 1964
	Survey of Literature	Tryon and Cookson	January, 1965
	Sectoral Allocation:		
	Evaluation of Present Techniques and Practice	Tryon	Spring, 1965
	Integration of Individual Sector Plans: Preliminary Considerations	Tryon	Fall, 1965
V Planning and the Private Sector	Development Planning and the Private Sector	Geiger & Honey	March, 1965
VI Plan Implementation and Policies	Non-Investment Policies:		
	Absorptive Capacity	Huber	November, 1964
	Programming U. S. Assistance: A Case Study, Liberia, 1964-1968	Huber	November, 1964
	Framework for Non-Investment Policy Choices	Huber	January, 1965
	Choice Among Major Exchange Rate Systems	Huber	Summer, 1965

APPENDIX III: PRESENT PROFESSIONAL STAFF

Time Devoted to  
Project Work

Project Staff:

Douglas S. Paauw, Director	full-time
Pierre R. Crosson	60%
Bruce E. Edwards	full-time
Joseph L. Tryon	full-time *
Forrest E. Cookson, Jr	full-time
Paul B. Huber	full-time

NPA Staff:

Theodore Geiger	50%
Gerhard Colm	20%

\* since February 1, 1964; August, 1963 - February 1, 1964, 80%

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NATIONAL PLANNING ASSOCIATION

1606 NEW HAMPSHIRE AVE., N.W., WASHINGTON, D.C. 20009

Columbia 5-7685  
CABLE: NATPLAN

January 14, 1965

Mr. David Mayer  
Agency for International Development  
Room 3643, New State  
Washington, D. C.

Dear Mr. Mayer:

Subsequent to our submission on November 18, 1964, of a Renewal Proposal for the Development Planning Project (Contract AID-Repas 9), we have held discussions with various officials from AID. From these discussions a number of modifications of the original proposal have been crystallized. In this letter I wish to convey to you these modifications as an Addendum to our Proposal.

In the discussions held with an AID Subcommittee on December 23, 1964, it was agreed that the renewal period proposed would cover 21 months after the present Contract expires. It was further agreed that funding be requested for this 21-month period with the proviso that authorization to draw funds for the final eleven months be subject to AID action. The details of this revision of our November 18, 1964, Proposal are as follows:

1. Funds for the ten-month period from December 22, 1965 to October 22, 1966 are being requested and would be provided if the proposal is accepted.

2. Funds for an additional eleven-month period, i.e., October 22, 1966 to September 22, 1967 are also being requested and, upon acceptance of the proposal, would become available unless AID notified NPA in writing prior to November 1, 1965 that the Contract would terminate on October 22, 1966. The initiative for any AID review required for this decision would come from AID, and a supplementary renewal proposal for the period October 22, 1966 to September 22, 1967 will not be submitted by NPA. Development Planning Project and NPA personnel would be available for any consultations desired by AID.

It is further proposed, as a result of the recent discussions, that intensive field work of the type described in the original Renewal Proposal be begun in advance of the date by which the present Contract is to expire (December 22, 1965). NPA proposes to begin intensive field work in one or two countries during 1965, although to launch field work abroad it is estimated that a lead time of 4-6 months will be required after the present Contract has been amended to permit the new scope and approach in our work.

Based on discussions with AID officials held on January 11, 1965, it is our understanding that the minimum period for individual staff assignments abroad will be twelve months, subject to a final AID ruling on justification by NPA for qualifying for this provision as specified in the "General Provisions, Cost-Reimbursement for R&D Contracts with Educational Institutions (for Overseas Services)." This minimum period would qualify Project staff members abroad for overseas employee benefits, including transportation of family and personal effects, as well as other benefits that are provided to U. S. Government personnel resident abroad. It is our further understanding from these discussions that NPA will be authorized to return Project personnel working abroad to Washington for consultations for periods of approximately one month, with expenses chargeable to the Contract.

The recent discussions recognized that the present Contract (AID-Repas 9) must be revised to reflect the changes in emphasis discussed above. It is proposed that the required amendments be written to incorporate these changes during the present Contract period as well as covering the period after December 22, 1965. This is necessary to allow the Project to commence field work abroad prior to December, 1965.

To accomplish the agreed changes in Project orientation, it is proposed that a limited number of less developed countries be selected for intensive Project field study and that the countries be selected by NPA in consultation with appropriate officers of AID. From the January 11, 1965 discussions, we understand that the Project will be authorized to use present Contract funds to undertake the necessary preliminary surveys of countries proposed for Project field work. It is our intention to begin this preparatory work in the near future under the present Contract.

To accord with the proposed field work orientation of the Project, it is understood that the Project's future research program will be adjusted to reflect this new emphasis. The substantive problems to which the research work will be addressed (but not necessarily limited) are described in the Renewal Proposal. Through actual field study an effort will be made to produce research results relevant to the operational needs

of development planners in less developed countries, as well as the needs of AID officers who are concerned with promoting development and improving development planning in these countries. It is our understanding that technical assistance to appropriate agencies in less developed countries or to AID may be added to Project work in the context of these country studies. Since it may be useful to follow up research findings by technical assistance, NPA would welcome arrangements to permit such assistance. Technical assistance would be jointly agreed to by all of the participating parties; i.e., AID, officials of the less developed country and the Development Planning Project, or by whichever parties were concerned.

To insure high calibre and effective research work and technical assistance it is proposed that adjustments be made in certain personnel policies specified in the present AID-Repas 9 Contract. It has been agreed that the existing salary limitation (\$18,000) be raised and that the restriction limiting annual increases in salary to 5% be adjusted. In our past experience, these limitations have seriously hampered efforts to obtain and hold highly competent personnel.

The recent discussions have also led to the proposal that NPA be authorized to employ on the Development Planning Project two additional senior professional personnel, as well as an additional administrative assistant to handle the logistics of field work abroad. The new professional staff members would be selected on the basis of demonstrated research competence and field research experience. Their addition would shift the balance toward more experienced research staff. Previously, the Project had operated on the basis of an original understanding that professional research staff comprise mainly younger economists and those not previously experienced in the development planning field. The objective was to provide training in the course of research work to increase the supply of development economists. The addition of two experienced staff members would allow more intensive senior supervision of the relatively inexperienced staff now on the Project. It is agreed that this additional supervision is required for the type of field research studies emphasized in both the Renewal Proposal and this letter.

Sincerely,



John Miller

J



Parsons (Chairman)  
Moseman  
Holmberg

### SUMMARY

Project: Analysis and Study of Factors and Circumstances Influencing the Effectiveness of Extension-Type Programs in Developing Countries

Proposed Contractor: The Federal Extension Service (FES) of the U. S. Department of Agriculture.

Duration: Thirty (30) months.

<u>Estimated Cost:</u>	FY 65	Funding Requirement:	\$ 39,622*	26,098
	FY 66	Funding Requirement:	53,413*	39,879
	FY 66	Funding Requirement:	157,234	
	FY 67	Funding Requirement:	308,919	
	FY 68	Funding Requirement:	151,685	

\*Refers to Phase I only, which has the recommendation of the Analytical Studies Advisory Group.

Reasons for this Project: Agricultural extension education of farmers has been one important means used widely by A.I.D. and its predecessor agencies to help developing countries improve their national economies and the welfare of their peoples. In some instances agricultural extension programs have been notably successful, in other countries only moderately so, and in several cases the programs have failed. It is essential that every effort be made for extension-type programs to be successful and sufficient experience is now available to be used for the analytical study proposed herein. The information obtained, together with the recommendations anticipated, will provide A.I.D. the necessary guidance most likely to result in successful extension-type programs.

Objectives: The specific objectives of this project are:

1. To develop criteria which can be used for measuring effectiveness of existing extension-type programs in developing countries;
2. To identify the factors and circumstances which influence effectiveness;
3. To determine what the relationship must be among the factors and circumstances in order for an extension-type program to be successful.

Methods: The Federal Extension Service will proceed on this project essentially in three phases:

Phase I: Develop an analytical design and a plan of procedures for measuring the effectiveness of extension-type programs in developing countries. This will be accomplished by the FES Staff, utilizing the advice of consultants, a project Advisory Committee and A.I.D. officials who have had foreign experience. U. S. and foreign reports and publications will be acquired and studied to provide background information. This phase will require ten months.

Phase II: An FES Team will work in one country for approximately three months to test the analytical design and plan of procedures, and make revisions, if necessary.

Phase III: Complete the survey in two countries of each region, tabulate and analyze the data, and prepare reports on each country. Thereafter the findings will be summarized with recommendations provided to assist A.I.D. in implementing more effective extension-type programs to help developing countries. This phase will require approximately seventeen months.

TCR/RCD  
January 13, 1965

Participating Agency Agreement  
between  
the Agency for International Development  
and  
U. S. Department of Agriculture  
for the Federal Extension Service  
(Operating Agency)  
for analysis and study of  
Factors and Circumstances Influencing the Effectiveness  
of Extension-Type Programs in Developing Countries

I. Introduction

Under the authority of the Foreign Assistance Act of 1961, as amended, the Agency for International Development (AID) requests the assistance of Federal Extension Service (FES) of the U. S. Department of Agriculture (USDA) (hereinafter referred to as FES) to conduct research on factors and circumstances influencing the effectiveness of extension-type programs in developing countries. The research will identify factors affecting success and lack of success of extension-type programs in meeting the objectives of social and economic development. It will assist AID officials to employ and gain wide acceptance and application of criteria for effective extension-type educational programs in developing countries. In addition it will provide a basis for assessing achievements and benchmarks against which future progress in programs of this type can be measured.

## II. Need

Food supplies are inadequate in many developing countries even though large segments of the population are employed in agricultural production. Improved efficiency of agricultural production will not only increase available food supplies but will also release labor for other productive enterprises that are basic to the economic development. Labor released from agriculture, if gainfully employed, expands the market for agricultural products and for nonagricultural commodities.

It is recognized that most developing societies must begin with improvement in the agricultural sector. The American experience has shown that adoption of modern technology by farmers involves a substantial time lag between the first communication of any new idea and the decision and action by a majority of farmers to incorporate it into their farming practices. The length of the time lag, which may vary from a few years to a generation, is a function of several factors among which are the complexity of the practice and the impeding cultural influences. It is essential that every measure be taken to maximize the efficiency of extension-type agricultural improvement programs in order to reduce the time required for introduction and adoption of improved farming methods.

Agricultural extension has been one means used widely in helping developing countries improve the national economy and the welfare of rural people. It is recognized that the results have not met expectations in all countries. Evaluative research is needed to identify the factors

and circumstances that contribute to effective extension education. This will require collection of data regarding the degree to which various factors are affecting results or lack of results in the countries with extension-type programs.

### III. Project Objectives

Clarity of thinking regarding the nature of extension education and its possible contributions to economic and social development are essential both for operation of a successful extension program and for assessing the extent of its achievement. Clarification and understanding on these points by responsible persons in the operating agencies are essential to the justification of the extension-type programs. Thus an essential first step in the survey procedure is to find out the nature and extent of understanding regarding these points among staff members in the operating agencies.

#### A. Objectives:

1. To develop general criteria for effective extension-type educational programs in developing countries.
2. To identify factors, both within and outside of the extension organization, affecting the success of extension services in meeting the program objectives.
3. To relate achievements of extension-type programs to the criteria in countries where studies are made and establish benchmarks against which future progress can be measured.

#### IV. Procedures

Survey and evaluation methods and techniques that have been proven effective in related and similar studies in the United States and other countries will be adapted for use in this project. The ultimate evaluation will be based upon accepted criteria or standards applied to the particular country. Technical assistance and country staff will cooperate with the survey team in adapting criteria used to survey factors affecting the success of extension programs in the respective countries.

##### A. Project Advisory Committee

To provide a framework for coordination in this project, the procedure methods and instruments, as outlined below, will need to be developed in greater detail prior to the selection of the countries and the naming and organizing of the survey teams. FES will appoint a Project Advisory Committee drawn from its own staff and from outside experts to advise on developing a general plan including procedures and materials as needed. The Advisory Committee will be composed of persons selected for their interest in overseas extension and competence in evaluating educational and developmental programs.

Some of the specific jobs of the Project Advisory Committee will be to:

1. Clarify the philosophy and objectives of overseas extension-type programs.
2. Identify and describe specific areas of investigation to guide the survey teams in examining the extension services and programs in specific countries.
3. Advise on developing instruments, devices, guides and materials for use of survey teams.

4. Develop general procedures for the survey teams that will be adapted to particular countries.
5. Develop rosters of experts with desired competencies from which survey teams may be drawn as needed.
6. Serve as a review panel on survey teams' plans for field operations and reports of findings.

B. Country Selection

Selection of countries in which to make surveys will be based on criteria agreed upon by AID and FES such as:

1. Representation of the four major geographical divisions of principal recipient areas of the world.
2. Including relatively new and old extension-type country programs.
3. On the basis of prior information, countries that are believed to have had effective programs and others that are believed to have been less successful.
4. Cultural differences that are believed to be favorable and others that are believed to be less favorable to changes in agricultural production methods.
5. Willingness of the country government and extension officials to cooperate fully.

C. Survey Teams

Insofar as possible each survey team will consist of individuals competent in such areas as economic development, evaluation design and methodology, education and social development, understanding and experience in extension and knowledge and appreciation of the culture of the country. Speaking skill in the national language would be desirable but is not essential.

The teams are to be composed of three to five persons. Because of the prevalent inadequacies in home economics and youth extension in developing countries, competence in these program areas should be provided in the teams.

D. Team Preparation

Each survey team will be prepared for its assignment in Washington. Preparation will include adaptation by the team, with the aid of other experts, as needed, of a general study design and procedure to be followed in the particular country survey. The team will study records, reports of surveys and other documents available from AID and other sources that will contribute to a thorough knowledge of developments from initiation of the country assistance effort, particularly the extension phase, to the present. In addition, team members will identify and obtain any special materials or resources required to accomplish their mission. Within the guidelines of the study design the designated team leader will develop a pattern of team organization and operational procedures to be followed in the particular country.

E. Country Survey

Country orientation will consist of visitations and observation of activities and consultation of USOM and country extension staff to get (a) an understanding of the situation, and (b) obtain from the



technical aid and country officials and workers a clear statement and understanding of what they tried to accomplish - the program objectives - and what was actually done to accomplish the objectives. One purpose will be for the team to gain an understanding of the technical assistance and country officials' concepts, objectives and operational procedures of the extension educational program. The previously developed criteria or standards for extension work will be applied by the survey team with the assistance of technical assistance personnel and country officials. Consultations, seminars, group and individual interviews and other appropriate means will be used.

#### V. Scope of the Work

Surveys are to be offered in all four AID regions with a minimum goal of two country surveys in each. Additional surveys may be conducted if necessary upon mutual agreement between countries and contracting parties.

The criteria will be used to appraise all major aspects of extension the organization, processes, programs, plans of work, program implementation and accomplishment of program objectives. Specifically, this will include study of changes in attitudes, agricultural practices and in levels of living of rural people that have occurred during the period of extension program operation and factors contributing to these changes. An attempt will be made to determine the proportion of rural people reached by the program, and contribution of extension to agricultural production, income, level of living and to the economy of the country.

In view of the long time nature of extension education, an attempt will be made to appraise progress in establishing a basis for future development through social organization and education including training in involvement processes. Surveys of the people in rural areas where extension is operating may be required to determine the nature and extent of extension influence.

Inquiries will be made to determine the degree to which there has been consistency or lack of such at different levels of the technical assistance and country staff organization in concepts of extension, program, objectives and program action.

A. Preparation of a Summary of Findings

A formal report incorporating findings, conclusions and recommendations that have application to overseas extension-type programs will be prepared. This report will take into account, in addition to the organization and operation of the extension service itself, certain external factors influencing the success of the extension program, such as:

1. Relationships between country and technical assistance staffs.
2. Concurrent projects, programs and development activities, etc. that complement and/or compete for resources.
3. Attitudes of country policy makers, administrators and executives, particularly among those who have direct or indirect relevance to extension.

4. The stage of development of the country, its agriculture and its business economy. This includes transportation as it affects movement of agricultural products and staff; availability and distribution of needed materials such as seeds and breeding stock; secondary and university level teaching in agricultural and home economics sciences; agricultural and related research; credit services; system of land tenure; marketing services, etc.
5. Political stability as manifested in cost of staff and resource allocation to extension.

B. Subcontracting

In the interests of efficiency and expediency and to utilize any available and needed resources and talents, FES may subcontract any and all parts of any country survey or evaluation to public or private institutions and agencies that are deemed competent to perform the desired functions. However, such subcontracting entities shall be required to conform to the terms set forth in this agreement.

## VI. Work Plan and Estimated Time Schedule

As soon as practicable after the effective date of this agreement, FES will supply the necessary personnel, equipment, supplies and do all other things necessary to implement this project. To realize the objectives of this project FES will use a combination of research methods designed to get the best possible results through utilizing fully the competence of its regular staff of scientists to supplement the efforts of special staff employed in this project in developing standards, planning the work and implementing the plans that will be made.

Basic to this project is the assumption that for extension-type programs to achieve maximum success in a country two conditions must be met. First, congruence of expectations exists among the responsible officials and extension personnel at all levels, e.g., in US/AID, the USOM, the country government, among U. S. technicians and among the country extension staff members.

Secondly, extension operations, e.g., staffing, organization, program objectives, and educational procedures meet appropriate tested criteria or standards for extension program development.

The work will consist of sequential stages to be accomplished in the approximate order and time indicated. The following stages of the project will be implemented in appropriate consultation and cooperation with the ER&T/FES staff, the Project Advisory Committee, US/AID officials and the US/AID Advisory Committee.

#### Stage 1 - Project Advisory Committee

The committee will be established and the members oriented. Members will participate as resource persons and advisers in the development of policies and procedures from the initiation of the project. There shall be five or more members selected for their knowledge of extension in the U. S. and developing countries and/or competence in social science research.

#### Stage 2 - Recruiting of Staff

The FES Administrator will designate a part-time coordinator who will recruit staff and initiate action on this agreement. A full-time project director will be employed to manage the project. A full-time assistant project director will be employed with competence in and major responsibility for research planning and implementation.

#### State 3 - Select, Adapt and Further Test Existing Criteria

This stage will begin with a review of all existing criteria for extension programs. The Director and Assistant Director will take leadership and cooperate with the Project Advisory Committee and

the ER&T staff. US/AID officials and its advisory committee will be consulted as frequently as needed and will be kept informed of progress toward the objectives of the project. Domestic and foreign research reports, research bibliographies and the basic materials developed by FES over the years and the materials developed for conducting evaluation and extension research will be utilized as source materials. (See Appendix II) The considerable foreign extension experience of FES staff members will be drawn upon in this phase.

#### Stage 4 - Recruitment of Survey Team Members

Recruitment and employment of survey team members will be done as soon as Stage 3 has reached the point of development that will allow team training to begin. If practicable, members will participate in finalizing the survey plans and procedures as a part of their training. As a terminal training experience the team members may be given a field exercise in the United States that simulates some of the conditions they will experience in a developing country. The function of the survey team is to collect information in the participating country following the design and procedures developed to accomplish the purposes of this project. They will analyze, report and help interpret the information obtained. The needed team training materials, general survey guidelines, model interview schedules, alternative sampling plans, and standardized tabulation plans will be prepared.

### Stage 5 - Assessing of the Expectation and Ferceptions of

#### Responsible US/AID Officials

This will be done as a first step in determining the degree of congruence between US/AID and the USOM staff, US/AID technicians and others in countries to be surveyed. "Perception" refers to a state of being aware of objectives, characteristics and relations, including impressions, opinions, appraisals, and evaluation.

### Stage 6 - Initial Visits to Countries Selected for Participation

Prior to the team visits and final selection of countries to be surveyed in a region, a preliminary visit will be made by one or more members of the FES staff (a) to obtain further information about the degree to which the countries tentatively selected meet the predetermined selection criteria, (b) to further orient the country staffs on purposes and procedures, and (c) to make arrangements for needed facilities and resources. These visits will be made by one or more of three project staff members, namely, the Project Coordinator, Project Director and Assistant Project Director to make preliminary arrangements in the country for the survey team that will arrive at a later date. The arrangements would include obtaining or arranging for:

1. A high level person to serve as country collaborator for the survey team.
2. Available maps suitable for designing samples of rural areas.

3. Available data on the country extension experience and the current country program.
4. Qualified interpreters and interviewers for extension clientele.
5. Facilities for temporary offices and conference rooms at national extension headquarters.
6. Transportation facilities for survey team and country collaborators.
7. Mission and country records of extension workers.
8. Needed duplicating facilities and secretarial services.
9. Survey team briefing on agricultural services and institutions in the country.
10. Available relevant country social and economic data.
11. Data on the nature and quality of the liaison services between extension and government and private organizations and agencies.

Suitable memoranda covering commitments and arrangements for the above items are to be prepared jointly with and initialed by the appropriate participating country and USOM officials. The memoranda may help avoid the problems incidental to lack of clarity and full understanding regarding the nature of the requirements and arrangements for supplying them.



### Stage 7 - Initial Country Survey

The first country survey will be partially exploratory in the sense that it will provide a practical test of the plans, procedures and materials developed for this purpose. Team personnel will gather relevant information through various methods including interviews with designated categories of country government and US/AID officials within the participating country.

A survey of extension staff members and people at the village and farmer levels in rural areas will be made in each participating country to gauge the impact of the programs in terms of predetermined criteria such as awareness of the program, contact with the program and changes in farming and living practices made as a result of the extension program. It will involve collection and analysis of information about extension program objectives, clientele, staffing, extension methods employed and accomplishments achieved.

Alternative rural population sampling plans will be developed that will allow selection of one or more samples appropriate to each country situation. When feasible control will be established by including both exposed and unexposed areas in the sample to allow comparison of results where there is an extension program and with areas where there is none.

### Stage 8 - Review of First Country Survey Experience and Revision of Survey Procedures

Following the first country survey a preliminary summary of the information obtained will be prepared. The FES staff and the

Project Advisory Committee will review the methods and the results to determine if any improvements are needed for subsequent country surveys. Revisions will be made as needed.

#### Stage 9 - Additional Country Surveys

Subsequent country surveys will be made as provided in the agreement between AID and FES/USDA. The additional surveys likely will be carried out in other participating countries as rapidly as possible.

#### Stage 10 - Summarizing and Reporting Results

This stage will be initiated immediately upon return of the survey team from the first country survey. Prior to that time plans, forms, statistical procedures and the reporting system will have been made ready by the Washington staff members.

Preliminary drafts of reports of individual country surveys will be submitted as promptly as practical to FES staff, US/AID, participating country USOM staffs and the country government for review and comment. Comments and suggestions of the above will be considered in preparing the reports. Requests to keep any part or all of any report confidential to the participants in the project will be respected. A summary report will generalize the results of all surveys in a way that will avoid identifying the particular country from which particular information is drawn. Final report(s) covering all of the countries surveyed under the agreement will contain a summary of the findings, a description of the procedures

that were followed, copies of devices used, a copy of the criteria developed and suggestions for their practical use in other countries.

Stage 11 - Instruction and Guidance to Others in Use of the  
Criteria

Depending upon specific arrangements between US/AID and FES/USD assistance may be given to US/AID and others in the use of the survey procedures and application of the criteria that will be developed in this project.

## Estimated Time Schedule

### A. First three months

1. Recruit Washington, D. C., staff
2. Develop recruiting roster for survey teams.
3. Organize Project Advisory Committee.

### B. Second three months

1. Identify and test criteria for developing countries
2. Assess expectations of responsible US/AID officials.

### C. Third three months

1. Recruit survey team members.
2. Orient and train team members.
3. Develop research design and tabulation plans.

### D. Fourth three months

1. Initial visits to participating countries.
2. First country survey.
3. Review initial experience and revise plans and procedures.

### E. Third six months

1. Additional country surveys.
2. Summarize and report country surveys.

### F. Fourth six months

1. Additional country surveys.
2. Prepare summary and report of results total project.

## VII. Responsibilities

### A. Responsibilities of AID

AID shall exercise general policy guidance over the project and through continuing evaluation insure that the terms of the agreement are met.

AID will make the initial contacts for purposes of obtaining the agreement of countries to participate in this activity.

AID will be responsible for arranging and/or providing services as specified in Appendix I of the Memorandum of Agreement between the Department of Agriculture and Foreign Operations Administration (now AID), dated February 18, 1954 (AID M.O. 251.3) as modified below.

### Responsibilities of FES

FES will assume operating responsibilities and will provide AID with semi annual and such other reports on research findings as may be agreed upon from time to time on various phases of the general plan of work. In accordance with memorandum of agreement between AID and USDA, FES research personnel responsible for carrying out and supervising this project will be available for consultation on agricultural development problems of the cooperating countries as requested by AID.

FES will make the necessary arrangements for cooperative work with governmental or nongovernmental agencies for the purpose of expediting the cooperative aspects of this program.

If, to implement this agreement, a third-party contract is entered into for the performance of services outside the United States by United States citizens, FES will take appropriate action to assure compliance with the loyalty and security investigation requirements of Section 111 of the Foreign Aid and Related Agencies Appropriation Act of 1963 (Public Law 87-872, 76 Stat. 1163).

The provisions of Appendix I of AID M.O. 251.3 shall remain in force except as modified below:

1. FES will be responsible for assigning, recruiting and selecting employees and for classifying the positions covered by the agreement and will forward one copy of the job description of each professional staff member of this project to AID, Office of Personnel, for information purposes only.
2. FES personnel serving overseas under this project may receive pay, allowances, differentials, travel, leave and other benefits and privileges on the same basis as AID personnel in the same countries.

FES will authorize, arrange for, and reimburse their own personnel for allowable costs involved in travel.

FES may utilize the authority contained in Section 632(a) of Public Law 87-195.

### VIII. Budget and Finance

In consideration of the services to be performed under this agreement by FES, AID will advance to FES funds on an annual basis to cover all costs of furnishing services under this agreement.

Documents transferring funds will indicate the purpose for which funds are made available and the amount of each appropriation chargeable. The object class budget for fiscal years 1963 and 1964 is presented in Appendix I. It is agreed that AID will provide the following amounts for the performance of work under this project by FES: \$116,150 for FY 1964, and, subject to availability of funds, approximately \$314,468 for FY 1965, and, for FY 1966 \$303,370, the latter amount subject to adjustment, as necessary, following Congressional action on AID appropriation requests.

Upon liquidation of the project, AID will transfer to FES such funds as may be required to carry out the liquidation of the project.

### IX. Duration and Termination

This agreement will constitute the basic operation document for the duration of this project. This agreement will be amended or extended to provide additional work needed subject to availability of funds.

In the event circumstances are such that either AID or FES deem it necessary or desirable to terminate this Agreement, before completion of the services provided herein, AID and FES will consult in advance of such termination and will fix a termination date sufficiently in advance to make necessary adjustments in their operations in view of such termination.



X. Effective Date of Agreement

This Agreement shall become effective as of

APPROVED:

AGENCY FOR INTERNATIONAL DEVELOPMENT

\_\_\_\_\_  
Administrator

\_\_\_\_\_  
Date

U. S. DEPARTMENT OF AGRICULTURE

\_\_\_\_\_  
Assistant Secretary

\_\_\_\_\_  
Date

FEDERAL EXTENSION SERVICE

\_\_\_\_\_  
Administrator

\_\_\_\_\_  
Date

CONCURRED IN:

INTERNATIONAL AGRICULTURAL DEVELOPMENT SERVICE

\_\_\_\_\_  
Administrator

\_\_\_\_\_  
Date

APPENDIX I  
Budget for Fiscal Years 1965 and 1966

ITEM	Man Years		FY 65 3 mos.	FY 66 7 mos.	TOTAL
	FY 65	FY 66			
<u>Salaries:</u>					
1 GS-15	1/12	5/12	1,610	6,445	8,055
1 GS-14	1/4	7/12	4,220	9,845	14,065
<u>Resource staff:</u>					
1 GS-15					
1 GS-14					
1 GS-14					
1 GS-14					
1 GS-13	1/12	3/12	1,470	4,410	5,880
<u>Secretarial and Clerical:</u>					
2 GS-5 secretaries	1/2	1 1/6	2,964	6,916	9,880
<u>Consultants:</u>					
100 days @ \$100	1/5	1/5	5,000	5,000	10,000
Travel & per diem			2,750	2,750	5,500
<u>Supplies &amp; materials:</u>					
			500	1,500	2,000
<u>Duplication:</u>					
			600	1,400	2,000
Sub-totals			19,114	33,266	57,380
Administrative Overhead 15%			2,867	5,740	8,607
TOTALS			\$21,981	\$44,006	\$65,987

## APPENDIX II

## Reports of Extension research published by FES:

1. Bibliography of Extension Research. Includes reports of research meeting quality criteria since 1923. 1944 and every five years since.
2. Review of Extension Research. Includes summary of reports of research meeting quality criteria. In recent years about 100 research reports per year. Annually since 1946.
3. Bibliography of Foreign-Based Extension Research, 1950-62. 1963. Worldwide distribution.

## Materials and guides on evaluation and extension research prepared by FES staff members:

1. Evaluation in Extension - 100 pp. First and second edition by GPO. 1955 and 1957. Third edition 1960 published commercially by H. M. Ives & Son. Topeka, Kansas. Worldwide distribution.
2. Six Keys to Evaluation. 16 pp. 1958. Worldwide distribution.
3. Criteria for Evaluating Extension Programs:
  - a. ER&T-63 (2-63) - Evaluation of County Extension Work - General Statement of Guiding Principles - 4 pages.
  - b. ER&T-107 (6-61) - Evaluation of County Extension Work - Current County Situation - 23 pages.
  - c. ER&T-56 (2-63) - Evaluation of County Extension Work - Organization for Program Development - 14 pages.
  - d. ER&T-61 (2-63) - Evaluation of County Extension Work - Process for Program Planning - 16 pages.
  - e. ER&T-68 (2-63) - Evaluation of County Extension Work - The Planned County Extension Program - 10 pages.
  - f. ER&T-41 (1-53) - Evaluation of County Extension Work - Annual County Extension Plan of Work and Teaching Plans - 12 pages.
  - g. ER&T-66 (2-63) - Evaluation of County Extension Work - County Extension Program Action - 12 pages.
  - h. ER&T-67 (2-63) - Evaluation of County Extension Work - Accomplishments of the County Extension Program - 7 pages.
  - i. ER&T-65 (2-63) - Check Sheet for Indicating Responsibilities for County Extension Program Development - 16 pages.
  - j. ER&T-53 (2-63) - Guidelines for County Extension Program Development and Evaluation - 25 pages.

## APPENDIX III

Selected Items  
from**"BIBLIOGRAPHY ON FOREIGN-BASED EXTENSION RESEARCH,  
1950 through 1962"****Relating to General Effectiveness and Progress  
of the Extension Work**

- Crosby, E. M. EXTENSION WORK IN BRAZIL AND SUGGESTIONS FOR ITS FURTHER DEVELOPMENT. 208 p., typewritten. Ithaca, Cornell U., 1958. Thesis (Ph.D.), Cornell U.
- Di Franco, J.; and Arce, A. M. STUDY OF EXTENSION SERVICE OF EL SALVADOR, April, 1960. 32 p. Turrialba, Costa Rica; Dept. of Econ. and Social Sciences, Inter-American Institute of Agricultural Sciences; 1960
- Di Franco, J.; and Clifford, R. A. ANALYTIC STUDY OF FIVE EXTENSION ORGANIZATIONS IN COLUMBIA. 84 p. Turrialba, Costa Rica; Inter-American Institute of Agricultural Sciences of the OAS; 1962.
- Kruijer, G. J.; and Nuis, A. REPORT OF AN EVALUATION OF THE FARM DEVELOPMENT SCHEME, FIRST PLAN: 1955-1960. 48 p. The Government Printer, Kingston, Jamaica. 1960.
- Merz, G. L., Jr. A COMPARATIVE STUDY OF NATIONAL AGENCIES AND THEIR APPROACHES TO IMPROVE THE AGRICULTURAL PRACTICES OF LOW INCOME FARMERS IN THE LATIN-CARIBBEAN AREAS. Ithaca, Cornell U., 1959. Essay (M.S.), Cornell U.
- Harvey, W. E. AN APPRAISAL OF THE AGRICULTURAL EXTENSION PROGRAM IN EL SALVADOR. 256 p., typewritten. Cambridge, Harvard U., 1952. Thesis (D. Pub. Admin.), Harvard U.
- Sheppard, D. A STUDY OF THE WAYS IN WHICH THE FIRST DAIRY FARMERS TO TAKE UP A NEW TECHNIQUE CAME TO HEAR ABOUT IT. *The Farm Economist*, V.IX:5, p. 196-203, Nov. 1959.
- van den Ban, A. W. SOME CHARACTERISTICS OF PROGRESSIVE FARMERS IN THE NETHERLANDS. *Rural Sociology*, V.22:3, p. 205-212, Sept. 1957.

Al-Bassam, H. K. AN EVALUATION OF THE RURAL DEVELOPMENT PROGRAMS OF IRAQ. 392 p. Ithaca, Cornell U., 1959. Thesis (Ph.D. in Ext. Ed.), Cornell U.

Moore, V. M. AN ANALYSIS OF TWO CASE RECORDS OF PILOT PROJECTS IN COMMUNITY DEVELOPMENT WITH REFERENCE TO THE PROCESS APPROACH. 80 p., typewritten. Madison, U. of Wisc., 1959. Thesis (M.S. in Coop. Ext. Ed.), U. of Wisc.

Items from  
 "Review of Extension Research - 1962"  
 which FES staff conducted or  
 on which they advised or assisted

- Hazlitt, J. R. A STUDY INDICATING THE FUTURE DIRECTION OF THE COOPERATIVE EXTENSION SERVICE IN ORDER TO MEET THE PROBLEMS AND NEEDS OF THE PEOPLE. 82 p., typewritten. East Lansing, The Mich. State U., 1961.  
 Thesis (M.S. in Ext. Pers. Development), The Mich. State U.
- Isaacson, C. L. PRINCIPLES AND PROCEDURES FOR DEVELOPING COUNTY EXTENSION PROGRAMS. 102 p., typewritten. Tucson, U. of Ariz., 1960.  
 Problem report (M. Agr. Ed.), U. of Ariz.
- Slocum, W. L.; and others. HUMAN RESOURCES IN RELATION TO ECONOMIC DEVELOPMENT IN PEND OREILLE COUNTY. Wash. State U. Agr. Ext. Serv., EM 2212. 215 p. Pullman, 1962. Depts. of Rur. Sociol. and Agr. Econ. cooperating.  
 Authors of one or more reports in this volume: W. L. Slocum, E. C. Erickson, C. L. Stone, and O. L. Brough, Jr.
- Sabrosky, L. K. A SURVEY OF URBAN 4-H CLUB WORK IN THE UNITED STATES, 1962. U. S. Fed. Ext. Serv., ER&T-213(11-62). 50 p. Washington, D.C., 1962.
- Marsh, C. P. AN EVALUATION OF THE FARM AND HOME DEVELOPMENT APPROACH TO AGRICULTURAL EXTENSION WORK IN NORTH CAROLINA. N.C. State Col., Agr. Expt. Sta., Agr. Ext. Serv., and Dept. of Rur. Sociol., N.C. Ext. Evaluation Studies No. III. 52 p. Raleigh, 1962.
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- Cowing, A.; and Harney, A. R. IDAHO WRITES FOR THEIR READERS. U.S. Fed. Ext. Serv., ER&T-77(4-62), 3 p. Washington, D.C., 1962.
- Bradford, J. FACTORS RELATED TO THE USE OF PRESS AND RADIO BY NEGRO EXTENSION PERSONNEL IN ALABAMA. 161 p., typewritten. Madison, U. of Wis., 1961.  
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Preliminary List of Factors  
That May Affect the Success of Extension-Type  
Programs in Other Countries

The Agency for International Development and its predecessors in development of foreign countries has fostered Extension-type programs in other countries for 15 years or more. This promotion of Extension outside of the United States was done with expectation that this method of aiding rural development in other countries could and would accomplish the same kind of results that have been achieved in this country.

Experience to date with Extension-type programs in developing countries suggests that this system of education may not be effective in some other situations in part because of the lack in developing countries of a wide range of auxiliary services that have been available in this country.

The question may be whether an Extension Service can be effective without adequate supplemental services and, if not, can and should they be provided by the Extension Service itself.

Certain basic differences between the culture and power structure of other countries and the United States complicate the application of the American Extension system in other countries. The structure and strength of the government at both the national and local level are different from the United States. The social structure and status systems are a source of difficulty in establishing a system of communication to reach the cultivator. Progress as a concept and source of hope for improvement of living of the peasant population is frequently absent. Other examples could be included here.

### Tentative procedure

The general procedure in developing the research design and procedures will consist of developing a design tailored as a general approach to the research that will serve as the framework for the research activities in all countries. Special adaptations will be made for each country separately. The stages country by country will be about as follows:

1. A problem analysis to be made by study of available information in the United States about the country, the government, agriculture and the people.
2. Review of any available reports of economic or social studies made in the country.
3. Obtain information on national goals in agriculture - (a) economic and (b) social.
4. Obtain information on official and private organizations, institutions and agencies whose programs are designed to contribute to the attainment of national goals, together with the expected contribution of each.
5. Analyze and define problems in the attainment of national goals as they relate to individual actions of producers and their families.
6. Match problems with assigned responsibilities of agricultural and rural services, institutions and organizations to determine extent to which they are provided for.
7. Examine Extension Service purposes and assigned responsibilities to determine (a) extent to which they are compatible with an educational role, and (b) critical problems not attended by any rural service which must be treated by Extension if at all.



8. Proceed with specific examination of Extension Services as outlined in the general procedure.

Listed below are examples of some specific factors that are thought to be important in the success or failure of Extension-type programs in other countries. These items typify factors that would be identified and pre-tested in developing a general research design to be used under the proposed agreement between AID and USDA-FES.

The list would be expanded by examination of the literature and consultation with the Advisory Committee members and other persons competent to advise on the project.

A. General purposes

1. An Extension Service is an educational organization, therefore, the general purposes should be educational.
2. A clear understanding of the philosophy and purposes of the Extension Service is important for all levels of government and Extension administration.

B. Philosophy of Extension

1. Extension education is education for change or action.
2. Extension fosters action to realize values and attain goals that the people hold, then aids them in establishing new ones toward which they can move.

3. Change in individuals and in organizations is necessary for improvement
4. Healthy change (progress) in individuals and organizations results from creative acts. To foster creativity - (a) the researcher and Extension worker must have freedom to explore and to express his conclusions, (b) he must be faithful to the discovered truth and describe it honestly, and (c) he must approach the solution of problems with objectivity.
5. Work leading to recognizable accomplishment is a normal feature of the good life.
6. Voluntary public service by private individuals is expected citizen behavior.
7. Local cooperation with individuals at different levels of government and with commercial organizations are proper relationships.
8. Successful extension requires many methods to accomplish its purposes.

C. Financing and government support

1. Freedom from political interference.
2. Political support at national and local levels.
3. Legal basis for extension providing continuity of financing at an agreed level.

D. US/AID relationships

1. Good internal relationships in U. S. Mission between extension and other staff.

2. Good US/AID country government relationships.
3. Fluency in the country language by American counterpart personnel.

E. Organization and staffing

1. Adequate manpower assigned to do the job.
2. Provisions for qualified technicians in the essential subject-matter fields.
3. Ease and velocity of two-way communication between farmers and research workers.
4. Clear staff assignments and job descriptions.
5. Organizational arrangements suited to the functions to be performed.

F. Administration and coordination

1. Continuous study of problems by staff as a means of improvement.
2. Ease and velocity of communications among research and extension workers at national and local levels.
3. Extension free of non-educational services.
4. Centralization of all Extension Service functions in a single government department.
5. Agreement and cooperation in programs and activities to achieve appropriate national and local objectives by extension and related agencies and services.
6. Acceptance and understanding by extension staff at all levels of plans for achieving coordinated and integrated action to accomplish appropriate objectives.

7. Agreement and close cooperation between the USOM and the host government on objectives, operational procedures, resources and extension organization.
8. Mutual understanding and agreement by and between (a) the mission director and the program officer on relevant extension policies and procedures, and (b) agricultural staff and related divisions on extension relationships to other USOM units.
9. Mutual understanding and appreciation of the functions and activities of extension among related agencies and services.

Staff competencies and program support

1. Competence of staff commensurate with the job to be done.
2. Adequacy of the needed materials and equipment to do the job.
3. Adequacy and suitability of transportation for field staff.
4. Educational materials written in the vernacular and at the level of the readers.
5. Availability of technical agricultural services and/or personnel.
6. Availability of seeds, fertilizer and other supplies.
7. Availability of suitable agricultural credit sources.
8. Adequacy of transportation and marketing system for agricultural products.
9. Availability of agricultural research and technology to support extension programs.
10. Appropriateness of individual staff member's concept of his role.
11. Adequacy of supervision to insure that plans are actually implemented.
12. Administration oriented to program planning and execution.

## H. Program and program development

1. Evidence of sustained work concentrated on a few main kinds of efforts long enough to bring about change by the people.
2. Current programs consistent with the avowed general purposes and philosophy.
3. Effective implementation of plans.
4. Existence of a long range program geared to a reasonable rate of progress.
5. Program based on educational problems.
6. Programs which contribute to the national administration's production goals.
7. Adequate involvement of the people in local program development.
8. Cooperation between USOM administration and country officials including director of extension and heads of government units to analyze the situation, identify national problems and determine major program emphasis.
9. Use and effectiveness of available mass media in extension program.

## I. Technology and research

1. Adequacy of basic research information on problems peculiar to area.
2. Availability of applied research closely coordinated with extension programs.
3. Quality of liaison between research and extension.
4. Adequacy of needed social science research.
5. Adequacy of relationship to other essential regulatory and service functions.

6. Adequacy of provisions for research on current and significant problems of farming and/or rural living in the country.

J. Involvement and leadership

1. Adequate involvement of bona fide leaders versus status leaders at local level.
2. Adequacy of efforts to develop a leadership resource among the people

K. Education and training of staff

1. Adequacy of training in extension methods for nationals.
2. Degree to which local agents cultivate face-to-face training for large numbers of people on a limited range of subjects.

L. Reporting and evaluation

1. Continuous evaluation of extension results.
2. Reports based on evaluation of results.

M. Image - public and private

1. Adequacy of initial explanation and public acceptance of the program.
2. Effectiveness of local agent-client relationships.
3. Adequacy of local public support and participation.

N. Cultural influences

1. Recognition and consideration of cultural factors affecting change at the cultivator level.

2. Status of literacy and education among rural population.
3. Knowledge of characteristics of cultivators.
4. Availability of vocational agriculture education.
5. Status of indigenous leadership resources among the cultivators.
6. Knowledge and recognition of political and/or social power structure and its influence on cultivators.
7. Status of work and workers.

0. Program impact

1. Perception of extension at the local level.
2. Cooperation and support by local government officials and popular leadership.
3. Involvement of people in organized groups, program development, and problem and needs identification to determine the program.
4. Leaders' participation in extension activities and activity in the program.
5. Degree to which cultivators follow practices that are taught in the program.
6. Degree to which families follow practices on homemaking and family living taught in the program.





SUMMARY OF RESEARCH PROPOSAL

McDermott (Chairman)  
Kainsock  
Holmberg  
Walman

Title: Estimation of Birth Rates from Interview Data

Institution: National Center for Health Statistics, Public Health Service,  
Department of Health, Education and Welfare, and sub-contract  
with Research Triangle Institute

Principal Investigator: Walt R. Simmons

Duration: Eighteen (18) months

Estimated Cost: \$113,291

1. Background and Justification of the Research

A major obstacle in the management of programs in developing countries for reducing the rate of growth by means of family planning has been the lack of national statistical information on births and deaths which could be used to measure the success or failure of the family planning measures. Registration of births and deaths is so inadequate in developing countries that it cannot be relied on.

The critical lack of information described has led to the start of a number of experiments using sample survey methods to measure the birth and death rates. This research is being conducted in several different countries of Asia, Africa, and South America. Although some of these experiments have been completed in the field, they are incomplete in the sense that their accuracy has not been fully evaluated. A desirable characteristic of probability sample surveys is the ability to estimate the sampling error from the survey results. The major concern in estimating vital rates from sample surveys, however, is not the extent of the sampling error but instead the nonsampling or measurement error of the instrument. In estimating birth and death rates, the primary sources of measurement error (and bias) are probably those of coverage and response. It is reasonable to believe that there are survey methods which could largely avoid the most destructive sources of measurement error, once they are known, and consequently could produce fairly accurate estimates of vital events.

What is needed is an intensive program of technical methodological development under what might be called "laboratory" conditions. By "laboratory" conditions we mean conditions where individual interview results can be compared with true occurrence of births and deaths as registered in a reliable registration system. The site of the research project is the United States, rather than one of the developing countries, because there it will be possible to have access to copies of birth and death certificates in a registration system which is more than 96 percent complete for births and probably 98 percent complete for deaths.

The logic of conducting this particular research in the United States is that the sources of measurement error and their magnitude can be readily identified. With the knowledge of the source and magnitude of these errors, it should be possible to develop a survey instrument that largely avoids or reduces the effect of the most destructive of these measurement errors. In each of the developing countries it will, of course, be necessary to conduct special studies to determine if the sources and magnitudes of measurement error are similar to those encountered in the United States, and, if so, to modify the basic survey instrument. The needs of such special studies are contained in this research project.

## 2. Research Plan

The project will be carried out in two phases. The first is a research and development phase, the second a test phase. In brief, the first phase will consist of a study designed to measure the nonsampling error components of birth data collected by personal interview surveys. Questionnaires will be developed and pretested for use in this phase with samples selected from birth and infant death registration files.

The basic Phase I sample will consist of 1,000 mothers listed on the certificates selected from the birth registration files for the 15 month period immediately prior to the sampling date. The basic sample will be supplemented to insure that it will include 300 illegitimate births and 300 infant deaths, making the total for the first phase approximately 1,500.

A household interview will be conducted in each household identified as the place of residence of the mother on the birth certificate. Any adult member can be the respondent. The first phase household interview questionnaire will cover births in the year prior to interview, including the date of birth and where the infant was born. Socio-economic characteristics such as age and parity of mother, family income, education, size of family, social status, etc., will also be obtained for later correlation with reporting errors.

Phase I of the proposed research will provide the basic data for deriving estimates of various components of error which contribute to the total error in the household interview approach to the measurement of births and population. The results of the analyses carried out with the Phase I data will be utilized to design a measuring instrument and interview procedure which will tend to minimize measurement error. The proposed survey in Phase II will provide an evaluation of this instrument and procedure.

The universe for the Phase II survey will be all households who maintained a residence in North Carolina or some defined sub-area at any time during the year under study. The sampling unit for this phase shall be an expectation of five contiguous households, clustered so as to reduce interviewing costs. The sampling system will be a stratified random sample of approximately 400 sampling units or 2,000 households allocated proportional to population distribution. Data will be collected by means of personal interviews.

An attempt will be made to query all households who resided in the sample area at any time during the experimental period. If a family moved away, an attempt will be made to learn the forwarding address and if successful, a questionnaire will be mailed to them. An estimate of the error from this source will also have been obtained in Phase I.

The sample survey information will then be used to estimate:

- (1) the number of births during the reference period;
- (2) the population appropriate to the reference period; and
- (3) the birth rate.

### 3. Review of the Proposal

This proposal was first submitted as a preliminary proposal in response to an expression of interest by AID/TCR/HS. Submission as preliminary proposal permitted a number of revisions resulting in a more suitable presentation of the research project in the formal proposal. Reviews of the formal proposal, both by internal and external reviews, have been uniformly favorable. It is agreed that the proposal has scientific merit and is relevant to the program of AID.

Specific suggestions to modify the proposed research project were conveyed (by phone on January 8) to the NCHS, i.e. Mr. Garrie J. Losee in the absence of the principal investigator. Mr. Losee states that Dr. Forrest E. Linder, Director of the NCHS, after due consideration of the suggestions decided that it was not possible, necessary or desirable to make the suggested modifications in the proposal.

HFrederiksen, TCR/RA/1-13-65

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
Public Health Service  
National Center for Health Statistics  
Washington, D. C. 20201

Project Proposal

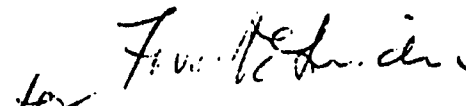
December 9, 1964

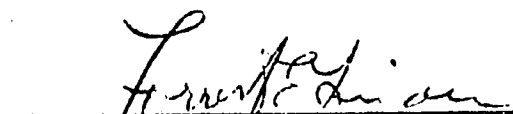
ESTIMATION OF BIRTH RATES FROM INTERVIEW DATA

Submitted to:

Agency for International Development  
Department of State  
Washington, D. C.

Approved:

  
Walt R. Simmons, National Center for  
Health Statistics, Principal  
Investigator

  
Forrest E. Linder, Director, National  
Center for Health Statistics

## Estimation of Birth Rates from Interview Data

### 1. Background and Justification of the Research.

In many developing areas of the world the growth of the population through an excess of births over deaths threatens to defeat all efforts of the national governments to raise the standard of living. Increasing attention is, therefore, being paid by these governments, and by assisting agencies from abroad, to programs for reducing the rate of growth by means of family planning.

A major obstacle in the management of these programs has been the lack of national statistical information on births and deaths which could be used to measure the success or failure of the family planning measures. Registration of births and deaths is so inadequate in these countries that it cannot be relied on. The wholesale improvement of the registration, while it is absolutely essential as an eventual goal for demographic, public health, and legal reasons, is recognized to be a long-range goal, one whose accomplishment cannot be given priority over the urgent need for getting started on programs for control of population growth.

The critical lack of information described has led to the start of a number of experiments using sample survey methods to measure the birth and death rates. This research is being conducted in several different countries of Asia, Africa, and South America. Because of numerous difficulties in applying survey methods to measuring birth and death rates, no accepted method is yet available, and the research can properly be considered the most important statistical problem in the world today.

What is very badly needed is an intensive program of technical methodological development under what might be called "laboratory" conditions.

By "laboratory" conditions we mean conditions where the survey results can be constantly checked against data from a reliable registration system.

The present proposal is the first step in such a program. The site of the research is the United States, rather than one of the developing countries, because here it will be possible through close relations with State and local health departments to have access to copies of birth and death certificates in a system which is more than 96 percent complete for births and probably 98 percent complete for deaths.

The logic of conducting this particular research in the United States is that several trials and, possibly, false starts will have to be made. The means of evaluation of the methods will be at hand. Once a technique that works satisfactorily in the United States has been found, then it will, of course, be necessary to adapt it to the situations in the various developing countries. Each of these countries will undoubtedly present special problems, and it will be the task of local studies to find the necessary adaptations of the basic method.

Pending the development of adequate registration techniques, two alternative methods are currently available to measure birth rates. The first involves intensive registration programs in a sample of minor civil divisions or other areas. The second utilizes data obtained through personal interviews in a sample of households. In addition to sampling errors, both of these methods have defects when employed separately. The registration approach on a sample basis assumes perfect registration within the survey area and also depends on the availability of accurate population data from other sources. On the other hand, accuracy of household interview data on births suffers from reporting errors of unknown magnitude.

The research project described below is designed to increase knowledge of the nature and magnitude of nonsampling errors in the interview approach and is intended to develop a method for measuring the birth rate independent of vital statistics registration.

2. Proposal submitted by: National Center for Health Statistics, U. S. Public Health Service, Washington, D. C.

3. Title: Estimation of Birth Rates from Interview Data

4. Desired starting date and duration: To begin about March 1, 1965, and continue for approximately 18 months

5. Research plan and objective:

A. Objectives of the Proposed Research Program

The goal of the proposed research is to develop an efficient survey procedure for accurately measuring the annual birth rate in a given geographical area under circumstances in which the procedure may be evaluated and in particular, can be analyzed into components which will facilitate the development of procedures suitable to other areas. Specifically, the research will be designed to:

(1) Measure the nature and magnitude of errors in reporting births in personal interviews.

(2) Develop an instrument to measure births and population data, including migration, by means of household interviews.

(3) Test this measuring instrument and procedure in a sample survey.

B. Approach to the Problem

The proposed research plan is based on the concept that the total error in the estimated total annual births derived from households

interview data consists of a number of additive error components, both positive and negative. Some of these error components may be of a systematic nature, and hence produce a biased estimate; one that is, on the average, larger or smaller by a fixed amount than the "true" number of births. Consistently failing to report a birth, which might occur for births that later resulted in infant deaths, contributes to the systematic error. Other survey errors may be completely random in character, contributing only to the variability of the observed number of births from sample to sample covering the same population and time period. The sampling error for probability samples is of this latter type. Measurement or response errors generally have a random component also, but may or may not have a bias component.

The estimated birth rate depends also on the accuracy with which the average population over the period can be estimated. If the total number of births and the base population are both underestimated, the error in the birth rate estimate may be less than if only one of these two variables is inaccurate.

Experiments for estimating the magnitude of these individual error components must satisfy certain principles of sound research design. This can be best illustrated by example. Suppose an estimate of the bias due to exclusion of households which have migrated from the area during the period of interest is desired. Suppose further that the estimate of this bias is to be based on only those households which provide responses in an experiment including both nonmigrant as well as migrant households. But this means the bias component of interest would be hopelessly confounded



with the basis due to nonresponse and hence could not be estimated from an experiment of this type. If an individual component of error is to be estimated accurately provision must be made to either measure or control in the experiment each of the remaining error components.

A series of independent experiments might be designed to accomplish the first research objective listed above. However, in the long run, this procedure would be more expensive than a research plan which permits simultaneous study of the individual components which contribute to the total error in the birth rate. The latter plan is recommended.

The proposed research plan calls for simultaneous study of nonsampling error components in several areas. By carefully quantifying the various error parameters and their relationship to such factors as age and parity of mother, family income, outcome of birth, multiple births, educational level of respondent, size of family, social status, and perhaps other factors, the results should indicate the nature of procedures which should be used in other areas to accomplish the intended objective.

### C. Research Plan

The project will be carried out in two phases. The first is a research and development phase, the second a test phase. In brief, the first phase will consist of a study designed to measure the nonsampling error components of birth data collected by personal interview surveys. Questionnaires will be developed and pretested for use in this phase with samples selected from birth and infant death registration files.

The data collected in the first phase will be used mainly to estimate (a) under-reporting of births which later resulted in infant deaths, (b) under-reporting of illegitimate births and (c) other components of

under-reporting of births. The extent of over-reporting of births will also be estimated.

Several aspects of the research to be carried out in the development (first) phase are amplified in the remainder of this section. The appropriate respondent requires study since some births will have resulted in placement of the child for care in other than his mother's home. One survey approach covers the household population with any adult member as the respondent; the household data is confined to infants presently members of the household and also to infants who had died while a member of the household. The results of this household sample are then supplemented by institutional data.

The basic sample will consist of 1,000 mothers listed on the certificates selected from the birth registration files for the 15 month period immediate prior to the sampling date. Since this sample is expected to yield only 30 to 35 infant deaths, a separate sample will be selected from the infant death registration files for the same 15 month period to bring the total to 300 infant deaths. Finally the basic sample is expected to yield from 50 to 100 illegitimate births and therefore will be supplemented also to yield a total of 300 births in this category. Thus, the total sample for the first phase will be approximately 1,500. It will be designed to yield an appropriate number of births in each month of the 15 month period.

The first phase questionnaire will cover births in the year prior to interview, including the date of birth and where the infant was born. Socio-economic characteristics such as age and parity of mother, family income, education, size of family, social status, etc., will also be obtained for later correlation with reporting errors.

Since the eventual survey approach must also produce population estimates, the questionnaire will elicit information on the age and sex of all current members of the household, and how long each has been a member of the household. Migration is a key factor in arriving at an accurate population base for computation of the birth rate. Accordingly, the questionnaire will cover the date the household moved to its present location, if any moves have been made in the year prior to interview, and whether the move was made from outside the survey area or not. Also, a procedure will be tested for determining out-migration by asking households in residence less than a year where the previous occupants had moved. If this is not known, the interviewer will be requested to obtain requisite data on the previous occupants from neighbors.

Since some households will not be contacted or will refuse to cooperate in this survey, it is planned to obtain the requisite data from neighbors. The accuracy of this procedure can be tested in the first phase.

Phase I of the proposed research will provide the basic data for deriving estimates of various components of error, including both systematic (bias) and random components, which contribute to the total error in the household interview approach to the measurement of births and population. The relative contribution of the several components of error will be determined by estimating the parameters in a mathematical model.

The results of the analyses carried out with the Phase I data will be utilized to design a measuring instrument and interview procedure which will tend to minimize measurement error. The proposed survey in Phase II will provide an evaluation of this instrument and procedure.

The universe for the Phase II survey will be all households who maintained a residence in North Carolina or some defined sub-area at any time during the year under study. The sampling unit for this phase shall be an expectation of five contiguous households, clustered so as to reduce interviewing costs. The sampling system will be a stratified random sample of approximately 400 sampling units allocated proportionate to population distribution. Strata, approximately equal in terms of population, will be constructed geographically and two sampling units will be selected per stratum. Insofar as possible, strata will be contained within the urban, rural place and open country zones. Data will be collected by means of personal interviews.

The estimated sample size of 2,000 households is expected to provide an estimate of the birth rate with approximately 95 percent confidence limits of  $\pm 5$  births per 1,000 population. This margin of error does not include the net effects of the various sources of systematic errors. The magnitude of the net bias in the procedure may not be sufficiently large to be detected as statistically significant in the survey with this order of precision. However, the major purpose of the survey is to gain operational experience with the approach, its technique and methodology. Through this experience, further refinement and final recommendations are expected.

While this sample size of 2,000 may not yield an accurate estimate of the net bias in the birth rate (through comparison with official North Carolina figures), the expected magnitude can be estimated from the error component model developed as a result of the Phase I research and the composition of the sample. In addition, if necessary as a further check,

The universe for the Phase II survey will be all households who maintained a residence in North Carolina or some defined sub-area at any time during the year under study. The sampling unit for this phase shall be an expectation of five contiguous households, clustered so as to reduce interviewing costs. The sampling system will be a stratified random sample of approximately 400 sampling units allocated proportionate to population distribution. Strata, approximately equal in terms of population, will be constructed geographically and two sampling units will be selected per stratum. Insofar as possible, strata will be contained within the urban, rural place and open country zones. Data will be collected by means of personal interviews.

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While this sample size of 2,000 may not yield an accurate estimate of the net bias in the birth rate (through comparison with official North Carolina figures), the expected magnitude can be estimated from the error component model developed as a result of the Phase I research and the composition of the sample. In addition, if necessary as a further check,

estimates of gross reporting errors can be obtained by matching females of child-bearing age in the sample against birth registration files.

The sample of 2,000 households is considered a minimum to evaluate the methodology. This sample is expected to yield approximately 7,400 individuals and hence about 185 births for a reference year. To reduce the sample size would therefore impair the field test of the recommended procedures. On the basis of preliminary results it may be decided that a larger sample giving greater precision will be desirable.

As mentioned earlier, an attempt will be made to query all households who resided in the sample area at any time during the experimental period. If a family moved away, an attempt will be made to learn the forwarding address and if successful, a questionnaire will be mailed to them. An estimate of the error from this source will also have been obtained in Phase I.

The sample survey information will then be used to estimate

- (1) the number of births during the reference period
- (2) the population appropriate to the reference period
- (3) the birth rate

Throughout both Phase I and Phase II, the emphasis will be on techniques and methodology which can be applied in a situation where no detailed census information is available and where no registration or very incomplete registration is in effect. Hence, even though adjustments to Phase II data could be based on the composition of the population of North Carolina given by the U. S. Census, it will be more realistic to base adjustments on the composition of the sample.

It must be recognized that although the final procedure may prove satisfactory for North Carolina, it cannot necessarily be adapted without modification in other areas of the world. If it does prove feasible for North Carolina, then much will be gained toward the development of similar procedures elsewhere.

The research plan for Phase I has been outlined in detail in the first parts of this section. The detail on Phase II given above is subject to modification based on the Phase I results.

#### 6. Available Facilities

The National Center for Health Statistics is one of four major general purpose statistical organizations of the U. S. Government. It is the only Federal agency engaged in compilation of national vital statistics data and in this roll provides leadership and technical assistance to the States on vital registration systems. The Center also conducts several survey programs dealing with health statistics. Its staff resources include specialists on survey and sample design. Its physical resources include modern electronic computer facilities.

Because it will require a unique combination of skills, it is anticipated that the National Center for Health Statistics while retaining general direction and review of this undertaking will subcontract for the major portion of this project with the following institutions:

A. The Research Triangle Institute, Durhan, North Carolina, for developmental work and data collection. The Research Triangle Institute was incorporated at the end of 1958 as a nonprofit, public service organization to undertake contract research programs for government, industry, and foundations. With the objective of wide diversifications, the Institute

has developed and is actively expanding staff and facilities both in physical and social sciences and especially in survey techniques.

B. The Department of Biostatistics, University of North Carolina, for consultant services.

C. The North Carolina State Board of Health, for information from its birth and infant death registration files and for consultant services.



7. Budget

It is estimated that the research for Phase I can be conducted in 12 months and Phase II in six more months; the estimated costs by phase are given below.

	Phase I		Phase II	
	Man Months	Cost	Man Months	Cost
<b>I. National Center for Health Statistics</b>				
Principal investigator	3	\$4,750	2	\$3,150
Travel		300		300
Overhead		<u>1,197</u>		<u>794</u>
Total		\$6,247		\$4,244
<b>II. Research Triangle Institute</b>				
<b>A. Direct Labor <u>1/</u></b>				
Project Director	2	3,000	1	1,844
Statistician	6	6,526	--	--
Survey Specialist	6	5,448	6	5,448
Clerks	12	4,902	6	2,451
Secretary	8	<u>3,086</u>	4	<u>1,543</u>
Total Direct Labor		\$23,650		\$11,286
<b>B. Overhead (87% of A) <u>2/</u></b>		20,575		9,818
<b>C. Direct Costs</b>				
Sub-Contract UNC <u>3/</u>	--	9,318		--
Interviewer's Salary 230 hrs.		3,450	300 hrs.	4,500
Overhead		862		1,125
Travel		3,000		4,000
Staff Travel		600		600
Materials		--		500
Service of State Board of Health		500		--
Communications		250		250
Report Costs		250		250
Consultants	12 days	<u>1,320</u>	8 days	<u>880</u>
Total Direct Costs		19,550		12,105
<b>D. Total Cost Less Fee</b>		63,775		33,209
<b>E. Fee</b>		3,825		1,991
<b>F. Estimated Contract Price by Phase</b>		73,847		39,444
<b>G. Estimated Total Price (RTI)</b>				\$113,291

1/ Included in direct labor are all salary-based costs such as Social Security taxes, contributions to all employee benefit plans, and vacation and sick pay. The rate of 13.5 percent of salaries has been negotiated through September 30, 1964, and is subject to audit.

2/ Overhead (including all departmental, general and administrative costs; use charge in lieu of depreciation; depreciation and amortization) has been negotiated at 87 percent of direct labor through September 30, 1964, and is subject to audit (Federal Procurement Regulations 1-15.2).

3/ Estimated cost of subcontract with UNC.

Master of Public Health	3 man-months	\$2,500
Statistical research assistant	6 man-months	5,000
Travel		200
Overhead		<u>2,618</u>

## 6. Personnel

**WALT R. SIMMONS, Mathematical Statistician, National Center for Health Statistics, Principal Investigator**

Degrees - A. B., University of Kansas, 1934  
M. A., University of Kansas, 1936

### Technical Experience

1957 to date. Statistical Advisor, U. S. National Center for Health Statistics, Public Health Service, Department of Health, Education, and Welfare.

1948 to date. Adjunct Professor of Mathematics and Statistics, American University.

1949 to 1957. Statistical Consultant, U. S. Bureau of Labor Statistics.

1946 - 1949. Chief of Techniques Branch, Division of Manpower and Employment Statistics, Bureau of Labor Statistics

1943 - 1945. Lieutenant, USNR

1942 - 1943. Senior Labor Economist, War Manpower Commission

1942. Regional Economic Analyst, Social Security Board

1941 - 1942. Technical Advisor, Social Security Board

1937 - 1941. Senior Statistician, Kansas State Labor Department

1934 - 1937. Instructor, University of Kansas

### Professional and Honorary Activities

Phi Beta Kappa

Pi Mu Epsilon

Sachem

Summerfield Scholarship

Teaching Assistantships at University of Kansas and University of Iowa

American Statistical Association (Fellow)

Washington Statistical Society

Institute of Mathematical Statistics

American Public Health Association

### Publications

Mr. Simmons has numerous publications. Among them are:

"An Evaluation of Hospitalization Data from the Health Interview Survey," American Journal of Public Health, Vol. 52, No. 10, October 1962 (Joint with Earl Bryant)

"Significance of the Electronic Computer for Health and Vital Statistics," paper prepared for the Milbank Fund and accepted for publication by the Fund. (Joint with Forrest E. Linder)

"The United States National Health Survey, Health Interview Survey," article published in the United Nations Statistical Papers Series C-No. 9, 1960.

ALVA L. FINKNER, Director, Statistics Research Division, Research Triangle Institute

Degrees - B. S., Agronomy, Colorado State University, 1938  
 M. S., Agronomy, Kansas State University, 1940  
 Ph. D., Statistics, North Carolina State of the University of North Carolina, 1950

#### Technical Experience

1964 to date. Research Triangle Institute, Durham, North Carolina. Director, Statistics Research Division  
1962 to 1964. Research Triangle Institute, Durham, North Carolina. Associate Director, Statistics Research Division.  
1959 to 1962. Research Triangle Institute, Durham, North Carolina. Senior Statistician and Head, Sampling Section, Statistics Research Division.  
1960 to date. North Carolina State of the University of North Carolina at Raleigh, North Carolina, Adjunct Professor of Experimental Statistics.  
1950 to date. University of North Carolina at Chapel Hill. Operations Analysis Standby Unit, U. S. Air Force, Chapel Hill, North Carolina, Analyst.  
1955 to 1960. North Carolina State of the University of North Carolina at Raleigh, North Carolina, Associate Professor of Experimental Statistics.

#### Professional and Honorary Societies

American Statistical Association	Phi Kappa Phi
Biometrics Society	Gamma Sigma Delta
Sigma Xi	Alpha Zeta

#### Publications

"A Comparison of the Basis of the Nashville Morbidity Survey of Two Frames with Equal and Unequal Sized First stage Units," (with T. Khosla and J. C. Koop), 1962 Proceedings of the Social Statistics Section of the American Statistical Association, 1962.  
 "An Investigation on the Measurement of Current Smoking by Individuals," (with D. G. Horvitz, G. T. Foradori, Jack Fleischer and John Monroe), N. C. State College Exp. Sta. Tech. Bul. No. 127, June, 1961.  
Handbook of Area Sampling, (with John Monroe), Chilton Press, Philadelphia, Pa., 1959.  
Principles of Test Design, (with R. J. Monroe), Operations Analysis Office, Patrick Air Force Base, Florida, 1955.  
 "A Comparison of Stratified Two-State Sampling Systems," (with A. R. Sen and R. L. Anderson), Journal of the American Statistical Association, 49:539-558, 1954.

**DANIEL G. HORVITZ, Statistician, Research Triangle Institute**

Degrees - B. S., Mathematics, Massachusetts State College, 1943  
 Ph. D., Statistics, Iowa State College, 1953

**Technical Experience**

1962 to date. Research Triangle Institute, Durham, North Carolina, Group Leader, Sampling, Statistics Research Division.

1960 to 1962. Professor of Statistics, University of Chicago assigned to Ford Foundation, University of Rangoon - University of Chicago Project in Statistics and Agricultural Economics; Senior Advisor. Advising on the curriculum and teaching program of the Department of Statistics at the University of Rangoon.

1956 to 1960. Statistical Director, A. J. Wood Research Corporation, Philadelphia, Pennsylvania, Sampling designs and procedures, experimental designs and statistical analyst in regional and national market research studies.

1953 to 1956. Associate Professor of Experimental Statistics, North Carolina State College, Raleigh, North Carolina. Research in Sampling Theory and Methods; Non-Sampling Errors.

1951 to 1953. Assistant Professor of Biostatistics, University of Pittsburgh Graduate School of Public Health. Teaching courses in sampling and design of experiments. Conducted morbidity surveys among Pittsburgh residents.

1952 to 1956. Member Advisory Committee, Air Pollution Research Project, Department of Preventive Medicine, University of Cincinnati.

1949 to 1951. Instructor and Research Associate, Department of Statistics, Iowa State College, Ames, Iowa.

**Professional and Honorary Societies**

American Statistical Association  
 Sigma Xi  
 Phi Kappa Phi

**Publications**

On the determination of sample sizes in designing experiments (with M. Harris and A. M. Mood), Journal of American Statistical Association, 43:391-402, 1948.

A generalization of sampling without replacement from a finite universe (with D. J. Thompson), Journal of American Statistical Association, 47:663-685, 1952.

Sampling and field procedures of the Pittsburgh Morbidity Surveys, Public Health Reports, 67:1003-1012, 1952.

Non-sampling errors in sample surveys, Seminar on Consumer Surveys, Marketing Research Committee, American Gas Assoc., N. Y., October, 1958.

Methods of Measurement of Current Smoking by Individuals (with A. L. Finkner, G. T. Foradori, J. Fleischer and John Monroe), North Carolina Agricultural Experiment Station, Tech. Bul. No. 127, 1961.

**GERTRUDE M. COX, Statistician, Research Triangle Institute**

Degrees - B. S., Mathematics, Iowa State College, 1929  
 M. S., Mathematics and Statistics, Iowa State College, 1931  
 D. Sc., Iowa State College, 1958

**Technical Experience**

1959 to 1964. Research Triangle Institute, Durham, North Carolina.  
 Head, Statistics Research Division  
1940 - 1960. North Carolina State College, Raleigh, North Carolina.  
1944-1960. Director, Institute of Statistics  
1940-1944. Head, Department of Experimental Statistics  
1939 - 1940. Research Assistant Professor, Iowa State College.

**Professional and Honorary Societies**

American Public Health Association	Royal Statistical Society,
American Statistical Association	(Honorary Fellow)
Biometric Society	Gamma Sigma Delta
Institute of Mathematical Statistics	Phi Kappa Phi
International Statistical Institute	Sigma Xi
Psychometric Society	

**Awards**

Oliver Max Gardner Award, 1959  
 Gamma Sigma Delta Award for Distinguished Service to Agriculture, 1960

**Publications**

Dr. Cox has more than 30 publications in various technical journals.  
 Among them are the following:

Experimental Designs, with W. G. Cochran, John Wiley & Sons, Inc., 1950.  
 "Disproportionate subclass numbers in tables of multiple classification,"  
 with George W. Snedecor, Iowa Agr. Exp. Sta. Bul. 180:233-272, 1935.  
 "The multiple factor theory in terms of common elements," Psychometrika,  
 4:59-68, 1939.  
 "Enumeration and construction of balanced incomplete block configurations,"  
Annals of Mathematical Statistics, 11:72-85, 1940.  
 "Statistics as a tool for research," Jour. of Home Econ., 36:575-580, 1944.  
 "The function of designs of experiments," Ann. New York Acad. Sci.,  
 800-807, 1950.  
 "Statistical Frontiers," Jour. American Statistical Assoc., 52:1012, 1957.  
Revision of Experimental Designs, with W. G. Cochran, John Wiley and Sons,  
 Inc., New York, 1957.

Baumgarten

has copy

L



Forrest (Chairman)  
Weyl  
Zacharias

## SUMMARY OF HUDSON INSTITUTE PROPOSAL: A STUDY OF THE BASIC ISSUES OF FOREIGN AID

Principal Investigator: Herman Kahn

Estimated Cost: \$676,950

Duration: Three years

### 1. Background

This is an unsolicited proposal. It has been somewhat revised after brief discussion with a few AID officials. The following abstract is taken from the revised version.

"Hudson Institute proposes a three-year research program to analyze and evaluate fundamental issues in international development and foreign aid. The project will take approximately six or seven man-years a year and will consist of two components:

"1) Contextual studies - consideration of many short and long-term policy choices, using both standard research methods and some recently developed methods similar to those used in current political-military research.

"2) Specialized studies - consideration of a number of key issues and the examination of some concrete "project development" possibilities. These possibilities would be carried out in interaction with the framework provided by the contextual studies.

"Both the contextual and specialized components will initially emphasize Latin American issues. This area is limited enough to permit some focus and concentration, but also provides an interesting and complex range of important problems that are both intrinsically worth analyzing and are appropriate for the contextual approach. It should also generate both methodological and substantive results of some interest in other areas.

"The research will be systematically interrelated with the four contracts Hudson currently has with other agencies. These contracts are all concerned with broad national security alternatives and similar to the proposed AID contract in terms of effort, time, methodology, scope, and personnel. The close collaboration of researchers working on them should help in producing a useful and comprehensive study for AID."

### 2. Research Approach

#### a. Contextual studies.

Two different but closely related kinds of problem underlie the long term effectiveness of foreign aid: (1) the reasonable range of major alternatives in

aid policies, and in the issues they affect and which affect them, have not been satisfactorily examined, and (2) the decision-makers (and the planners and analysts on whom they rely) have not been challenged to enlarge their problem-solving frames of reference sufficiently to permit them to take into account major alternatives of the sorts just noted.

Based on the recognition that foreign aid is a complex field in which many of the important issues have not been adequately formulated (and hence their interactions have not been identified), it is proposed that studies which will meet these needs be undertaken. These are referred to as "contextual studies" because they require the construction of alternative contexts within which the implications of the particular issues under study can be examined. The results of such studies will be intended to advance the attack on the two kinds of problem previously mentioned. The effectiveness of this approach has been demonstrated in roughly analogous fields by Hudson Institute's and others' work for the Defense Department and the Arms Control and Disarmament Agency.

These studies will deal with developments in the medium (5 to 10 year) and relatively long term (20 to 35 year) future. While the conventional techniques of projection will not be ignored, the principal techniques will be two which involve disciplined use of the investigators' imaginations.

"The scenario is a hypothetical sequence of events constructed to focus attention on concrete examples of what might happen and how.... By the use of a relatively extensive scenario the analyst may be able to obtain some initial orientation on the important events, variables, and critical choices, and he may generate preliminary conjectures. These preliminary conjectures can then be explored somewhat systematically, either by the usual analytical techniques or by more scenarios, starting from the most problematic branching-points."

The systematic creation of "alternative world futures" provides a broader framework than the scenario, appropriate for use in a relatively large project or even in several projects.

"We would, in our study for AID, make use of the "future worlds" methodology already developed in the Institute's politico-military research to establish descriptions of a range of hypothetical, but roughly plausible configurations of national and international power for several future dates--for 1970, 1975, 1985 and 2000, for example (5, 10, 20 and 35 years in the future). These "future worlds" would include ones in which Soviet-American conflict was intensified, attenuated and virtually ended. They would include "worlds" in which today's underdeveloped states were, in various individual or group alignments, politically aggressive or politically passive; in which they stimulated international conflict by bidding and blackmailing for great-power aid and support; in which they attempted to play a "third power" role in world affairs themselves; and in which they aligned themselves with one or more European powers, with China, or with the U.S.S.R. to challenge specified American interests. We would include "worlds" in which one or several of these states pursued aggressively revisionist or revolutionary policies, using either minimal nuclear

weapons or unconventional warfare techniques, or both; with one or more were in conditions of internal crisis; in which the underdeveloped areas as a whole, or in continental groupings, were in severe political and cultural disorder. We would consider these "worlds" in terms of conditions both of rapid and retarded economic development and political or military power among the non-Western states.

"The worlds would be constructed within a framework of careful projections of current data concerning economic, socio-political, cultural and military consequences of industrialization; the effects of urbanization in agricultural societies; and the implications of "development" for the traditions, religion and cultural patterns of the underdeveloped states. These projections would make clearer the realistic range of what might be expected in terms of industrialization and development, the setting in which our artificial "future worlds" would have to be understood."

#### b. Specialized Studies

The purposes of these studies, which are to be selected so as to make full use of Hudson Institute's particular capabilities in areas of special interest to AID, include getting more concrete and realistic answers to problems in these areas, and identifying the problems to which further study should be directed, but primarily the specialized studies are needed to strengthen the more abstract study and make it more realistic through the investigators' exposure to AID operations and staff. Corresponding benefits to AID staff should also come about.

One group of studies suggested would involve the purposes of aid and the uses to which it is put, to define the particular objectives appropriate to specified ranges of conditions, and to set forth the related negative potentials inherent in providing aid for these situations. These studies would also examine methods of dealing with priorities among objectives and conflicts between them.

Suggestions are also offered for three types of studies dealing with particular problem areas of development. One type is concerned with political matters as they impinge on economic, military or other aspects of development, and with AID's role in dealing with these. Another involves the part AID might play in introducing specialized management techniques or in adapting modern organizational forms for use in less developed countries. The third deals with the potential benefits from the U.S. Government initiating and supporting specific large engineering projects or comprehensive engineering programs.

### 3. Research Design

The proposal calls for focusing on Latin America in its initial stages, which would include most of the first three years. However, the approach is geared to the entire foreign aid activity: the focus on Latin America is to gain the benefits of geographical concentration. It is expected that much of what is accomplished within this one region will have application to the others. Work in other regions is not excluded from consideration.

The selection of subject matter for both the contextual and the specialized studies is left to future agreement between Hudson Institute and AID. The discussion of possible subjects for study includes, for each, some indication of how the study might be pursued, but no specific research designs have been set down.

4. Principal Research Staff (Senior staff spending 20% or more of their time on the project)

<u>Name</u>	<u>Estimated % of Time on Project</u>	<u>Field</u>
Herman Kahn	20	Math, physics, operations research, systems analysis, civil defense, strategic warfare, regional development
Raymond Gastil	50	Anthropology, intercultural communications; experience in Iran, Pakistan
Robert Krupka	30	Mechanical engineering; industrial planning in southern Italy and Sicily
Guillermo Owen	40	Mathematics, market research, game theory
William Pfaff	25	Journalist; political warfare, Soviet bloc affairs
Edmund Stillman	50	Lawyer; political-military affairs

Six other senior staff spending 5 or 10% of their time on the project, plus three junior staff (all trained in political science) spending 60% of their time.

One thousand (1,000) man-days of senior consultants are budgeted, presumably to be drawn from a long list of Fellows and Public Members.

SUMMARY OF SECOND REVISION TO HUDSON INSTITUTE PROPOSAL: A STUDY OF THE BASIC ISSUES OF FOREIGN AID

Principal Investigator: Herman Kahn

Estimated Cost: \$238,570

Duration: One Year

1. Background

An unsolicited proposal was submitted by Hudson Institute as of August 28, 1964, and discussed briefly with a few AID officials. A first revision was submitted as of September 8, 1964, which has received more intensive study by a larger number of people in AID. Comments were solicited from these people, which guided further discussions with Messrs. Kahn and Gastil of Hudson. As a result of these discussions Hudson has transmitted a further revision in its letter of December 21, 1964.

The AID comments on the September 8 version were that it was too diffuse as to subject matter and as to administrative provisions (with particular reference to assignments and availability of qualified personnel).

2. Revised Scope, Duration, and Cost

Duration has been cut to one year from three, and estimated cost reduced from \$676,950 to \$238,570.

These reductions result from the selection of certain activities from among the many originally presented. The selection has been made with the idea of providing AID with material useful for planning, programming, and selection of projects as these activities are affected by short and long term political transitions in the recipient countries.

The three levels of analysis of the original proposal and their focus on Latin America have been retained. The medium to long range speculative analyses (known as "alternative world futures") will be directed to 1970, 1975, 1985, and 2000, but primary emphasis will be put on the most likely alternatives for 1975 under the assumption of U. S. foreign assistance remaining at the present level. These projections will cover the regions and selected countries in a manner consistent with the world-wide projections, in order to suggest the likely results of different aid strategies during the period, and what the key issues are likely to be.

The second level of analysis will examine the key issues of LDC political transition, including both those identified by the speculative analyses and those now recognized as accompanying economic and social development. Consequently,

this work can proceed without waiting for the results of the speculative analyses. It is expected to yield a series of reports defining the separate issues and exploring ways in which AID might deal with them.

The third level of analysis will attempt to match certain types of programs or projects to some of the ways of dealing with key issues explored at the second level of analysis. The types of activity to be included are innovations in areas such as public administration, social welfare, corporate organization and management, with the specific selection depending upon results from the second level of analysis. This area of the work will produce a report on each of the innovations studied, characterized as a "pre-feasibility" study, "the purpose being more to furnish orientation and possible guidance to more detailed studies to be done by other groups than to arrive at definitive answers.

### 3. Study Methods

Throughout the December 21 letter there is repeated emphasis on Hudson's role as a "consumer" of techniques developed or used by other groups, and several disclaimers that Hudson is an innovator of such techniques, with particular reference to projections and to administrative and technological methodologies. This reinforces the claim made in the original proposal that Hudson's capability lies in the combined use of many techniques which are generally used separately. The Hudson capability is claimed to have advantages over the use of interdisciplinary teams in the exploration of very broad questions to identify the key elements in them, and to draw out of existing knowledge the most promising suggestions for dealing with them.

Hudson has become acquainted with the AID research program, and declares its intention to work with other research contractors, using their data and methods as appropriate. It also plans to work with AID personnel from the start in order to ensure that the work and its results will be as useful as possible to AID.

### 4. Administrative Provisions

The December 21 letter identifies the people who will be working on each element of the proposal, including general supervision as well as the three levels of analysis and the supporting work on projections and AID activities. It also includes bio-data on five people on the Hudson staff who are to be used in this work in addition to those mentioned initially.

December 22, 1964

C O P Y

HUDSON INSTITUTE

Quaker Ridge Road, Harmon-on-Hudson, N.Y. 10520 Cable Address Hudson 914 RO 2-0700

December 21, 1964

Dr. John Wilkes  
AID  
State Department Building  
Washington, D. C.

Re: Amendment to and Explication of  
Hudson Institute Proposal 167A  
(A Study of Basic Issues of Foreign Aid)

Dear John:

On the basis of recent discussions with AID it appears desirable to amend and explicate our proposal of September 8, 1964. There are three basic changes: the time period for the initial contract has been reduced from three years to one year, though we would still hope to complete a three-year project for AID; there will be a greater emphasis in the study on the use of "alternative world futures" as a methodological tool; and there is a more explicit integration of the proposed areas of analysis. In addition, we have supplied in this letter more details concerning the personnel and assigned times proposed for this effort. Parenthetical references in the following discussion will be to the full HI proposal 167A.

The Institute is proposing a study integrating three levels of analysis: 1) the development of a small number of alternative world futures; 2) the identification of key issues in the process of political transition which accompanies or determines projected socio-economic changes; and 3) the identification of opportunities for innovation through pre-feasibility studies of particular projects.

Each level of analysis will have direct significance for AID and, through a process of integration, will help to define and refine issues for study on other levels. Thus, the study of alternative world futures should be directly applicable to AID policy; it also defines key issues more clearly for political-economic, social-political or political-military areas. Similarly, work in the latter areas will not only have direct significance for the development of the guidelines which are provided AID missions, but also assist in identifying specific projects which will be given at least preliminary analysis in the proposed study. It is on this last level that decisions are made by AID as to whether particular projects should be implemented, given further study or laid aside.

To make the work more relevant to the interests of AID, and to avoid purely abstract discussion, integration will also proceed in the opposite direction, from the specific to the general. Complete integration of the three levels of analysis will be unobtainable (for many reasons, one of which is the fact that the limited time available will make it necessary to proceed to some extent simultaneously on all levels), but we feel that the attempt to integrate across these levels of analysis is eminently worthwhile. On all three

C O P Y

levels the emphasis will be, as in the original proposal, initially on the Latin American area (see HI-167A, pp. 5 to 8). The form of the final reports cannot now be clearly seen, but we now propose that there be a number of short analytical or position papers of direct operational significance, and a Summary Final Report emphasizing the methodology, and of primarily educative significance.

In somewhat greater detail the three levels of study proposed are summarized below.

1. The Alternative World Futures (HI-167A, pp. 3-4 to 3-9 and 1-1 to 1-14)

The broadest basis, and the primary methodological innovation, of the proposal is the study of the interaction of foreign aid and future projections. The work will be directed to the dates 1970, 1975, 1985 and the year 2000 with emphasis on the year 1975 (the earlier date is useful for the purpose of considering the process of transition, while the 1985 and 2000 dates provide a context for the 1975 studies). We intend to offer short descriptions of the two or three most likely "worlds" in 1975, assuming that U.S. foreign aid is maintained at present levels. As we describe these worlds we will move back and forth between considering the world and its regions and considering specific countries. It would also be of interest to consider a 1975 world in which the economic and technical aid program was varied widely by 1968 or 1970 (e.g. AID non-military assistance which has been reduced to zero, halved, doubled or increased to ten times present programs). Finally, we would want to compare how specific aid strategies, including the allocation of monies among countries or the selection of particular projects or programs for emphasis within countries, might change the projected outcomes for the world or for specific countries. To this outline, however, must be added a final caution: this is a study of problems with no easy answers, and often no answers at all. In certain contexts, for the prospects of many nations or regions, or even of the world as a whole, there may often be no discernible influence of U.S. aid, whether varied by strategy or amount. But we suspect that there are other future contexts for particular countries or the world as a whole in which there may be identifiable and important positive (or negative) contributions made by U.S. aid, and in which particular strategies and amounts do make a difference in the political and economic outcome.

2. Issues in Political Transition (HI-167A, pp. 2-13 to 2-24 and 2-5 to 2-11)

As key political issues amenable to or affected by the aid process begin to appear in the analysis of the worlds described above, these issues will be given separate and intensive attention. If, for example, severe gaps between mass expectations and reality are to be intensified, how would one attempt to balance the rapidly rising requirement for short-run stability against the often cited ideal of growth toward pluralism and a truly democratic way of life? For how long and at what levels ought one to accept relative anarchy, nihilism and rabid anti-Americanism as natural accompaniments of this process? How can we identify and support through aid programs the positive elements in a community under stress of this kind? More generally, we propose to study



the various desirable and undesirable ways in which nations may react to projected changes. Political constituencies change, and the bases of legitimacy and internal balances of power break down, as states move rapidly from present agricultural to light industrial to heavy industrial life; from rural to urban life; from isolation to cosmopolitanism. The breakdown of old values and of the value of old skills is not new in history. Difficulties in the process of change have often been studied under such appellations as "nativistic movements" and acculturation." We propose to examine, for the particular purposes of foreign aid, the "natural history" of such changes, and how transitions might be directed toward particular outcomes.

### 3. Specific Opportunities for Innovation (cf. HI-167A, pp. 2-25 to 2-39)

Finally, in order to avoid problems of political transition and to seize opportunities afforded by political transition as these have been identified at the second level, a number of pre-feasibility substudies will be carried out. Carrying forward the example of the pressures of rising expectations used in the last paragraph, here we might look for specific "technological" solutions in three directions: 1) some specific methods for improving the government's ability to control these pressures (e.g. see HI-167A, pp. 2-31 and 2-32 on "Improving the Efficiency of Law Enforcement"), or 2) particular projects of high visibility which show that the government "cares" (e.g. see HI-167A, pp. 2-32, "A Conspicuous Welfare Project"), or 3) some specific projects which have both the appearance and reality of achieving rapid progress (e.g. see HI-167A, pp. 2-30 to 2-31 on "Large-Scale Agricultural Corporations"). There would particularly be studies that could give some conception of the feasibility of using various kinds of technology to make large changes in the future prospects of Latin America, its subregions or nations. With only a few exceptions, the Institute expects to be a consumer of technology, rather than an innovator. Even such exceptions will be done in a relatively superficial or preliminary way (HI-167A, p. 4n), the purpose being more to furnish orientation and possible guidance to more detailed studies to be done by other groups than to arrive at definitive answers. Although the focus will be on technologies which could make enough big changes in some situation to affect the over-all study, by-products of this work of less general significance may also be reported.

In support of all three levels of the proposed analysis certain supporting research activities will also be necessary. Particularly for the analysis of alternative world futures, the Institute will critically examine the standard types of extrapolation studies, such as national and regional GNP's, various aspects of demography, and increase and decrease in natural resources. Here again, the Institute will act primarily as a consumer. The work of a number of other AID studies, such as those of RAND, the National Planning Association, and the USDA should provide basic materials for our effort. The Institute intends to supplement and complement a review of this material with certain kinds of technological, social and political projections, some of which will be done creatively as projects in their own right, and some of

which will be derived as fairly "straightforward deductions" from the previous projections (e.g. the effect of increased mobility on traditional allegiances). Especially as support for levels two and three, the Institute will attempt to have a more or less continuous interaction with the Agency's previous and continuing studies of questions related to this study, and particularly with the case study materials which AID has gathered internally. Such interaction should provide a better framing of questions and emphases for the Agency, as well as increase the understanding of the Institute of the Agency's own interpretive reports and evaluations. Since the Institute's final effort is necessarily going to be at a relatively high level of generalization, an early and continuing familiarity with material of this sort would appear to be crucial.

### Personnel

The Institute hopes to devote over a one-year period a little over five man-years to the study, with assignments as follows: (Biographies of the persons starred below will be found in Annex 6 to the basic proposal, HI-167A. Biographies of persons not starred have been annexed to this letter.)

#### A. Regular Staff

<u>Person</u>	<u>Time</u>
R. Ayers*	2 months
P. Berry	6 months
A. Caranfil*	8 months
C. Dible	8 months
R. Gastil*	9 months
H. Kahn*	3 months
R. Krupka*	4 months
G. Owen*	4 months
R. Panero	3 months
W. Pfaff*	3 months
E. Stillman*	3 months
Projections Analysis Group	5 months

#### B. Consultants

Expected time	8 months
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These will be expected to include at least the following:

- M. de Leva
- M. Kaplan\*
- R. Ridker\*
- P. Weidlinger

Responsibilities

	<u>Estimated Time</u>
A. <u>General</u>	3 months
R. Gastil	
H. Kahn	
R. Panero	
B. <u>The Alternative World Futures</u> (Considered as a separate analytical activity.)	13 months
The staff as a whole	
C. <u>Issues in Political Transition</u>	12 months
C. Dibble	
W. Pfaff	
E. Stillman	
D. <u>Specific Opportunities for Innovation</u>	12 months
P. Berry	
R. Krupka	
G. Owen	
Consultants	
E. <u>Supporting Work on Projections</u>	12 months
R. Ayers	
A. Caranfil	
C. Dibble	
Other members of Projections Analysis Group	
Consultants	
F. <u>Support Work on AID Programs, Projects and Internal Research</u>	14 months
The staff as a whole, but especially:	
P. Berry	
A. Caranfil	
Consultants	

Best wis:

Herman Kahn  
Director

HK:HI

Enc: Annex I - Cost Estimate  
Annex II - Additional Bibliographies

## ANNEX I

U. S. Department of State  
Agency for International Development

Hudson Institute, Inc.  
December 21, 1964

## COST ESTIMATE

Direct Charges for Research Time		78,023
Research Staff (4.8 man years)	60,023	
Research Support Staff (4.0 man years)	<u>18,000</u>	
Overhead at 109%*		85,045
Payroll Related Costs at 14.5%		11,313
Travel		3,500
Consultants (150 days at \$75.00 per day)		<u>11,250</u>
	Sub Total	189,131
General and Administrative Overhead at 19%*		<u>35,935</u>
	Sub Total	225,066
Fees at 6%		<u>13,504</u>
	TOTAL	<u>238,570</u>

\*Provisional billing rates approved by the U. S. Navy Audit Office,  
College Point, New York.

January 5, 1965

MEMORANDUM FOR THE ANALYTIC STUDIES ADVISORY GROUP (ASAG)

From: C.S. Gulick  
Chairman, Review Panel on  
Hudson Institute Proposal

Subject: AID Research Proposal from the Hudson Institute

1. The review panel met on 4 January to consider Hudson Institute proposal No. 167-A "A Study of the Basic Issues of Foreign Aid", revised September 8, 1964 as supplemented and amended by the letter from Herman Kahn, Director of the Hudson Institute, to John Wilkes, dated December 21, 1964. Panel members are: Glen Camp, A/AID; Curtis Farrar, FE/DP; Thomas Hazard, LA/ID; Howard Wriggins, S/P; and Clarence Gulick, PC/PPD, Chairman.

2. The review panel arrived at the following consensus:

A. The proposal is imaginative and is in an area which is important to AID and to the U.S. Government and in which little systematic work is being done. The results of the work cannot be predicted with precision but there is a good chance that useful results will be obtained and if so they could be extremely important. We recommend that negotiation of a research contract proceed substantially on the basis of the current proposals.

B. Close continuing interest by informed AID and interested State Department officers will be especially important for this project. To facilitate such consultation, we recommend that a committee be established including heavy regional office representation, PC, TCR, a representative of Colonel Lincoln, and representation from S/P and INR. This committee would be responsible for continuing liaison and cooperation with the contractor. The contract should provide for submission of six months work plans and for their prompt review by this continuing committee. The work plans should indicate when preliminary results will be expected which will provide a basis for discussion between committee members and representatives of the contractor of progress and future plans.

C. It is important that work under this project be well integrated with related Hudson Institute activity. In particular, we should ascertain the status of the proposed Ford Foundation grant and how work under that and under this project would be related.

D. The Hudson Institute has relatively little staff with substantial Latin American background. The Institute should be encouraged to draw on expert consultants and AID and Department of State experts should take a continuing interest in the project.

E. While the proposed Phase C studies of possible specific AID activities may prove extremely interesting and can provide a link with reality for the more general Phase I and II analyses, we would not wish to have the contractor concentrate prematurely on Phase III at the expense of rapid progress on Phases I and II. This concern can be kept in mind in considering the first six months proposed work plan.

CSGulick:pj:PC/PPD

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C O P Y

HUDSON INSTITUTE

Quaker Ridge Road, Harmon-on-Hudson, N.Y. 10520 Cable Address Hudson 914 RO 2-0700

January 9, 1965

SPECIAL DELIVERY

Dr. John Wilkes  
AID  
State Department Building  
Room 3643  
Washington 25, D. C.

Dear John:

Internally, we have discussed at some length the questions raised in our telephone conversation of January 7. In reply, we do not object to stretching out the projected effort over a period of eighteen months, although a twelve to fifteen month period for an initial effort might fit better with our longer range study program in the foreign aid area. The most desirable period of time will depend on the development of the rest of the Institute program in the coming months. Since the question of possible Ford Foundation support of the general Institute program has been raised in connection with this proposal, we wish to assure the Agency that if overlap occurs between work for the two institutions, we will consider it our responsibility to make sure that this overlap is to the positive benefit of both. It is the Institute's philosophy that support from a number of sources, including contracts and grants, results in more adequate work for all sponsors. While, on the one hand, our more policy-oriented contracts (e.g., the AID proposal) would seem to be in a particularly favored position in this relationship, we believe that the more general objectives of grantors are best served by a staff which is working directly in the policy area.

We are prepared to provide a work statement at the end of the first thirty days, subject to later revision.

In reply to the final query, we are well aware that for the predictive and contextual work we have outlined it will be necessary to bring into active participation in our work, though not primarily at its inception, consultants in the areas of Latin American government, economy and geography. This requirement is one reason we set aside for consultants what for the Institute is an exceptional amount of our projected effort (150 days). We imagine that at least half of this estimated consultant time will be used for the specialists in the Latin American areas mentioned above. Our specific plans for consultants are, of course, tentative at this time, but we will certainly look for more than one specialist in each of the areas mentioned. We intend that the specialists chosen would include Latin Americans. We also intend

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to draw on Latin American expertise in the development field at Harvard and upon s  
such students of Latin American affairs at Columbia as Dr. Ronald Schneider  
(political scientist) and Dr. Kemton Webb (geographer specializing in Brazil). In  
addition, we have asked Dr. Gene Martin of the University of Oregon (geographer--  
Spanish Latin America) to serve as a general consultant.

Sincerely yours,

Herman Kahn  
Director

cc: Dr. David Mayer

HK:gem

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Holmberg (Chairman)  
Skolnikoff  
Zacharias

## SUMMARY

Project: World-Wide Extension of Aptitude Testing  
Proposed Contractor: The American Institutes for Research  
Duration: 18 months  
Estimated Cost: \$240,000

### Operational Problem Orientation

The limited resources available for education and training programs in less developed countries make critical the selection of people who can benefit the most from such programs. AID is continually faced with the problem of advising developing countries on the best uses of manpower. But in practically every developing country, in the absence of objective, scientific methods for assessing human capabilities, judgments regarding who should be educated and trained have been impressionistic and thus easily influenced by extraneous factors. Consequently, scarce resources are being wasted on persons who are not suitable for the education and training available. There is a pressing need, therefore, to provide the less developed countries with the know-how necessary for the development of valid, reliable, and practical selection procedures and instruments in order to make optimal, effective use of school, training or overseas scholarship programs.

### Research Objective

The purpose of this research project is to produce guidelines for potential application on a world-wide basis, for the development of effective, low-cost and practical indigenous aptitude tests and testing procedures for developing countries.

### Background

Up until a short time ago it had been generally believed that it was not feasible to adapt modern testing technology to the developing countries. It was assumed that the appropriate cultural simplifications could be introduced only by sacrificing the efficiency and low cost of modern testing techniques, and that the revised versions would be too cumbersome to apply within the limits of a developing country's resources.

During the past five years, under contract with AID, the American Institutes for Research has been developing in Nigeria aptitude tests and testing procedures which are efficient, low cost and widely used. The I-D tests (abbreviated title derived from AID-AIR) include 21 separate verbal and non-verbal tests and encompass most of the critical manpower skills. They are being used in Nigeria to select trainees for trade, technical, clerical, teacher-training programs and students.

for educational institutions from the secondary to university level.

Adaptations of the procedures and tests have been successfully attempted in neighboring West African countries and recently in East Africa.

The proposal to extend the work to other continents in an attempt to generalize AIR's African experience is a logical next step.

The proposal was originally submitted in draft and was favorably reviewed by appropriate AID offices. The present proposal includes revisions suggested by the reviewers.

Methods: The project is divided into three phases:

Phase I (4 months). Based upon its five years of experience in Africa, AIR will develop a draft of the world-wide manual on planning and installation of I-D testing programs. These tentative procedures will serve as hypotheses to be tested for their relevance to the conditions in three model countries to be selected on three continents.

Phase II (12 months). In each of the three countries, the manual of procedures will be tested, adapted and revised through an actual developmental cycle.

Phase III. (2 months). Preparation of final report.

Contractor Personnel:

Chief Investigator would be Dr. Paul Schwarz who directed the development of the I-D tests in Nigeria. One researcher would be required for each of the three model countries. The project would be under the general supervision of Dr. John Flanagan, President of AIR and recognized authority in the testing field. AIR, with an outstanding record for research in the field of development, has unique experience in the development of aptitude testing in Nigeria.

Anticipated End Product

A manual containing tested guidelines and procedures for the development of effective practical aptitude tests and testing programs at low cost. Case histories of the three country studies will be appended as specific illustrations of the application of the guidelines and procedures.

ORA Responsibility

The project will be monitored by the Human Resources Division in ORA.

EBLeavitt:re:TCR/RA  
15 January 1965

# AMERICAN INSTITUTES FOR RESEARCH

410 Amberson Avenue, Pittsburgh, Pennsylvania 15232 • (412) 681-3000

16 December 1964

## A PROPOSAL FOR RESEARCH AND DEVELOPMENT TO ENABLE WORLD-WIDE USE OF THE I-D APTITUDE TESTS

### I: BACKGROUND AND PROBLEM

In the late 1950's much was being said and written about the importance of improving the selection and guidance procedures available to the developing countries. For skilled manpower had become recognized as a key development need, and the wastage in educational and training establishments was a major limiting factor.

The problem was that aptitude tests and related techniques had been developed in and for the highly industrialized countries, and were inappropriate for people raised in quite different cultures. Attempts to apply these techniques in the developing countries had proved unproductive; attempts to adapt them had failed. There was no way of assessing the abilities of the applicants for specialized training, and the rates of failures, drop-outs, and marginal passes remained alarmingly high.

Then, in 1959 the International Cooperation Administration, motivated partly by the universal expressions of need, and partly by the selection failures attenuating its own projects, decided to sponsor one more attempt at devising effective techniques. And this new effort succeeded. Within one year, the methodological difficulties had been resolved; within two years, modern-style testing programs were in operation.

Today the I-D tests that were developed under this project include 21 separate tests, and encompass most of the critical manpower skills. They are being used to select trainees for trade, technical, clerical, and teacher training programs; and students for educational institutions from the secondary to the university level. And in each of these areas the resulting gains have been substantial.

All of these applications, however, have so far been limited to the countries of tropical Africa. The uncertainty of success at the time the project was planned dictated a modest beginning in only one representative country, and since Nigeria was the country to be selected,<sup>1</sup> it was logical to proceed next to a sample of neighboring countries,<sup>2</sup> and then to the rest of the Africa Region.<sup>3</sup> And as this last step was accomplished only a few months ago, applications in other regions would until now have been premature.

Now, applications to developing countries outside Africa can and should be considered. Comparable progress has not been made in these other countries, and the provision of effective selection and guidance methods remains a priority need. The opportunity for meeting this need with existing techniques that have proved effective in not-too-dissimilar settings clearly should be exploited.

This proposal evaluates the experience of the past five years as it pertains to

- a) the probable success of testing activities outside the Africa Region, and
- b) the pattern of programming that is likely to be most productive:

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<sup>1</sup> Contract ICAC-1434

<sup>2</sup> Contract ICAC-2155

<sup>3</sup> Contract AID/afr-199

and on the basis of the conclusions presents an operational plan for expanding the AID-AIR Testing Project to the Near East, Far East, and Latin America Regions.

## II: THE IMPLICATIONS OF EARLIER PROJECTS

A number of the accomplishments of the AID-AIR Testing Project in Africa seem generalizable to other locations. Using these as the basis for estimating the probable success of the proposed project, we can with reasonable confidence make four specific predictions:

1. Suitable testing techniques can be provided. Five years ago, authoritative opinion held that it is not possible to adapt modern testing technology to the developing countries. It was thought that the appropriate cultural simplifications could be introduced only by sacrificing the efficiency and low cost of modern testing techniques, and that the revised versions would be too cumbersome to apply within the limits of a developing country's resources.

This notion has been disproved. The special techniques used in giving the I-D tests make it possible not only to obtain measurements as accurate as those being obtained in American testing programs, but to do so with similar provisions for group testing, rapid scoring, and low per unit cost.<sup>1</sup> All of the I-D procedures, moreover, are designed for use by indigenous personnel who have no professional training.

These same techniques should prove perfectly generalizable to other locations. In fact, the experience in using I-D tests in West Africa,

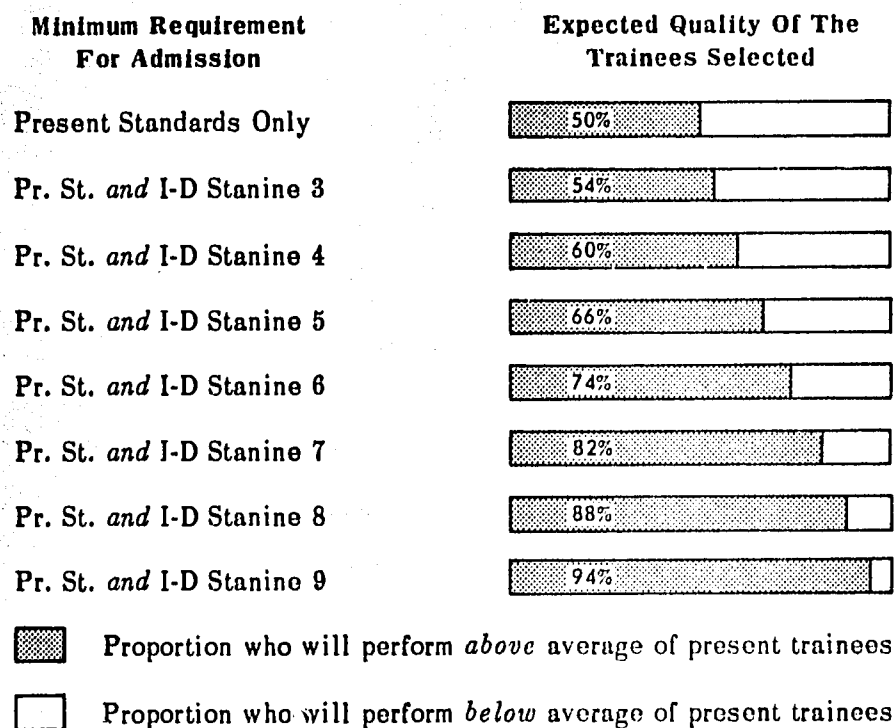
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<sup>1</sup> For a detailed description of these techniques, see the I-D Examiner's Manual.

East Africa, and North Africa with both English- and French-speaking peoples suggests that not only the techniques but even a number of the actual test papers will be appropriate for use in other regions.

2. The introduction of these procedures in training and educational institutions will lead to substantial improvements. The I-D tests have been validated on a sample of more than 4000 African examinees drawn from five countries and from many different occupations.<sup>1</sup> They have been found to be an accurate guide to selection and placement decisions.

The typical degree of improvement to be expected when I-D tests are added to existing selection criteria is shown in the following chart:



When an institution includes a minimum I-D test score among its entrance requirements, it obtains a significantly higher proportion of able trainees.

<sup>1</sup> The results of these studies are reported in the I-D Technical Manual.

This finding also should be generalizable to other locations in which individual ability tests are not being used.

3. Such improvements will be realized in an increasing number and variety of institutions. As noted in the introductory remarks, the original intent of the AID-AIR Testing Project was to upgrade institutions being assisted through bilateral projects. This has remained an important objective, and in Nigeria a total of ten AID-assisted institutions already is or soon will be using I-D testing procedures.

But as the tests have been made more generally available, these "in-house" applications have become only part of the over-all program. The most extensive applications have been in the local educational institutions, where I-D tests have been installed in secondary schools, trade centres, teacher training colleges, technical institutes, and universities; and where the testing conducted for only one school system (in Eastern Nigeria) has involved as many as 25,000 students per year.

Industrial applications have also been expanding, and it is of considerable interest to note that this program has not been limited to the giant corporations, in which I-D tests have supplemented existing procedures, but has also included numerous services to the smaller companies that would otherwise have no selection resources at all. The local offices of American firms have, of course, been especially active test users.

A fourth and fifth category of applications, which are just now beginning, are the military and civil service organizations. And a sixth is in the granting of overseas scholarships and study awards.

This broad range of application is illustrated in Figure 1, which lists some of the established I-D test users in Nigeria. On the basis of current activity, it is likely that this list will be doubled or tripled within the next year.

## EDUCATIONAL INSTITUTIONS

<u>Name of Institution</u>	<u>Type</u>	<u>Purpose of Testing</u>
Afikpo Grammar School	Secondary	Student selection
Aiyetoro Comprehensive School	Secondary	Student select. & guid.
Anglican Girls' School	Secondary	Student selection
International School	Secondary	Student selection
Nigeria Military School	Secondary	Student selection
Ogbomosho Grammar School	Secondary	Student selection
Owerri Government Sec. School	Secondary	Student selection
Port Harcourt Comp. School	Secondary	Student select. & guid.
Queen's School	Secondary	Student selection
Umahia Government Sec. School	Secondary	Student selection
Afikpo Grammar School	Sixth Form	Student selection
Queen's School	Sixth Form	Student selection
Federal Adv. Teachers' College	Teacher Training	Student selection
Ibadan Technical College	Technician Training	Student selection
School of Mines	Technician Training	Student selection
Ahmadu Bello Inst. of Admin.	University	
U. Lagos School of Business	University	Student selection
U. Lagos School of Law	University	Student selection
Ijebu-Ode Trade Centre	Trade School	Trainee selection
Oshogbo Trade Centre	Trade School	Trainee selection
Oyo Trade Centre	Trade School	Trainee selection
Sapele Trade Centre	Trade School	Trainee selection
Yaba Trade Centre	Trade School	Trainee selection

Figure 1. Users of I-D Testing Programs in Nigeria (Partial List)



## INDUSTRIAL ORGANIZATIONS

<u>Name of Organization</u>	<u>Purpose of Testing</u>
Book Press Distributors	Selection: Clerks
Bordpak Ltd.	Selection: Machine operatives
C. M. S. Press	Selection: Clerks
Enterprise Development Corp.	Selection: Clerks
Glaxo Laboratories	Selection: Operatives; clerks
IBM World Trade Corp.	Selection: Supvr. students; clerks
Johns Manville Company	Selection: Clerks
Lufthansa Airlines	Selection: Ground personnel
National Cash Register Co.	Selection: Printers
Nigerian Breweries	Selection: Brewmasters, plant personnel
Nigeria Railway Corp.	Selection: Apprentices, clerks, inspectors
Nigerian Sugar Co.	Selection: Machinists
Pfizer Products	Selection: Clerks
Shell-B.P. Company	Selection: Clerks
Tate & Lyle Company	Selection: Machinists; fitters
Total Oil Company	Selection: Zone representatives
United Africa Company	Selection: Clerks
United Bank of Africa	Upgrading: Senior staff

## GOVERNMENT AND RELATED AGENCIES

<u>Name of Agency</u>	<u>Purpose of Testing</u>
Civil Service Tng. School	Selection: Stenographer
Nigerian Army Signal Corps	Selection: Trainees
U.S.A.I.D. to Nigeria	Selection: Clerks
U.S.I.S. in Nigeria	Selection: Clerks
West African Exams Council	Selection: Machine ops., clerks, sr. staff

Figure 1 (Cont'd). Users of I-D Testing Programs in Nigeria (Partial List)

Similar growth has characterized also the project in Liberia, and seems to represent another finding generalizable to many locations.

4. The impact of the program will continue after A.I.D. assistance has ended. To maintain the continuity of the effort beyond the stage during which external aid is provided, it is necessary to institutionalize the testing program within an appropriate research and service organization. That this can be done even when no appropriate organizations exist has been shown in Nigeria and Liberia, where new testing institutions to house the I-D program have been created.

The Nigerian Aptitude Testing Unit illustrates the degree of local support that can be mobilized to institutionalize aptitude testing in a setting where in the past such tests have been largely unknown. Participating in the administration of the Unit are the five Ministries of Education, the five universities, the Federal Ministry of Labour, the National Manpower Board, the Nigeria Employers' Consultative Association, and the West African Examinations Council. And the bilateral project that is providing assistance throughout the Unit's developmental stages is one of the very few to which all five Nigerian governments have agreed to make cash annual contributions.

In Nigeria (as in Liberia) the supportive A.I.D. project will leave behind a professional institution staffed entirely by indigenous talent. The same pattern can be adopted elsewhere to insure that the investment in testing will result in a contribution of lasting value.

The implications of these four predictions are that the Agency can attain results in other regions comparable to those now being achieved in Africa, and, because of the relevant work already completed, can do so with a substantially lower investment than was necessary for the initial studies.

### III: DESCRIPTION OF ACTIVITIES TO BE UNDERTAKEN

#### A. Principles

The above remarks are, in effect, a justification for a world-wide testing activity based on the accomplishments of the Africa studies that seem generalizeable to other locations. This Section is concerned with the implementation of the project, and shall draw therefore not on accomplishments but on the lessons that we have learned about programming the introduction of tests into new settings.

Five of the lessons learned from the experience in Africa are pertinent to the proposed project:

Lesson 1: The introduction of a testing activity should be based on a comprehensive plan that enumerates the developmental steps and shows how each will be accomplished.

Application: Because of the variety of new problems to be anticipated in other regions, the experience available from the Africa studies provides only part of the detailed information a specific work plan requires. Thus, we can predict that only minor revisions will be needed in the non-verbal tests, but can say nothing about the verbal tests that have so far been based on a world language. When these are cast into a quite different language (e.g., Vietnamese), will a simple translation suffice? Will much new research be required? Will a systematic word-count have to be done? These questions, and the many related questions on such statistical issues as norms and such practical problems as examinee motivation cannot be answered in advance for substantially different cultures.

Implications: To enable detailed planning of testing projects in other regions, research to supplement the Africa findings will have to be conducted.

Lesson 2: A second ingredient of the advance planning must be that of the institution-building activities also to be undertaken. This will be the critical final step of the project, and planning should be carried through to the ultimate objectives.

Application: The information on institution-building requirements available from the Africa studies is fragmentary, but underscores the importance of this problem. The host government and the Agency must know what decisions will be required, what contributions will be expected, what issues will have to be resolved, what time-schedules can be established. The technician must know what kinds of data will provide answers to these questions and where to obtain it, and must be sensitized also to the portents of special problems. Because different settings vary so greatly in supportive philosophies, personnel, and institutions, a broad base of information about the ingredients of progress in this area will be required.

Implications: The need for enabling research encompasses not only technical but also institution-building problems, and the collection of information about the latter should be explicitly included in the programming of such research studies.

Lesson 3: Research of the above type (i.e. research that precedes the actual test applications) is difficult to fund under bilateral project agreements. It is only when the effectiveness of the tests has been demonstrated and an application project is "ready to go" that a full commitment of local resources can be expected.

Application: In Africa, support for aptitude testing was initially confined to the top professional levels, and the confidence of the politicians who would have to endorse an operational project and of the teachers and administrators who would have to implement it had to be won. The pattern of regional funding that at first required minimal host government contributions proved to be an excellent vehicle for generating the evidence that later sold the project at the policy-making and operational levels. Since evidence assembled in Africa is likely to carry less weight in other regions, a similar demonstration period is likely to be required as a prerequisite to bilateral projects in which the host government contributes its full share.

Implications: Enabling research should be conducted as an Agency project that in the initial stages requires minimum host government contributions.

Lesson 4. Such research need not and should not be conducted in every country to which the project will be extended. It would be wasteful to discover and rediscover the same truths in many different locations.

Application: The enabling research in Nigeria required more than two years. But the generalizeability of the findings was such that they could be adjusted to Liberia in only three months. And the combined Nigeria-Liberia findings are providing an improved basis for even more rapid application in other African countries. The same phenomenon is to be expected in other regions, and a similar pattern of "begin with one model country" programming may help to minimize the initial research investment.

Implications: Enabling research should be limited to one model country from each of the regions.

Lesson 5: The choice of model country is critical not only in the conduct of enabling research but also in the implementation of the test applications throughout the entire region.

Application: Nigeria was an excellent choice as the model country for the Africa research studies. She constituted a good "laboratory" for the initial research, had the resources to develop an outstanding testing institution, generated data that was acceptable in other African countries, and is now serving as a resource unit to back-stop fledgling activities throughout the region. Since these functions will also be required in the other regions, the selection of model countries should prove equally important.

Implications: In selecting model countries, both the internal resources (in government, the USAID Mission, other supportive institutions) and the international position of the country should be carefully evaluated as the basis for the decision.

#### B. Approaches and Objectives

In accordance with the above conclusions, therefore, it is proposed that world-wide expansion of the AID-AIR Testing Project begin with a period of enabling research carried out in a sample of three model countries. The specific objectives of this research would be to

- 1) Obtain the requisite information on the technical and institution-building requirements for effective application of the I-D tests in the Near East, Far East, and Latin America Regions.
- 2) Pool this information with similar data now being assembled in Africa to produce a comprehensive manual that will enable technicians effectively to

- a) plan and
  - b) implement
- testing projects throughout the developing world.
- 3) Install, as a by-product of this research, operational testing programs in each of the model countries, and thereby
  - 4) Provide resource units to foster and back-stop new testing programs in other developing countries throughout the world.

#### IV: OPERATIONAL PLAN

To accomplish the above objectives, an eighteen-month project is proposed. Activities would be divided into three phases as follows:

##### Phase 1: Planning and Preparations (March-June 1965)

Most of the activities during this phase would be carried out in the home office. They would include, but not be limited to

- 1) Review of experiences in Africa to generate a first draft of the manual on the planning and installation of I-D testing programs. This first draft will probably consist largely of a table of contents with a few sections filled in, but will represent the first consolidation of the Africa experiences from this point of view.
- 2) Conferences with consultants who have had experience with institution-building in a variety of settings to produce a second draft of the above manual based on such further

assumptions and hypotheses as can be added to the initial version. Included in this second draft will be a tentative check-list of information to be assembled and activities to be undertaken in installing I-D testing programs.

- 3) Conferences with knowledgeable Agency and State Department officials to generate a list of countries considered suitable as model countries for the conduct of the research.
- 4) Site visits to each of the proposed countries to make the final selections. In view of the critical nature of this decision, it may be desirable to assign to this task a three-man team consisting of the Project Director, the A.I.D. liaison officer, and an outside consultant.
- 5) Recruitment, processing, and orientation of field staff, to consist of one experienced technician for each of the three countries included.

#### Phase 2: Field Studies (July 1965-June 1966)

The field activities to be carried out in each of the three countries during this phase would include

- 1) Formation of local Advisory Committees to assist with the project,
- 2) Research on the adaptation of the I-D testing procedures
- 3) Collection and recording of data on institution-building needs and solutions,



- 4) Revisions and additions to the draft of the manual,
- 5)
- 6) Counterpart and (the beginnings of) participant training and
- 7) Provisions for the establishment of permanent testing institutions.<sup>1</sup>

While these activities are underway, the information generated in three countries (and in Africa) will be compiled in the home office, and incorporated in successive drafts of the manual. At the midway point in the project, a working conference of the Project Director and field staff would be held in Lagos to consolidate the data assembled.

Phase 3: July-August 1966. As a result of the progressive development of the manual throughout Phase 2, it should be possible to complete this work within two additional months in the home office. Each field technician will, in addition to his contributions to the text, be responsible for a case history of his study, and these will be appended to the manual as specific illustrations.

#### V: FACILITIES AND PERSONNEL

The American Institute for Research was founded in 1946 as an independent non-profit organization with the aim of contributing to human welfare through research in the behavioral sciences. In the

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<sup>1</sup> It is assumed that the cooperating USAID Missions will provide for continuing bilateral assistance in their program submissions, and that arrangements for a suitable project agreement can be completed by June 1966. Should this prove impossible in one or more of the model countries the field phase in that country will have to be extended to permit conclusion of these arrangements. This should not affect the schedule of activities for the other aspects of the work.

eighteen years since that time, the organization has carried out more than 400 research projects, and has built a reputation for efficient management in the solution of significant problems.

At present, AIR maintains permanent research facilities in Pittsburgh, Washington, D.C., Palo Alto, and Los Angeles. In addition, AIR testing centers have been established in eleven major cities throughout the United States.

As the Contractor who has carried out the I-D development projects since their inception, AIR brings substantial experience of the most direct kind to the proposed research and development studies. The additional related experience of the Institutes includes numerous test development projects for the Department of Defense and other government agencies, for foundations, and for private industrial concerns. Included among these projects are such other pioneering ventures as Project Talent which is trying to obtain definitive information on the identification, development, and utilization of human talents, based on a twenty year follow-up study of 440,000 American high school students.

The proposed research would be under the general supervision of Dr. John C. Flanagan, President. Dr. Flanagan is a recognized authority in the testing area, and has published numerous original contributions in this field. He is also the author of the Flanagan Aptitude Classification Tests for vocational guidance, and the Tests of General Ability for measuring intelligence without the use of verbal test materials.

The Project Director will be Dr. Paul A. Schwarz, Director of the AIR Cross-Cultural Research Program and Chief of Party of the AID-AIR Project in Nigeria from 1960 to 1964. It is planned that Dr. Schwarz will be headquartered in Pittsburgh during the proposed project and

will spend up to one-half of his time on project activities. The extensive experience in African testing which Dr. Schwarz brings to this study provides an invaluable background for the proposed study.

Additional personnel will be selected from AIR's permanent research staff and/or from outside the Institutes, in consultation with Agency staff.

## VI: COST ESTIMATES

The budget figures on the following page are based on a number of assumptions, as follows:

- 1) The U.S.A.I.D. Mission in each model country will provide outside the scope of the contract housing, office space, and local transportation as required by the technician; and the costs of any participant training element that may be added.
- 2) The host governments will provide counterparts and local staff as appropriate and as arranged for in advance of the field phases.
- 3) The "average" technician assigned to this project will be at the professional level of Senior Research Scientist, married, with approximately three children.
- 4) The average distance from the technician's home to the model country will be roughly equal to the distance from Chicago to Manila. The average rate of overseas differential will be twenty percent.

When actual information on these items becomes available, the budget figures will have to be correspondingly revised.

Estimates of Cost (1 March 1965-31 August 1966)

1. Salaries including leave

Home Office Staff (Professional)	\$17,500
Home Office Staff (Clerical)	6,000
Field Staff (15 months of which 12 overseas)	62,000
Consultants	6,000
	<u>\$91,500</u>

2. Allowances

Differential (20 percent field salaries)	\$ 9,000
Post Allowance	6,000
Education Allowance	6,500
	<u>\$21,500</u>

3. Travel and Transportation

U.S. Travel and Subsistence	
--Staff Travel (incl. orientation)	\$ 2,000
--Consultant Travel	2,500
International Travel and Subsistence	
--Family Travel (to and from post)	11,300
--Field Survey (Proj. Dir. and Consult.)	7,200
--Working Conference (in Lagos)	5,500
Shipping and Storage	
--Personal Effects	8,000
--Automobiles	3,000
	<u>\$39,500</u>

4. Equipment and Supplies

Testing Materials	\$15,000
Office and Printing Supplies	3,500
Shipping	2,500
	<u>\$21,000</u>

5. Insurance and Retirement

\$ 8,000

6. Miscellaneous Expenses

Printing and analysis services	\$ 5,000
Postage and Communications	1,000
Forwarding and Local Delivery	500
Medical, Passports, Etc.	350
Other Out-of-Pocket	750
	<u>\$ 7,600</u>

7. Overhead

Home Staff (60% of Salaries and Leave)	\$21,500
Field Staff (30% of Salaries and Leave)	15,000
	<u>\$36,500</u>

8. Organizational Development \*

\$13,500

TOTAL COSTS

\$239,100

\* These funds are to enable AIR to expand its facilities and research programs through capital investments, in-house research, and other activities not reimbursable under direct and indirect contract costs. Since AIR is a non-endowed non-profit organization, this need has been recognized by the Department of Defense and other government sponsors, and a separate cost category equal to six percent of direct and indirect costs has been authorized to meet organizational expenses.

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Parsons (Chair)  
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SUMMARY OF MICHIGAN STATE UNIVERSITY PROPOSAL  
A COMPARATIVE STUDY OF FOOD MARKETING SYSTEMS  
IN LATIN AMERICAN COUNTRIES IN EARLY STAGES OF ECONOMIC DEVELOPMENT

Principal Investigators: Dr. Charles C. Slater  
Dr. Harold M. Riley

Estimated Cost: (Original) \$917,384  
(Revised) \$398,099

Duration: (Original) Three and one-half years  
(Revised) Two and one-half years

1. Background

This proposal is the result of extensive discussions with A.I.D. staff in Washington and the field. The research was originally planned to link up with a projected Colombian loan program designed to foster new marketing institutions and techniques in wholesale and retail foodstuffs. Although the proposed Colombian loan has been shelved, the Michigan State University team has maintained its interest in doing the research. After spending several weeks in Latin America consulting with local and with U.S. food marketing and other specialists, and exploring possible collaborative arrangements with Latin American universities and research institutions, the MSU team recast its original proposal. This was considered at the November 10 ASAG meeting and certain changes were suggested. The current proposal is in response to these suggestions.

2. The Proposal

The statement of the problem indicates that high food costs, the largest single expense item for the majority of urban families in Latin America, are directly attributable to inefficient assembly, marketing and distribution methods. These high costs do not call forth increases in food production because of market uncertainty and risk to the producers and distributors occasioned by inadequate communication of supply, demand and price information. The widely differing levels of productivity in the urban and rural sectors and the absence of effective institutional and operational linkages between the two sectors constitute major obstacles to balanced national growth.

The research goal is to identify practical means for improving the food marketing systems in Latin American countries still in the early stages of economic development through the provision of background information and analysis. The five explicitly stated objectives are:

1. to measure and analyze changes in the food marketing system of the San Juan, Puerto Rico area over the past 15 years;
2. to describe and analyze the food marketing system of a major urban area in Colombia;



3. to identify critical marketing problems and evaluate alternative means of improving the system in the selected Colombian area;
4. to develop research methodologies useful in appraising marketing problems in other Latin American countries and possibly other areas of the world;
5. to draw inferences and formulate hypotheses concerning the role of food marketing in countries in the early stages of economic development.

The MSU team proposes two phases of research to reach the objectives. The first phase addresses itself to identifying changes over the past 15 years in the San Juan food marketing system, the factors responsible for the changes, and the effect of the changes on the economic environment. The Puerto Rican work will also include a study of communication networks utilized to spread marketing information, a study of the process of adopting marketing innovations, and an overall analysis and evaluation of information gained in Puerto Rico. At the conclusion of the first phase, MSU proposes a symposium to review the work to date and to transmit the conclusions of the studies to key USAID staff and Latin American government planning officials, interested businessmen and researchers.

The second phase of the research will study a rapidly growing urban area in Colombia. It will include a descriptive analysis of the existing marketing system, a study of the communications network for supplying marketing information, an identification of innovators in the marketing process, and will conclude with an analysis and evaluation of the above information based on the Puerto Rican study. Another symposium is planned for the termination of phase two.

### 3. Specific Changes in Response to ASAG Suggestions

The cost has been pared from \$917,384 to \$398,099 and the time duration shortened from 42 to 30 months - allowing 12 months for the first phase and 18 months for the second. The broad hypotheses to which ASAG members objected have been replaced by the five objectives mentioned above.

The phases of the work have been subdivided into work areas with time percentages allocated to each and within which tasks have been defined to address specific questions. For example, in exploring market structure (involving 40% of the effort in each phase) studies of consumer buying patterns, size and type of retail outlets, and gross margins will involve sample surveys as well as selected statistical data. Within the area of communications (15% of the effort in phase 1, but 25% in phase 2), interviews with growers, truckers, central market jobbers, and others concerned with distribution will be held to ascertain their price and supply information and their confidence in these estimates.

#### 4. Personnel and Cooperating Institutions

The multidisciplinary team will be led by Professor Charles C. Slater of the College of Business and Professor Harold M. Riley of the College of Agriculture. A principal collaborator will be Dr. John T. McNelly of the College of Communication Arts. A list of some twenty senior faculty members from numerous departments who have indicated a desire to participate is included. MSU doctoral candidates will also be utilized.

In phase one, Dr. Raphael de Jesus, Director of the Social Science Research Center of the University of Puerto Rico and members of his staff will participate. In phase two, tentative arrangements for collaboration have been made in Colombia with Dr. L. Lorinez, Director of the Latin American Agricultural Marketing Institute, with the National University and with the Center for Economic Development Studies at the University of the Andes.

December 10, 1964

A COMPARATIVE STUDY OF FOOD MARKETING SYSTEMS  
IN LATIN AMERICAN COUNTRIES IN EARLY STAGES OF ECONOMIC DEVELOPMENT

A Research Proposal Being Submitted to United  
States Agency for International Development

by the

Latin American Studies Center  
at Michigan State University  
East Lansing, Michigan

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Tentatively Planned Phasing of the Project

Proposed Budget

TITLE: A Comparative Study of Food Marketing and Its Role  
in Latin American Economic Development

DURATION: To be started on March 1, 1955 and continue for a  
period of two and one-half years.

Summary:

1. There has been an increasing disparity in growth rates between the rural and urban sectors in many countries in the early stages of economic development. This condition is particularly evident in Latin America. It is hypothesized that the creation of more effective marketing systems would contribute substantially to self-reinforcing agricultural and industrial expansions and an acceleration in overall rates of economic development. Food marketing is a dominant component of the marketing system in these countries where the bulk of the urban population spends approximately one-half of their income for food. In the rapidly growing urban areas marketing services make up a large and increasing proportion of total food costs.
2. A central purpose of this project is to identify practical means of improving food marketing systems in selected Latin American countries. An immediate goal of this research is to generate background information and to provide analysis useful in guiding investment decisions and institutional reforms in food marketing that will more effectively coordinate the urban and rural sectors of the countries studied. A longer term goal is to increase the understanding of the food marketing process and the effects of

of changes in food marketing on other segments of the economy. If successful, marketing reforms based on this research would stimulate an expansion in agricultural output and would provide consumers with more dependable supplies of higher quality foods at reasonable prices.

3. The leadership for this project will be centered in an interdisciplinary research team from Michigan State University composed of representatives from the College of Business, College of Agriculture, and the College of Communication Arts.
4. There are two main phases in the plan of work. Phase one will be an evaluation of the changes that have occurred in the food marketing system serving San Juan, Puerto Rico where significant changes have been fostered by a fomento organization. Phase two will be a detailed evaluation of the food marketing systems serving a fast growing urban center in another country, such as Colombia, drawing on the Puerto Rican experience in designing the research and in evaluating the results.
5. The results of this research will be made available to USAID and other participating agencies through periodic reports, a continuing series of publications on specific segments of the research, through organized seminars, and through a final comprehensive report at the end of the project.

#### The Problem

Marketing has received relatively little attention from economic planners and technical assistance programmers in countries in the early

stages of economic development. Richard Holton has given three reasons for the relative neglect of the distribution system--(1) Development agencies are more interested in increasing the production of material or physical goods because these are easily equated with increasing the real standard of living while distribution functions produces services which are difficult to quantify. (2) Inefficient marketing systems afford a dole for the unemployed--with which governments dislike tampering. (3) In the past economists have been predisposed to ignore the economics of marketing and to overlook the possibility of increasing real per capita income simply by improving the distribution system.<sup>1</sup> George Mehren has stated that "The food and agricultural industries are quite clearly the primary centers for economic development," yet he asks, "Why in all economies, are (these industries) the least and last developed--?"<sup>2</sup>

Leon Hirsch has argued that the lag in the evolution of markets is partly due to the low regard for marketing as a profession in many economies; the lack of understanding of the marketing function in low income countries; and the difficulties in transmitting marketing institutions and skills through technical assistance programs from the more advanced countries.<sup>3</sup>

During the post World War II period there have been significant shifts in viewpoints on how to generate economic development. Witt observes that there has been a shift in emphasis toward "balanced" efforts to stimulate simultaneous growth in both the urban and rural

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<sup>1</sup>Richard H. Holton, Marketing Structure and Economic Development, Quart. Journ. Econ. Vol. 67, Aug. 1953, pp. 344-61.

<sup>2</sup>George Mehren, Marketing Organization and Economic Development, Jour. Farm. Econ., Vol. 41, No. 5, Dec. 1959, pp. 1307-15.

<sup>3</sup>Leon V. Hirsch, The Contribution of Marketing to Economic Development--A Generally Neglected Area, Proceedings of the Winter Meetings of the Am. Mkt. Assoc., Dec. 27-29, 1961. pp. 413-18.

sectors of the economy as contrasted to emphasis on industrialization as the strategic element in the development process.<sup>4</sup> This emphasis on the "Balanced growth" doctrine is reflected in the recent statements of Walter Rostow on the creation of "national markets."

Rostow states that in many poor countries where development has already passed from the first stage, there are typically structural distortions in which the following conditions exist:<sup>5</sup>

1. There is some industrial capacity, usually developed to substitute for the import of certain kinds of consumer goods.
2. The market for most of these manufactured goods is narrow, textiles being an exception.
3. Although some agricultural development is taking place, the gap between rural and urban life is widening.
4. As a result of this imbalance, men and women flock from the countryside to the cities where there is insufficient industrial momentum to provide full employment.

The problem, as Rostow identifies it, is to break down these structural distortions; to produce a self-reinforcing agricultural and industrial expansion; and to create truly national markets within these countries. He outlines four main tasks that should be done simultaneously as part of a conscious national strategy shared by both public and private authority:

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<sup>4</sup>L.W. Witt, Role of Agriculture in Economic Development: A Review, for the coming article, Journ. of Farm Econ., Feb. 1965.

<sup>5</sup>Walter Rostow, View from the Seventh Floor, Harper & Row, 1964, See Ch. II - "How to Make a National Market" pp. 132-44.



The four tasks are --

1. A build-up of agricultural productivity.
2. A revolution in the marketing of agricultural products.
3. A shift of industry to the production of simple agricultural equipment and consumer goods for the mass market.
4. A revolution in the marketing methods for such cheap manufactured goods, especially in the rural areas.

The conditions described by Rostow and the tasks he has outlined seem particularly applicable to many countries in Latin America. Throughout most of this area rapid population expansion and urbanization are placing increasing pressures on food supplies.<sup>6</sup> Inadequate production and/or poor management of food inventories have frequently contributed to inflationary price spirals and political unrest. A recent example occurred in Colombia in 1963-64 when food prices rose 76 percent in 19 months while the overall consumer price index rose 62 percent during the same period (Dec. 1962 - June, 1964).<sup>7</sup> The relative importance of food and food prices is emphasized by the fact that low income families making up a dominant proportion of the urban population spent from 45-75 percent of their disposable income for food. Hence, marketing reforms which bring about changes in the availability and price of food can have a substantial effect on the welfare of consumers and on their potential productivity as workers.

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<sup>6</sup>The State of Food and Agriculture 1962, FAO of the United Nations, Rome. See also, Food Balances for 24 Countries of the Western Hemisphere, 1959-61, ERS, U.S. Department of Agriculture, ERS Foreign 86, 1964.

<sup>7</sup>Boletin Mensual de Estadísticas, Departamento Administrativo de Estadísticas, Agosto, 1964.

In addition it seems reasonable to expect that marketing improvements that provide more dependable market outlets and more stable prices would encourage an expansion in farm production and the commercial sale of an increasing marketable surplus over and above subsistence needs. This in turn would lead to expanded economic activity in food processing and distribution and would contribute to economic growth and political stability.

We have stressed the strategic importance of marketing reforms as part of an overall strategy for attaining balanced economic growth. At present relatively little is known about how to develop improved food marketing systems in countries in the early stages of development. The proceedings of the agricultural marketing seminars sponsored by USAID in Jamaica (1959) and in Brazil (1962) are evidence of the general lack of knowledge about marketing conditions and the means for improving markets in Latin American countries.<sup>8</sup>

A sizable research effort is needed as a basis for effective planning and direction of marketing improvements. This project will be an attempt to make intensive comparative studies of food marketing in two countries. In one, Puerto Rico, there is an opportunity to evaluate the results of a 10-year program of accelerated development in food marketing. In the second country, (probably Colombia), we will

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<sup>8</sup>Development of Agricultural Marketing and Cooperatives in Latin America and the Caribbean, Report of a Seminar held at Kingston, Jamaica, November 2-13, 1959, International Cooperation Administration. See also Latin American Seminar on the Marketing, Storage and Processing of Agricultural Products, Rio de Janeiro, Brazil, 1962, Sponsored by the Government of Brazil and U.S. Agency for International Development.

draw upon the results of the Puerto Rican study in designing and carrying out a research program to describe and analyze the food marketing system of a region dominated by a major city. (such as Bogota, Medellin, or Cali.) The research results would be used to identify major marketing problems and to assist in the formulation of recommendations for marketing improvements. If this approach is successful, similar studies should be planned in other countries in Latin America and in other areas of the world where inadequate marketing systems may be major deterrents to economic development.

### Objectives

The central purpose of this project is to identify practical means of improving food marketing systems in Latin American countries still in the early stages of economic development. The goal of this research is to provide background information and analyses useful in planning marketing reforms that will more effectively coordinate the development of the rural and the urban sectors of these growing countries. If successful, these marketing reforms would stimulate an expansion in agricultural output and would provide consumers with more dependable supplies of higher quality food at lower prices. Operationally the specific objectives of the project are as follows:

1. To measure and analyze the changes that have taken place in the food marketing system of the San Juan area in Puerto Rico over the past 15 years.
2. To describe and analyze the food marketing system of a selected market area in Colombia.

3. To identify critical marketing problems and to evaluate alternative means of improving the marketing system in the selected area of Colombia.
4. To develop research methodologies useful in appraising marketing problems in other Latin American countries and possibly in other areas of the world.
5. To draw inferences and to formulate hypotheses concerning the role of food marketing in countries in the early stages of economic development.

#### Plan of Work

#### Organization and Approach

This research plan has been developed and will be carried out by a team composed of representatives from three disciplinary areas at Michigan State University--food marketing (College of Business); agricultural marketing (College of Agriculture); communications and the sociology of communications (College of Communication Arts).

The initial efforts to organize this project led to an extensive search of the literature and the preparation of an annotated bibliography. Also, in mid-1964 a reconnaissance trip was made to Puerto Rico and Colombia by a three-man delegation from M.S.U. to gather additional information for project development.

The principal field activities in carrying out the objectives of this project will be intensive case studies in Puerto Rico and Colombia. It is anticipated that additional studies will be made in other countries as a follow-up to this project as a means of further testing the validity of some of the generalizations growing out of this

investigation and to further assess the importance of social and cultural backgrounds and level of economic development on market organization.

Puerto Rico has been chosen as the geographic location of the first major case study. Here there is a unique opportunity to observe and evaluate the rapid changes in the food marketing system that have occurred over the past 15 years. The usefulness of this approach is greatly enhanced by the possibility of comparing 1965 conditions against the results of a detailed study made in the early 1950's by Harvard University and the Social Science Research Center of the University of Puerto Rico.<sup>9</sup>

The process whereby modern food retailing and wholesaling establishments were brought into successful operation by a special fomento organization can be examined and the experience summarized for possible application in other developing countries. In this regard it is believed that the Puerto Rican experience is more directly applicable to Latin American countries than similar development in mainland USA where social and cultural environments differ from those of Latin America and where there are great differences in the economic status of the mass of consumers. In addition, the Puerto Rican study will provide a valuable opportunity to develop techniques and to train personnel for work in Colombia and other countries. The potential success of this study will be greatly enhanced by the arrangements that tentatively have been made for the joint participation of the Social Science Research Center at the University

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<sup>9</sup>One of the major published reports from this study was the book, Marketing Efficiency in Puerto Rico, by John Galbraith and Richard Holton, Harvard University Press, 1955.

of Puerto Rico with financial support from the Department of Commerce of the Commonwealth of Puerto Rico.

Colombia has been tentatively selected as the second country for intensive investigation. Attention would be focused on the food marketing system in a region dominated by one of the major cities (Bogota, Medellin, or Cali). Several reasons underlie the selection of Colombia as a desirable area for a food marketing research program.

First, Colombia has been exerting substantial effort to accelerate their economic development and have been one of the leading Latin American countries in their efforts under the Alliance for Progress.

Second, there has been a significant effort to expand agricultural production through the development of an agricultural research program aided by the Rockefeller Foundation. USAID has also given technical assistance in the development of agricultural education and extension and more recently through loans and technical assistance in the area of land reform and other special projects.

Third, Colombia has already made substantial investments in their transportation network and are currently considering a major expansion in storage capacity for agricultural commodities.

Fourth, Michigan State University has been actively involved with the National University of Colombia since 1952 and has developed strong working relationships with the agriculturally related institutions in that country. Since 1960, the Department of Agricultural Economics at MSU has had a continuing research program in Colombia.

Fifth, the recently created Latin American Agricultural Marketing Institute (ILMA) sponsored by the FAO has established their headquarters

in Bogota. There appears to be significant advantages in coordinating our proposed research with the efforts of ILMA both from the point of view of short term benefits in expanding the scope of the investigations and through long-term benefits of having an established institution in a position to follow up with educational programs and additional research.

Sixth, the University of Wisconsin Land Tenure Center has established a major research operation in Colombia and has already carried out a number of studies in the agrarian sector. Coordination with the University of Wisconsin program has been facilitated by the creation of a consortium of four mid-western universities under a grant from the Ford Foundation. The purpose of the consortium is to better coordinate the international involvements of the four universities. (Indiana, Michigan State, Illinois, and Wisconsin).

The research program has been divided into two major phases, Phase I being the Puerto Rican Study and Phase II the study in Colombia.

#### Phase I--A Study of the San Juan Market Area.

Four work areas are now being planned. However, these may be amended after further consultation with staff members at the University of Puerto Rico.

#### First Work Area - An Analysis of Changes in the Food Marketing System

The purpose of this area of work is to seek answers to the following questions.

1. What were the conditions which existed in food marketing and in the overall economy in the early 1950's? Subparts of this question will be concerned with the structural characteristics of the market, the behavioral patterns of market participants and the market results in terms of marketing costs and services.
2. What were the strategic events in the organization and operation of the food marketing Fomento program?
3. What changes have taken place in the structural characteristics and the performance of the San Juan food marketing system since the early 1950's?
4. To what extent have these changes been associated with the Fomento program? How do the changes relate to basic changes in the economic environment?

The specific research activities will include the following:

1. A careful evaluation of the results of the 1950 study of food marketing in Puerto Rico, using published reports and other records on file at the Social Science Research Center at the University of Puerto Rico.
2. A documentation of the overall pattern of economic growth in Puerto Rico, based upon secondary data.
3. The history of the food marketing fomento program would be derived from project records, other secondary sources and through personal interviews with project personnel and participants in the food industry.
4. A series of surveys would be conducted to provide data useful in gauging the extent and nature of changes in the food marketing



system since the 1950 study.

A consumer survey to measure changes in food buying patterns, practices and attitudes and to relate these to household characteristics.

A retail store survey to measure changes in the number, size, and type of stores, the services offered, and the gross margins on major food items.

A survey of wholesalers to determine the line of products handled, types of services provided, volume of operations and gross margins.

A survey of processors and assemblers to determine buying and selling practices and the costs of their services.

#### Second Work Area

A study of the communication networks for information concerning prices and supplies at each step along the assembly and distribution channels serving the food shed. The field work for this phase of the study will be coordinated with the other work areas. In addition, there would be the opportunity of developing and testing advanced techniques for the study of mass and interpersonal communication variables which would be applied more extensively in the second phase of the project in another Latin American food shed.

The primary effort in this work area during the Puerto Rican phase of our study will be to develop methods of measuring the communication network, and measuring how their relatively advanced communications system now operates. Bearing in mind that the communication has developed rapidly from a situation which currently

exists in many Latin American areas.

Later comparisons will be made with the communication system in the area studied during the second phase of research.

This research will be designed to answer questions such as these:

1. What are people's levels of awareness of present and future price, quantities and qualities of various food stuffs flowing to the market?
2. Are their expectations biased as to price levels or changes in price levels?
3. To what extent is their market behavior affected by their knowledge and expectations as to prices and supplies? Do those who have accurate knowledge and expectations behave more rationally? Do farmers with distorted attitudes and errors in information tend to place more reliance on subsistence farming?
4. Do improvements in formal communication systems such as radio market information programs displace informal channels?

Investigative approaches would include:

1. Identification of the mass and interpersonal channels of information used by the above-mentioned groups involved in the marketing process. This would entail the adaptation of interview techniques developed and tested in numerous previous studies of communication exposure. Comparable data from cities in the United States, Latin America and elsewhere would provide indications of the similarities of communication patterns found in this study.

2. The simultaneous interviewing of growers, truckers, central market jobbers, wholesalers, retailers and consumers about the price and supply conditions of specific commodities. Their estimates and their confidence in these estimates are important in establishing the risk penalties they demand of the market.
3. Examination of the diffusion of specific items of information through the social structure. This would provide tests of the actual performance of both formal and informal channels identified by the various groups in the marketing process.

#### Third Work Area

A study will be made of the process of adoption of marketing innovations. Some of the groundwork for this area of investigation will have been provided by the study of communication networks. A growing body of empirical findings and methodology from diffusion research in agriculture, medicine and other fields can be utilized in this study. Certain economies in this part of the project will result from the utilization of attitude measurement and other techniques already in various stages of development by Michigan State University colleagues in Colombia and elsewhere. Further testing and adaptation of these techniques in San Juan provide even more advanced methodological tools for use in the second phase of the project.

The experience in Puerto Rico has been that certain businessmen adapted to the change in marketing opportunities by reducing margins, broadening lines and simplifying sales procedures. Others did not.

Many of the successful firms of fifteen years have since lost market position and been replaced by others. All along the line of supply we would like to know the personal attributes that led to adaptiveness and survival as opposed to the qualities that led to conservative posture and ultimately, failure. The same qualities that lead to early adoption among farm and medical groups may apply here. If so, a powerful insight can help guide investment planning and judgments of lenders in evaluating candidates for support. The situation in Puerto Rico appears to be a unique opportunity to develop these measures in the process of diffusion of marketing innovations.

The following areas of inquiry would be involved:

1. The identification of innovators and early adopters in their use of new marketing methods or acceptance of new or differentiated products, at various levels along the market channels from farm assembly markets to consumers.
2. Analysis and comparisons of social and psychological characteristics in order to contrast the demographic and personality attributes of the innovators and other groups in the adoption process.
3. Job histories of people working all along the marketing channel now as well as job histories of a sample of those who have left the food business in the past 15 years.
4. Assessment of the innovations under study with regard to such characteristics as cost, complexity and relative advantage. Such an assessment would be particularly useful in this context because of the wide variability of marketing innovations on

such characteristics; in diffusion studies in other areas, such as farming, the innovations at issue have tended to represent a narrower range of advisability and feasibility. This part of the study would provide data of much utility in selecting and analyzing innovations to be investigated in the second phase of the project. On the basis of the above data an assessment will be made of the factors that were important in the diffusion of innovations in marketing.

#### Fourth Work Area

Analysis and evaluation of market and social information gathered in the previous three work areas.

The analysis of the changes in the food marketing system in Puerto Rico will be focused on developing methods to expand basic understanding of food marketing in developing economies; of equal significance is to provide practical guidance for investment and institutional reforms based on the research.

The more immediate goals are then to evaluate the history of payoffs to certain kinds of investments such as transportation systems and institutional reforms and educational activities whether promoted by Fomento or by private resources. The effects of these investments would be measured in terms of the experience over the past fifteen years of:

- improved nutrition among urban people
- income redistribution due to reduction in food costs as a share of income of the lower income urban people

- improved farm incomes
- capital growth and profitability of food marketing operations from processor, transporter, to marketer.
- social effects upon existing employment and enterprises of reforms in food marketing

The methods of analysis will draw heavily upon the first three work areas and examine the historical and limited experimental data from the San Juan food marketing system.

1. A description of the cost structure of food marketing now versus 1950 will be used to evaluate institutional reforms and other actions which have led to both desirable and undesirable change. A decision model of the food sector of the metropolitan area economy will be utilized.<sup>10</sup>

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<sup>10</sup>The application of simulation techniques to the problem of evaluating food marketing systems in developing economies presents some special difficulties.

1. Since the food sector of the economy accounts for a significant share of the total disposable income - the interaction of the food sector with other sectors of the economy probably should not be ignored.
2. The available simulation models of a developing economy, such as Jay Forrester's DYNAMO Model, do not provide sufficient detail to break down the changes in the food sector that merit consideration in the assessment of the impact of investment or institutional reforms upon the food sector of the economy. Since the model formulations, such as those presented by Holland and Gillespie (MIT Press-1963) break up the food sector of the economy into the agriculture sector and several industrial sectors, the manipulation via the equations presently formulated may prove impractical.
3. The data for sectors of the economy, other than the food sector, very likely will not be available at the time our study is being conducted in Puerto Rico and Colombia. Therefore, even if the problems mentioned in 2 above were overcome, the application would be likely impractical, if not impossible.

We are therefore confined to application of a less complete analysis of the impact of changes in the food sector upon the economy. In order to estimate the payoffs of investments and institutional reforms in the food sector, a simple decision model will be applied. Alternative investment and/or institutional reforms can be assessed in terms of the consequences of various responses to the actions taken. The weighting of these responses can be made a matter of estimated probabilities-drawing on our studies to estimate responses and assign probabilities.

2. A profile of successful marketing institutions will be developed, identifying the contributions of traditional economic factors and the role of executive and buyer personality. These results will be useful in future study.
3. The communication networks will be evaluated to try to assess the functional improvements as well as disfunctional changes in the system over the past 15 years.

Before the work in Puerto Rico is completed, but as the essential conclusions are emerging for final appraisal, a symposium on food marketing will be held. The various research and development agencies, major food marketing organizations, and government planning agencies should be invited to send staff members to work sessions. The groups should probably be kept small enough to insure full communication but representative of the wide range of study and development work concerned with agriculture and food marketing. The purposes of these seminar sessions will be to transmit the useful conclusions of the studies to USAID staff members, Latin American Government planning officials, as well as researchers and businessmen interested in utilizing these results in community investments other than those being directly studied in this project.

It is anticipated that the University of Puerto Rico staff members as well as the Commonwealth Department of Commerce staff members will want to exploit these findings to create new institutions and start action programs and demonstration projects to further speed the food market developments of Puerto Rico. To identify further institutional reforms likely to improve efficiency of the Puerto Rican food industry would be one of the outcomes of this phase of the study. No part of

the USAID funds would be devoted to support this development of marketing within the Territories of the U.S. However, demonstration programs and development projects would be worth watching closely to further understand how the information results of the project can be utilized in the second phase of this study.

## Phase II

### The Study Program for a Rapidly Growing Latin American Metropolitan Area Such as Bogota, Medellin or Cali, Colombia

The methods of study generated in Puerto Rico will have many applications in other developing communities. Several rapidly growing urban areas in Latin America (such as Bogota, Medellin or Cali) offers excellent opportunities to study the food marketing system. In addition to the development of the specific studies for the metropolitan area food shed, efforts will be made to enhance the interdependence of this work with that now going on in the many agencies throughout the country selected. Four areas of research are visualized at this time. These research projects would parallel the studies conducted earlier in Puerto Rico. The methods developed in Puerto Rico would be vital to the conduct of these second phase studies.

#### First Work Area

Description and analysis of existing market organization and institutions.

Answers would be sought for the following questions:

1. What are the sociological and economic characteristics of urban consumers? What are their food buying habits? What are their



- beliefs and attitudes concerning food, nutrition, and existing market conditions?
2. What are the aggregative good consumption characteristics within the selected market area? What are the nutrition levels among sub-groups of the population?
  3. What are the marketing channels for the major commodities?
  4. What are the structural characteristics of commodity markets? What processes and practices are being used? How do these relate to available technologies?
  5. What are the approximate marketing margins for the major food products and what are the variations in margins among different methods of handling and distribution?
  6. What are the government regulations and policies that have an important bearing on food marketing? To what extent are regulations enforced?
  7. What are the price relationships over time, over space and for different forms of the same basic commodity?
  8. What have been some of the major innovations in food marketing in recent years and what are some of the factors associated with success or failure of these innovations?

The research activities will include the following:

1. A careful inventory of related research, either completed or in process, by other agencies operating in Colombia.
2. The preparation of a generalized over-view of the market area based upon secondary data and preliminary reconnaissance type field work.

3. The preparation of a more detailed plan of work including field surveys to generate needed data and information. Based upon present information the following field operations are being planned.
  - a. A consumer survey to supplement the data now available from a 1962 survey by the University of the Andes (CEDE).
  - b. A retailer survey patterned after the Puerto Rican study. This would include a study of the central public markets (galerias) and vendors.
  - c. Market channels and practices would be traced back from the central city to the farm producers through surveys of wholesalers, processors and assemblers.
  - d. Farmer surveys to evaluate their marketing problems and to ascertain the producer response to market improvements. This work would be related to and coordinated with studies by the University of Wisconsin Land Tenure Center, the studies by Dr. Everett Rogers (MSU) on farmer adoption of new technologies and the work of Dr. Richard Wheeler, an MSU agricultural economist, who has recently investigated farm organization and management in Colombia.
  - e. A study of public regulation and public participation in food marketing.
  - f. Case studies of selected marketing institutions such as cooperative organizations, and various forms of horizontal and vertical integration.

### Second Work Area

A study will be made of the communication networks of the supply channels serving the food shed of the metropolitan area. The methods developed in Phase I will be utilized to investigate mass and interpersonal channels more intensively than in San Juan. It will be possible to utilize existing market and communication situations, and even to create new situations, in order to provide field experimental settings. Data gathered in this study would provide a basis for assessing adequacies and inadequacies of existing channels of information with regard to the reduction of uncertainties which inhibit efficient marketing behaviors. It will be useful to measure differences in communications about price and quantities demanded under varying conditions of the market. Informational lags can be studied and their causes identified. It will be possible to study comparative advantages of various existing channels of communication--and of new channels not used before in the marketing process under investigation.

We will be able to draw heavily upon the experience of MSU personnel in the Costa Rican Programa Inter-Americano de Informacion Popular (See mention in qualifications.) MSU personnel now working on UNESCO and AID studies will also be valuable resources in this work. This work area will require intensive effort to apply the methods initiated in the Puerto Rican phase of our work. The effects of changes in formal and informal channels of communications upon the effort, or noise, in information transmission will be evaluated. For example, will radio broadcasts of quantities and prices of produce, meat, poultry, eggs and dairy products aid farmers, assemblers, and

shippers to act more rationally? Will noise or error in reception and perception cause formal information transmission to be discounted in favor of informal methods? Basically, does improved accuracy in information transmission increase the effective market supply of foods?

### Third Work Area

Building upon the communication and innovation studies of Phase I and the results of the communication aspects of Phase II, it will be possible to undertake an intensive study of various classes of innovators in the marketing process. Their social and psychological characteristics can be further identified, as well as their locations and connections in the communication networks. Practical "short-cut" methods may be developed to pick out in advance potential innovators who have a high probability of positive response to changes in institutions and the acceptance of responsibility for utilizing additional resources with which to modify the marketing process. There is some evidence that innovators among entrepreneurs are sometimes the less successful and somewhat marginal operators. This is in contrast to some of the findings with respect to farmers. Results from the historically validated studies in Puerto Rico can be applied in identifying innovators and other adopter categories and in exploring optimum methods of communicating with them at all levels of the marketing channels from the growers to the consumers.

### Fourth Work Area

The analysis and evaluation of the market and social information as well as a comparison with the Puerto Rican experience. The three

study areas outlined above will serve as the basis for an evaluation of the probable consequences of various action programs designed to improve the efficiency of the food marketing system serving the community.

This project is a research project and as such should not be concerned with the specific evaluation of action programs. We will contribute information designed to aid engineers and others concerned with benefit and cost analysis of projects, as well as contribute information to more general problems of market performance.

This information collection and analysis has long and short term aspects. The long term goals are to work toward understanding how exchange between urban and rural areas are affected by marketing reforms. The short run goals are to provide specific information to help evaluate the payoffs likely to result from public and private investment and institutional reforms. These evaluations would parallel the appraisals made in Puerto Rico, but would evaluate not the history of the past 15 years of change but the more current and potential changes in the area studied. The payoffs would be measured in terms of nutrition, income level, income distribution, farm income levels, social and employment effects, capital and profit growth of food processors and marketers.

In summary, the underlying propositions of interest to the authors are those bearing on the dynamic adjustments of the economy, responding to induced changes in food marketing institutions, the laws and customs regulating them and the performance of the system of which these institutions are a part.

This has both long range implications and immediate practical applications. We hope to add to the generalizable knowledge useful in other regions and perhaps in other marketing problems. In addition we want to make contributions to current marketing and investment decisions.

Articulating and detailing a workable theory of how food marketing effects economic development is a goal of this research. We seek to make practical and explicit how this key development process has actually worked. Workshops, seminars, and publications are a necessary part of communication of these findings.

#### Communication and Further Application of Findings

It is hoped that at the conclusion of the second phase of these research activities, another symposium could be held which would provide an opportunity for scholars and administrators of the two communities studied, as well as other communities, to discuss, compare and criticize the research as it might be implemented or applied elsewhere. Furthermore, it is hoped that out of such discussions, specific action programs might be identified which would enhance the efficiency of food marketing systems serving the cities studied as well as other cities in developing areas of Latin America and perhaps elsewhere.

The critical importance of food marketing to national economic performance in developing urban societies is evident. Given the limited knowledge available about food marketing in developing areas, there is the strong likelihood that this proposed research will

generate useful techniques for understanding the workings of the marketing system and predicting the effects of specific reforms and even positive changes. While this is clearly our hope, it is partly in the realm of speculation to plot how the findings of the work can be exploited. Nevertheless, it is useful to look ahead to see how the findings might be utilized.

The results of the two phases of this research should make it easier to describe the food marketing institutions of the food shed of any major developing urban area. This measurement has several dimensions: the description of supply and demand conditions, the identification of the communication network and risk penalties along the channels of supply, the identification of innovators (and laggards) in key institutions, the interdependence of marketing institutions and the impact of new ways of doing business upon displaced workers and managers. This kind of descriptive analysis will permit further and more pointed discussion of reform and development that can affect regional as well as national economic growth.

The research is likely to uncover some critical links in the marketing structures for some commodities and markets. If these functional links can be modified by institutional reform, investment, or technical change -- as they seem to have been in San Juan -- we may be able to understand the impact of planned changes in marketing. For example, the probable effect of such actions as market news broadcasts, warehousing facilities, or assembly market cooperatives could be more fully appreciated and predicted. Therefore, we hope that this study will provide the chance to exploit not only the understanding

of how simplifications and cost-cutting can improve performance, but how we might break the log jam of institutional stagnation that separates hungry people from the foods which agriculture is technically capable of producing.

The communication of the research findings by publication alone is very likely not enough to induce changes where centuries of local tradition bar reform. It is expected that the results of the project will be made available in various ways:

1. In periodic conferences with the project teams where selected evaluation results can be of help in their work. This plan for regular conferences envisages that "situation papers" will be prepared for each of these conferences. These should be semi-annual meetings. The situation papers will be sent to participants prior to the meeting and followed by reports to USAID of the sessions. The entire report would become part of the project's publication program.
2. A major publication, which traces out the effects of the developments in San Juan and relates these to the changes in Latin American or other urban areas studied, will be a necessary and important report.

Some areas of importance now appear to be:

- a. The changing attitudes and expectations of businessmen when confronted with new technology and environmental changes affecting the marketing system.
- b. The changes in cost structure due to various marketing reforms.



- c. The competitive response to these changes in the face of present and potential shifts in consumer demands and shopping behavior.
  - d. The changes in agricultural production and the system of handling commodities as a result of new marketing methods and new requirements of the retailer.
  - e. The social and economic effects of the changing food distribution system upon the rest of the community.
4. The symposiums planned for San Juan and the second community studied should foster improved knowledge and coordination of food marketing developments. Publication of the papers presented should be of great help in fostering interest in this area.
5. In addition to the reports indicated above, continued periodic reports and conferences will be conducted. These communications with USAID and other interested research and planning agencies will be designed to diffuse information on progress and problems of the project, as these results emerge.

## PART II STAFF QUALIFICATIONS AND FACILITIES

### Faculty Competence in Latin American Development

Over the past 15 years the MSU faculty has become increasingly involved in international activities with sizable technical assistance projects in Asia, Africa and Latin America. Through direct participation in foreign projects and contacts with a growing number of foreign graduate students on the East Lansing campus, a large number of faculty members have become vitally concerned with the problems confronting the underdeveloped countries of the world.

Faculty competence in Latin America development problems has been developed through projects in the following countries or areas:

1. Colombia - From 1951 to 1962 the College of Agriculture at MSU has provided technical assistance to the Colombian Colleges of Agriculture within the National University. This was supported by United States ICA and the Kellogg Foundation. Through this program and in cooperation with other outside agencies such as the Rockefeller Foundation and USAID, considerable progress has been made in strengthening higher agricultural education and related programs in research and extension. The MSU program has brought more than 40 Colombian nationals to the U.S. for graduate training in agricultural science. Twenty-eight faculty members have been directly involved in the Colombian project. Since 1960

there has been an agricultural economics research program in Colombia.

2. Brazil - At the request of the Vargas Foundation of Brazil and the United States ICA, Michigan State University's College of Business began in 1953 a project in Sao Paulo leading to the establishment of the first Brazilian School of Business Administration. In 1958 this program was expanded to other universities--the University of Rio Grande do Sul and the University of Bahia. Each year four to nine Brazilian faculty members have studies at MSU or other American universities. The technical assistance project is now being phased out as the Brazilian program in Business Administration has become firmly established. Over the 12 year period, 36 MSU faculty members have served in Brazil as advisors and teachers in this program. A new program was initiated in Turkey in 1964, patterned after the Brazil operation.
3. Argentina - Negotiations are well advanced for a USAID contract through which the MSU College of Agriculture would provide technical assistance to a new agricultural research, teaching and extension institution being established at Balcarce, Argentina.
4. Central America - In 1962, the College of Education received a USAID grant to conduct research on education in Central America. A center has been established at the University of San Carlos, Guatemala with participation of

the Nicaragua, Costa Rica, Honduras, and El Salvador universities.

5. Costa Rica - Since 1958, the Department of Communication has been involved in a program of training, publication and research through PIIP (Programa Inter-Americano de Informacion Popular), headquartered in San Jose, Costa Rica. MSU staff members have been serving as research directors of this institute. Recently arrangements have been made for a graduate training program in communications through the cooperation of MSU, the OAS Inter-American Institute of Agricultural Sciences and the University of Costa Rica.

In addition to the above activities the Department of Communication will be the hosts to a USAID sponsored symposium in the spring of 1965. The topic is, Directions for International Communications Research. The Department of Communication at MSU has a long-term goal of a continued emphasis on Latin America as an area for overseas research on communication problems.

#### MSU Project Personnel For This Study.

Project leaders - The research effort will be under the direction of a two-man team:

Dr. Charles C. Slater, Professor of Business Administration, Department of Marketing and Transportation, teaching in the Graduate School of Business and with responsibilities for the Food Marketing Program. Prior to joining MSU's faculty in 1963, Dr. Slater headed the Consumer Marketing Section at Arthur D. Little, Inc., Cambridge consulting and engineering firm. He had responsibility for numerous

studies of food and beverage marketing in this country and abroad. Before joining A.D. Little in 1958, he was a Vice President of Omar, Inc. and managed a marketing subsidiary, Supermarket Foods, Inc. His research and industrial experience have been focused on the study of economic institutions and their responses to changes in environment. In 1962 he won the Alpha Kappa Psi award for the outstanding article awarded by the American Marketing Association. His study reported the application of decision theory to marketing management in the food industry. He is author of Baking in America, a three volume economic study of the baking industry, and has contributed to various journals. He holds a B.S. in Commerce, M.A. in Economic History and a Ph.D. in Economics from Northwestern University.

Dr. Harold M. Riley, Professor of Agricultural Economics, College of Agriculture, teaching, research and extension experience in agricultural marketing. He spent two years in South America, 1960-62, on the Michigan State University Colombia Project; participated in a research effort under contract with the USDA to develop long-term projections of supply and demand for agricultural products in Colombia. He is currently serving as associate editor of the Journal of Farm Economics with primary responsibility for articles in the areas of agricultural marketing and foreign economic development. This journal responsibility terminates May 31, 1965. For the past 15 years, Dr. Riley has been actively involved in the research program of the North Central Livestock Marketing Research Committee and has collaborated in the publication of numerous reports by this group.

He is contributing author to a book, Economics and Management in Agriculture, (Prentice-Hall, 1963) which was prepared by staff members of the MSU Department of Agricultural Economics and served as editor of a special section, Agriculture and Economic Development Policy in Latin America: Political and Economic Problems, prepared especially for a Spanish edition. He holds a Ph.D. in Agricultural Economics from Michigan State University.

Another principal collaborator in the project will be -

Dr. John T. McNelly, Assistant Professor of Journalism, College of Communication Arts. He has had extensive professional experience with the mass media, both in the United States and abroad. During 1959-60 he served as resident coordinator of the Seminars on Communication conducted by Michigan State University for professional and technical people from developing countries visiting this country under the foreign aid program. During 1961-62 he served as assistant research director of the Programa Inter-Americano de Informacion Popular (PIIP) in San Jose, Costa Rica. He is the author or co-author of articles and reports dealing with research on communication behavior of professional and technical change agents in fourteen Latin American countries; analysis of mass communication, economic and other characteristics of Latin American countries; patterns of mass media use in San Jose, Costa Rica; mass communication and political behavior of Costa Rican university students; and other aspects of the content and effects of mass communications in the United States and elsewhere. He holds the B.A. and M.A. in Journalism from the University of Wisconsin, the Ph.D. in Communication from Michigan State University.

Staff members who have expressed an interest in devoting some of their research efforts to this project are as follows:

Dr. Edward Brand, Professor of Marketing and Transportation and Assistant Dean of the College of Business. Previously director of the Food Marketing Training program at MSU. Worked two years in Bogota, Colombia with a commercial firm selling industrial machinery.

Dr. Reed Moyer, Associate Professor of Marketing and Transportation Administration. Has industrial experience and has personal interest in international marketing.

Dr. James Shaffer, Professor of Agricultural Economics. Author of numerous articles on consumer behavior and agricultural marketing. Co-author of chapter on Marketing in Social Perspective and Marketing in Economic Development in a new marketing textbook to be published in December, 1964.

Dr. William Lazer, Professor of Marketing and Transportation. Co-author of three marketing books and consulting editor of the Journal of Marketing.

Staff members who will be available for consultation and seminar-ing and who have special competence relevant to this project are:

Dr. Garland Wood, Professor of Agricultural Economics and Director of the Latin American Studies Center. Project leader of MSU Colombia Project, 1960-62. Conducted research on long-term growth prospects for Colombian agriculture.

Dr. Everett Rogers, Associate Professor of Communications. Author of two books, Social Change in Rural Society and Diffusion of Innovations. Conducted research on diffusion of agricultural technology in Colombia

as a Fulbright Professor at the National University in Bogota. Dr. Rogers is planning additional research on the diffusion process in foreign countries through a USAID project that will make possible additional work in Colombia.

Dr. John Hunter, Professor of Economics at Michigan State University. Specialists in the economy of Latin America. Served as director of an economic research institute at the University of the Andes in Bogota, Colombia, 1958-60. From 1962-64 he worked with Ford Foundation project in Buenos Aires, Argentina. Author of several articles on Latin America and a book, Emerging Colombia.

Dr. Lawrence Witt, Professor of Agricultural Economics. Has conducted research in Brazil, Ecuador and Colombia. Author of numerous articles on economic development. Co-author of book, Agriculture in Economic Development.

Dr. Donald Taylor, Professor of Marketing and Transportation. Spent 7 years in Brazil on MSU program in Business Administration.

Dr. Orvis Collins, Associate Professor of Management. Co-author of two books, The American Federal Executive and The Enterprising Man.

Dr. Smith Greig, Associate Professor of Agricultural Economics. Research and publications on new product development. Research experience in Brazil and Colombia doing marketing feasibility studies concerned with storage and processing of selected grains and tuberous crops.

Dr. Olaf Mickelson, Professor of Nutrition and Biochemistry. Co-author of book, The Biology of Human Starvation.



Dr. David K. Berlo, Chairman of the Department of Communication. Author of, The Process of Communication and articles for journals in the field of communications.

Dr. Hideya Kumata, Professor of Communication. Research publications on cross-cultural communication and value systems. Recently returned from a year of research on cross-cultural communication in Japan.

Dr. Claude McMillan, Professor of Management. Spent two years with MSU-Brazil project in Business Administration.

Dr. Robert Stevens, Associate Professor of Agricultural Economics. Until recently employed in USDA in Development and Trade Analysis Division. Made a two-year study in Lebanon and has written several articles on demand for food during economic development.

Dr. Richard Wheeler, Associate Professor of Agriculture Economics. Since 1962 he has served as leader of the MSU Agricultural Economics research program in Colombia. Author of several publications based upon his Colombian research.

Dr. Paul Strassman, Professor of Economics. Major teaching responsibilities in the area of economic development. Has conducted research on the industrialization process in Latin America.

Dr. James Hendry, Associate Professor of Economics and Agricultural Economics and Director of the Economic and Agricultural Development Institute at MSU. Overseas experience in Japan, China and Viet Nam.

Dr. Archibald Haller, Professor of Sociology, has written numerous articles in the field of rural sociology and in 1962-63 was Fulbright Professor and consultant to the Organization of American States at the

Rural University of Brazil.

NOTE: See Appendix A for a list of research publications by MSU staff members based upon research in Latin America.

#### Participation of MSU Graduate Students

Doctoral candidates from the Departments of Marketing, Agricultural Economics and from the College of Communication will participate in this project. Initially three students who have completed all doctoral requirements except the thesis will become part of the staff for the Phase I study in Puerto Rico. Some of these individuals may stay on in post-doctoral research positions for Phase II and Phase III.

#### Staffing and Coordination with Latin American Agencies and Institutions

In the first phase of the project we will coordinate our work with the Social Science Research Center at the University of Puerto Rico. We have been assured by Dr. Raphael de Jesus, director of the center, that they will provide two senior staff members and 3 to 4 junior staff members for this project. Additional interviewers and clerical staff will be hired locally as needed.

Several possibilities have been explored for collaboration with various Colombian institutions during Phase II of the project. Dr. L. Lorinez, director of the Latin American Agricultural Marketing Institute, has invited us to coordinate our work with the institute which is a regional organization sponsored by FAO and several Latin American governments. There is also a possibility of continued working relationships with the Colleges of Agriculture of the National University, where MSU has been actively involved since 1951. Recently a new organization (Instituto Colombiano Agropecuaria) has been organized

to coordinate agricultural research, teaching and extension. This Institute has support promised from the Ford, Rockefeller, and Kellogg Foundations. The Center for Economic Development Studies at the University of the Andes is still a third possibility for research collaboration. This center was organized in 1958 by Dr. John Hunter of MSU who served as its director until 1960. Until 1963 Dr. Wallace Atherton of MSU directed the Center. The Center has an experienced research staff. One of their major projects was a food consumption study in 12 Colombian cities.

When this project is approved we will take action to firm up working relationships for Phase II of the project. In Phase II priority will be given to establishing research headquarters with institutions where MSU or other related universities (Big Ten or Consortium, see below) have established programs.

#### Coordination with Other Members of Consortium

Through a Ford Foundation grant, four universities, Michigan State, Indiana, Illinois, and Wisconsin, have established a cooperative arrangement for the operation and staffing of overseas projects, for the conduct of overseas research and for various other joint activities which will enhance the effectiveness of their international involvement.

Contacts with the University of Wisconsin Land Tenure Center indicate some important areas of complementarity between their efforts in Latin America and the operations of this marketing research proposal. One of the major centers of investigation by the Land Tenure Center is in Bogota, Colombia.

### Available Facilities

For the past five years the Michigan State University Library has been giving special attention to the acquisition of foreign books, periodicals and statistical reports. The creation of the Latin American Studies Center, under the direction of Dr. Garland P. Wood, has given impetus to the collection and organization of materials on Latin America. In addition to the main library, both the College of Business and the Department of Agricultural Economics have reference libraries in their own buildings staffed by trained librarians. These reference libraries are assisting in the assembly of research material for this project.

The MSU Computing Center is well equipped with IBM machines for analyses and tabulations. A Control Data 3600 has recently been installed for handling data processing problems requiring high capacity equipment. This is one of the most advanced data processing installations in the U.S.

## PART II

### APPENDIX A

**A Partial List of Recent Publications  
by  
M.S.U. Faculty Members  
on  
Topics Relative to Latin America**

#### I.

##### A. Books and Monographs

1. Adams, Dale; Guerra, Guillermo, Warnken, Philip F.; Wheeler, Richard G.; and Witt, Lawrence W. Public Law 480 and Colombia's Economic Development, Department of Agricultural Economics, Michigan State University and Departamento de Economía y Ciencias Sociales, Facultad de Agronomía e Instituto Forestal, Universidad Nacional de Colombia, 1964.
2. Hunter, John Emerging Colombia, Public Affairs Press, Washington, D.C. 1962.
3. Goering, Theodore J. and Witt, Lawrence W. United States Agricultural Surplus Disposal in Colombia, Michigan Agricultural Experiment State Technical Bulletin #289, 1963.
4. Eicher, Carl and Witt, Lawrence W. Agriculture in Economic Development, McGraw-Hill Book Company, New York, 1964.
5. McMillan, Claude; Gonzalez, Richard; and Erickson, Leo International Enterprise in a Developing Economy; A Study of U.S. Business in Brazil, Bureau of Business and Economic Research, Michigan State University, February 1964.
6. Hereford, Karl, et al. The American School Looks to the Future, Michigan State University Education in Latin America Series I, The American School Foundation, A.C., Mexico., 1962.
7. Witt, Lawrence W.; Eicher, Carl; Wood, Garland; and Riley, Harold. "Agriculture and Economic Development Policy in Latin America: Political and Economic Problems," a three chapter section prepared especially for a Spanish edition of Economics and Management in Agriculture, Warren Vincent (ed.) Prentice-Hall, 1962.
8. Commission on Higher Agricultural Education. Educación Agrícola Superior en Colombia, a report to the National University of Colombia by a commission headed by Dr. Paul Miller, then Provost of Michigan State University. Dr. Maurice Perkins of M.S.U. was also a member of the commission. The report was published by the Ministry of Agriculture, Bogota, April 1961.

9. Wheeler, Richard G. and Guerra, Guillermo. "Administracion Rural en La Reforma Agraria y El Desarrollo Economic," a special issue of the Revista of the Facultad de Agronomia, Medellin, Colombia, Vol. 23, No. 59, November 1963.

## B. Articles

1. Deutschmann, Paul J. "Communication in an Andean Village" - paper presented to Association for Education in Journalism Convention, University of North Carolina, August 27, 1962. Journalism Quarterly, Vol. 40, No. 1, Winter 1963.
2. Deutschmann, Paul J. and McNelly, John T. "Characteristics of Latin American Countries," American Behavioral Scientist, Vol. 8, No. 1, September 1964, pp. 25-28.
3. Deutschmann, Paul J.; McNelly, John T.; and Ellingsworth, Huber. "Mass Media Use by Sub-Elites in Eleven Latin American Countries," Journalism Quarterly, Vol. 38, No. 4, Autumn 1961.
4. McNelly, John T. and Deutschmann, Paul J. "Media Use and Socio-economic Status in a Latin American Capital," Gazette, Vol. 4, No. 1, 1963.
5. McNelly, John T. and Fonseca, Eugenio. "Media Use and Political Interest at the University of Costa Rica" (paper presented before Association for Education in Journalism, Lincoln, Nebraska, August 1963), Journalism Quarterly, Vol. 41, No. 2, Spring 1964, pp. 225-231.
6. Ellingsworth, Huber and McNelly, John T. "Magazine Readership by Latin American Professionals and Technicians," Bulletin of International Association for Mass Communication Research, No. 3.
7. Ellingsworth, Huber. "Cinema Attendance of a Sub-Elite Latin American Group," Quarterly Journal of Speech, October 1963, pp. 262-265.
8. \_\_\_\_\_ . "Radio and Television Use By Technicians and Professionals in Fourteen Latin American Countries", Journal of Broadcasting, Vol. 7, No. 2, Spring 1963.
9. Emery, Walter B. "A Comparative Study of Broadcasting Law and Regulations in Mexico & the U.S.", Journal of Broadcasting, Vol. 8, No.

10. Emery, Walter B. "Broadcasting in Mexico," Journal of Broadcasting, Vol. 8, No. 3, Summer 1964, pp. 257-274.
11. Haller, Archibald O. "New Social Sciences in the Brazilian Rural University," Sociologia, Vol. 24, No. 4, December 1962.
12. McMillan, Claude. "The American Businessman in Brazil," Business Topics, Bureau of Business and Economic Research, Michigan State University, Spring 1963, pp. 68-80.
13. Strassmann, Paul. "Is Puerto Rican Economic Development a Special Case?" Inter-American Economic Affairs, Vol. 18, No. 1, Summer 1964.
14. Wood, Garland P. and Guerra, Guillermo, "Usa de la Tierra en Colombia," Revista, Facultad de Agronomia, Medellin, Colombia 1963.

C. Papers and Other Documents

1. Adams, Dale. "Adjustment Possibilities on Colombian Farms Under Alternate Levels of Public Law 480 Imports," (unpublished Ph.D. thesis, Michigan State University, 1964).
2. Goering, Theodore J. Cotton Production in Colombia, mimeograph report, Facultad de Agronomia, Palmira, Colombia 1962.
3. \_\_\_\_\_. Wheat Production in Colombia, mimeographed report, Facultad de Agronomia, Palmira, Colombia 1962.
4. \_\_\_\_\_. Colombian Agricultural Price and Trade Policies, mimeographed report, Facultad de Agronomia, Palmira, Colombia, 1961.
5. Riley, Harold M. Beef Production in Colombia, mimeographed report, Facultad de Agronomia, Palmira, Colombia, 1962.
6. \_\_\_\_\_. "Market Structures in Domestic Markets of Underdeveloped Countries," paper presented at a seminar at Cornell University October 19-21, 1964, sponsored by the Agricultural Development Council.
7. Wood, Garland P. Coffee in Colombia, mimeographed report, Facultad de Agronomia, Medellin, Colombia, 1962.
8. \_\_\_\_\_. Supply and Demand Characteristics of Cocoa in Colombia, mimeographed report, Facultad de Agronomia, Medellin, Colombia, 1962.

9. Deutschmann, Paul J. "Attitudes Toward Technical Change of Latin American Sub-Elites," paper presented to American Association for Public Opinion Research, Lake Sagamore, New York, May 20, 1962.
10. McNelly, John T. and Torres, Augusto. El Uso de los Medios de Comunicacion en Una Capital Latinoamericana, San Jose, Costa Rica, Programa Interamericano de Informacion Popular, 1963.
11. McNelly, John T. "Mass Communication and the Climate for Modernization in Latin America," a paper presented before the Association for Education in Journalism, Austin, Texas, August 1964.
12. Strassmann, Paul. "The Role of the Industrialists," a paper delivered at Social Science Research Council Conference, Scottsdale, Arizona, January 1963 also a chapter in Continuity and Change in Latin America, John J. Johnson (ed.), Stanford University Press.
13. Haller, A.O.; Duarte, F.E.; and Pinto, J.B. "Changes in Contacts of Rural Families with Mass Welfare Services in the State of Rio de Janeiro, 1953-1962," paper presented to the Rural Sociological Society, San Fernando Valley State College, Northridge, California, 1963.
14. Waisanen, F.B. "Some Theoretical Convergencies in the Social Psychology of Alunation," a paper presented at the Annual Congress of the Inter-American Society for Psychology in Mar del Plata, Argentina, 1963.
15. Waisanen, F.B. and Lassey, W. R. "Security, Insecurity, and the Process of Social and Economic Development," a paper presented at the Mexican National Congress of Sociology in Sinaloa, Mexico, 1963.



**PART III**  
**Proposed Budget**

The estimates of expenditures for this project are based upon a work plan which would include a substantial contribution of the University of Puerto Rico to the study. Their contributions of professional staff time is expected to nearly equal that of Michigan State University professional staff during the first phase of the study. The pattern of expenditures is presented in terms of the phases of the project and the classes of accounts.

Another way of evaluating the proposed budget is in terms of the probable allocation of professional staff time to the individual work areas of each phase of the project.

In brief, the anticipated allocation of effort for the 12 months of the work in Puerto Rico and the 18 months in Colombia are as follows:

	Phase I	Phase II
Work Area:	%	%
1. Market Structure	40	40
2. Communications Network	15	25
3. Innovation Diffusion	25	15
4. Analysis and Evaluation	20	20

## PROPOSED BUDGET

### Phase I--Puerto Rico

	<u>Amount</u>
<b>1. <u>Salaries for MSU Personnel</u></b>	
Senior MSU Staff, 3 men, 15 man-months	\$19,995
Senior MSU Staff Consultants, 3 man-months	3,999
Graduate Assistants, 3 men, 24 man-months	8,400
Administrative Assistant at MSU, 3 man-months	2,500
Secretary at MSU, 6 months	<u>2,400</u>
	<b>\$37,294</b>
<b>2. <u>Other Salaries</u></b>	
Non-MSU Consultants, 25 man-days @ \$75 per day	1,875
Clerical and Secretarial, 40 months @ \$250/month	10,000
Temporary Personnel for survey enumeration	<u>3,000</u>
	<b>\$14,875</b>
<b>3. <u>Fringe Benefits and Living Allowances</u></b>	
Life Insurance, Social Security & Retirement 10% of MSU Staff salaries (not including Grad Assistants)	\$ 2,889
Living Allowances for Graduate Students \$250 per month for housing & utilities and medical insurance (24 months)	6,000
Settling in Expense for Graduate Students \$250 per family	750
Furniture Storage in U.S. \$150 per family	<u>450</u>
	<b>\$10,089</b>
<b>4. <u>Overhead to MSU</u></b>	
52.9% of Salaries for MSU Based Staff	\$19,728
32.4% of Salaries for Overseas Staff	<u>4,825</u>
	<b>\$24,553</b>
<b>5. <u>Transportation and Travel Costs</u></b>	
A. Planning trip to Washington 3 men for 4 days, transportation \$85, other expenses \$25 per day per man	655
B. Planning trip to Puerto Rico 3 men for 10 days, transportation \$220, other expenses \$30 per day per man	1,560
C. Reporting trips to Washington during Phase I, 5 trips for 3 days	800
D. Round trip to Puerto Rico for Graduate students and families, 6 adults and 5 children at \$220 per adult, $\frac{1}{2}$ fare for children. Per diem enroute and local travel expense	2,110

E.	Air baggage allowance for Graduate student families, \$200 per family	600
F.	Per diem for Senior MSU Staff while in Puerto Rico, 250 days @\$24	6,000
G.	Trips between East Lansing and San Juan during research. Six @ \$240	1,440
H.	Passports, shots, etc. 20 people @ \$30 per person	<u>600</u>
		\$13,765
6.	<u>Other Operational Expenses</u>	
	Supplies, hired services and communications	\$ 4,000
	Local Transportation in Puerto Rico	4,000
	Office Rental, 9 months @ \$350 per month	3,150
	Machine Rental and Computer Charges	8,000
	Equipment (typewriters, calculators and mimeograph)	<u>3,000</u>
		\$22,150
7.	<u>Seminar in San Juan</u> (Total expense to be shared with USAID and University of Puerto Rico)	4,000
8.	<u>Contingency</u>	9,000
	TOTAL	<u>\$135,726</u>

## Phase II--Colombia

	<u>Amount</u>
1. <u>Salaries for MSU Personnel</u>	
Senior MSU Staff, 3 men, 24 man months	\$32,000
Senior MSU Staff Consultants, 4 man months	5,333
Research Associate, 18 man months	13,500
Graduate Assistants, 3 men, 36 man months	12,600
Administrative Assistant at MSU, 5 man months	4,000
Secretary at MSU, 15 man months	<u>6,000</u>
	\$73,433
2. <u>Other Salaries (Colombian)</u>	
Senior Staff, 2 men, 30 man months, \$500 per month	\$15,000
Research Associate, 3 men, 48 man months, \$325/month	15,600
Secretaries, 30 man months, \$200 per month	6,000
Translators, 15 man months, \$150 per month	4,500
Clerical, 18 man months, \$150 per month	2,700
Temporary personnel for survey enumeration	<u>4,000</u>
	\$47,800
3. <u>Fringe Benefits and Living Allowances</u>	
Life Insurance, Social Security and Retirement, 10% of MSU staff salaries	6,083
Living allowances for graduate students and research associates, \$200 per month for housing, utilities and medical insurance	10,800
Settling expenses for graduate students and research associates, \$250 per family	1,000
Furniture storage in U.S., \$200 per family	<u>800</u>
	\$18,683
4. <u>Overhead to MSU</u>	
52.9% of salaries for MSU based staff	\$38,846
32.44% of salaries for overseas staff	<u>15,506</u>
	\$54,352
5. <u>Transportation and Travel Costs</u>	
A. Planning trip to Colombia 2 men, 15 days, \$400 air fare and \$18 per diem	1,340
B. Reporting trips to Washington during Phase 2 5 trips from East Lansing to Washington, 4 days each	925
C. Round trips from East Lansing to Colombia by senior staff, 10 trips	4,000
D. Round trips from East Lansing to Colombia for research associate, graduate students and families, 8 adults and 8 children.	4,980
E. Air freight on personal effects for 4 families \$500 per family for round trip	2,000
F. Per diem for senior MSU staff while in Colombia, 450 days @ \$18 per day	8,100
G. Passports, shots, etc., 12 people @ \$30 each	<u>360</u>
	\$21,705

6. Other Operational Expenses

Supplies, hired services and communications	\$ 6,000
Local transportation in Colombia	8,000
Office rental, 18 months, \$300 per month	5,400
Machine rental and computer charges	10,000
Equipment	<u>4,000</u>
	\$33,400

7. Seminars in Colombia 4,000  
(Total expense to be shared with USAID and a Colombian institution)

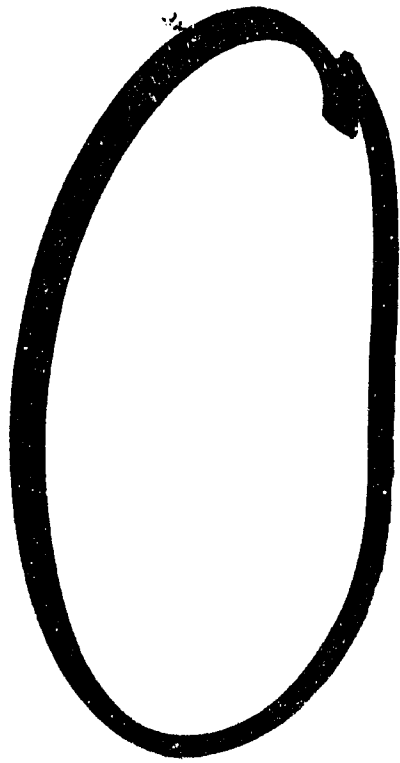
8. Contingency 9,000

**TOTAL** \$262,373

PROPOSED BUDGET

Summary

<u>Expense Item</u>	<u>Phase 1</u>	<u>Phase 2</u>	<u>Total</u>
1. Salaries for MSU Personnel	\$ 37,294	\$ 73,433	\$110,727
2. Other salary and wage costs	14,875	47,800	62,675
3. Fringe benefits and living allowances	10,089	18,683	28,772
4. Overhead to MSU	24,553	54,352	78,905
5. Transportation and Travel costs	13,765	21,705	35,470
6. Other Operational Expenses	22,150	33,400	55,550
7. Seminars	4,000	4,000	8,000
8. Contingency	<u>9,000</u>	<u>9,000</u>	<u>18,000</u>
	\$135,726	\$262,373	\$398,099



Milikau (Chair)  
Holmberg  
Roseman

## SUMMARY

Project: Farm Marketing Facilities and Practices in Tropical Africa

Proposed Contractor: Stanford Research Institute

Duration: Thirty (30) months.

Estimated Costs:

FY 1965 Funding Requirement:	\$ 74,480
FY 1966 Funding Requirement:	223,438
FY 1967 Funding Requirement:	223,438
FY 1968 Funding Requirement:	37,240

Reasons for this Project: An improved marketing system which will afford an efficient and low-cost outlet for increased output is vital to the success of efforts to improve agricultural production in tropical Africa. This research will provide a definitive account of price formation including:

- |                             |                            |
|-----------------------------|----------------------------|
| a. Market information       | h. Risk-bearing            |
| b. Channels of trade        | i. Traders' margins        |
| c. Bulking                  | j. Restraints on trade     |
| d. Transporting             | k. Weights and measures    |
| e. Preservation and storage | l. Quality standards       |
| f. Contracts                | m. Fees and taxes          |
| g. Financing                | n. Arbitrage among markets |

Four or five commodities to be studied will be domestically-produced foodstuffs which are most important in internal trade and are generally consumed in each of the three countries selected for study: Nigeria, Sierra Leone and Uganda. The major objective is to identify imperfections in the marketing system which could be reduced by the action of national or local governments, marketing authorities, cooperatives, or trade associations. The final reports will include recommendations on practical steps for needed improvements, which can be incorporated into A.I.D. policies and action programs in the region.

Another objective is to provide advanced training to African agricultural specialists and to stimulate greater interest among American agricultural specialists in applying their knowledge to African problems.

Methods: The overall management will be assumed by Stanford Research Institute, which will subcontract with the Food Research Institute and with agricultural schools of four land-grant universities currently holding USAID contracts for assisting the development of agricultural research and training in African countries. 1/

1/ The four land-grant universities are: University of Illinois (Njala College - Sierra Leone); University of West Virginia (Makarere College - Uganda); Michigan State University (University of Nigeria - Eastern Nigeria); and University of Wisconsin (University of Ife - Western Nigeria).

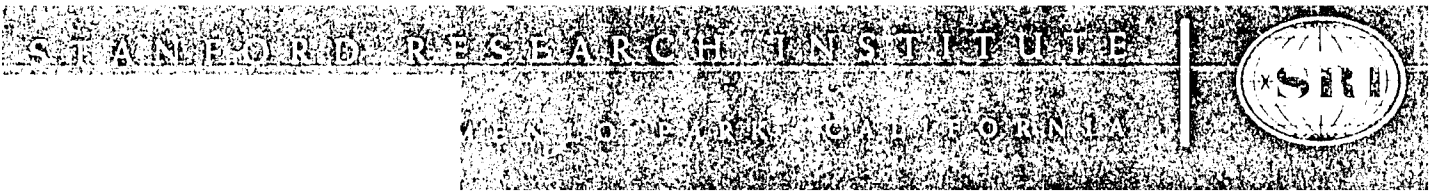


2.

A coordinating committee will be established under the chairmanship of Dr. William O. Jones of the Food Research Institute, and with senior representation from the Stanford Research Institute, the four participating universities, U.S.D.A. and A.I.D., to formulate general plans for the field research, assist in explaining the study to interested parties in the field, supervise progress in the field, and review the preliminary and final reports.

Four teams, each consisting of an American farm marketing specialist and an African agricultural economist, will be selected to conduct the research in the three African countries. The qualified American specialists will be selected from the land-grant universities. Their African counterparts will be selected on the basis of qualifications in cooperation with African universities or research institutes and be assured of academic posts involving teaching and research when this research has been completed.

The teams will be provided intensive orientation and research training for three months at the Food Research Institute, after which each two-man team will spend fourteen months - one complete crop year - in one of the three selected African countries observing marketing officials, transporters and other informed persons involved in food marketing. The teams will be a part of the staffs of land-grant universities now in the three countries from which they will receive supervision and support. While each team is still in the field, it will prepare its preliminary report for critical examination by the coordinating committee. This will permit rechecking and elaboration if needed. Each team will submit a final report at the end of its tour for review by the coordinating committee and transmittal to A.I.D. In addition, the chairman of the coordinating committee will prepare an overall analysis and report containing generalized findings and recommendations for policy guidance and action programs.



Proposal No. II-64-397

Office of Human Resources  
and Social Development  
Agency for International Development  
Department of State  
Washington, D.C. 20523

November 27, 1964

Attention: Dr. Frank W. Parker

A Proposal for Research

**FARM MARKETING FACILITIES AND PRACTICES IN TROPICAL AFRICA**

Introduction

An improved marketing system which will afford an efficient and low-cost outlet for increased output is vital to the success of efforts to improve agricultural production in tropical Africa. Measures to increase market efficiency depend upon detailed knowledge of existing marketing practices and of the ways in which improved practices can be adapted to African conditions. This area of economic research in tropical Africa has received little attention: something is known about the marketing chain for crops passing through the statutory marketing boards; very little is known about the movement of agricultural products--both crops and livestock--destined for consumption within Africa. In order to meet this need the following unsolicited proposal has been drawn up providing for a detailed investigation of the movement of staple food-stuffs from farm to consumer in various African countries.

Objectives and Scope

The research program is designed to provide a definitive account of price formation including market information, channels of trade, bulking,

transporting, preservation and storage, contracts, financing, risk-bearing, traders' margins, restraints on trade, weights and measures, quality standards, fees and taxes, and arbitrage among markets. A major objective is to identify imperfections in the marketing system which could be reduced by the action of national or local governments, marketing authorities, or trade associations. The results would include recommendations on practical steps for achieving needed improvements, such as actions that can be incorporated into USAID policies and programs in the region.

The research program is also intended to provide a productive mechanism for facilitating the establishment of a closer interchange between the agricultural departments of African colleges and those of U.S. land grant colleges. It will provide advanced training to African agricultural specialists and will stimulate greater interest among American agricultural specialists in applying their knowledge to African problems. It will bring together agricultural specialists from African and American colleges in a joint applied research effort under the project leadership of the staff of the Food Research Institute of Stanford University, which has long experience in conducting studies of African agriculture, and under the experienced international program management of Stanford Research Institute.

The study will focus initially on three countries--preferably Nigeria, Sierra Leone, and Uganda. It might later be extended to other countries of tropical Africa.

Commodities to be studied will be those domestically produced food-stuffs which are most important in internal trade and are generally important in production and consumption. Their number will be limited to four or five major items in each country. In Western Nigeria, for example, they might include maize, yams, cassava (gari), and palm oil. In Northern Nigeria, cattle might be added to the list.

#### Method of Approach

The overall program management will be assumed by Stanford Research Institute, which will establish subcontracting relationships with the Food Research Institute and with agricultural schools in four land grant universities currently holding USAID contracts for assisting the development of agricultural research and training in African countries.\* A

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\* Four universities under consideration are: University of Illinois (Njala College--Sierra Leone); University of West Virginia (Makerere College--Uganda); Michigan State University (University of Nigeria--Eastern Nigeria); and University of Wisconsin (University of Ife--Western Nigeria).

coordinating committee will be established under the chairmanship of William O. Jones of the Food Research Institute, with senior staff representation from Stanford Research Institute and the four participating colleges, to formulate general plans for the field research, assist in explaining the study to interested parties in the field, supervise progress in the field, and review the preliminary and final reports. The committee will meet at Stanford University during an initial briefing period; in Africa to review preliminary reports; and at other times and places as may be necessary.

Four teams, each consisting of an American farm marketing specialist and an African agricultural economist, will be selected to carry out the investigation of farm marketing practices in the three African countries. The American farm marketing specialists will be selected from the land grant universities. They should hold Ph.D.s in agricultural economics, although it may be necessary to employ predoctoral students who have completed their comprehensive examinations, and who wish to use the products of this research as the basis for dissertations. Their African counterparts should hold B.A. or B.S. degrees in economics or agricultural economics. They might be candidates for advanced degrees in an American university which would count their work on this project toward their advanced degrees. They should be selected in cooperation with African universities or research institutes and be assured of academic posts involving teaching and research when this survey has been completed.

It is not to be expected that the American farm marketing specialists will have much knowledge of African economic conditions, nor that their African counterparts will be well grounded in farm marketing research. They will therefore be provided with a brief training program--three months at the Food Research Institute before embarking on their field research. Seminars will be provided under the leadership of Professors Bruce F. Johnston and William O. Jones, specialists in African agricultural economics; Prof. Roger W. Gray, specialist in agricultural marketing; and various Stanford Research Institute specialists experienced in conducting marketing investigations in less developed countries. The training will include wide reading about the economics of African agriculture and attendance at lectures on African society. Approximately the first half of the period will be devoted to general information on African agricultural economics and methods appropriate for conducting agricultural marketing research in Africa; during the second half, the seminar will concentrate on research design for the period in the field. The training period will have the additional function of permitting members of each team to work out their interpersonal adjustments before going into the field.

Following the training period, each two-man team will spend fourteen months in one of the three selected African countries observing marketing

practices and interviewing traders, producers, market officials, and transporters. This period is intended to enable the team to gain familiarity and acceptance and to observe one complete crop year. The land grant colleges will assume responsibility for support and supervision of the field teams. A tentative schedule of operations for the project is included as Appendix A.

### Reports

While each team is still in the field, it will prepare its preliminary report for critical examination by the coordinating committee. This will permit rechecking and elaboration where this seems advisable. Each team will submit a final report at the end of its tour for review by the coordinating committee and transmittal to AID. In addition, the chairman of the coordinating committee will prepare an overall analysis and report containing the generalized findings and recommendations for policy guidance and action programs. Initially, 100 copies of each report will be furnished to AID. Additional copies could be provided later at the cost of reproduction.

### Qualifications of the Collaborating Institutions

Stanford Research Institute is a not-for-profit, nonendowed organization providing research services to industry and government. It has managed complex worldwide studies frequently in collaboration with local organizations. These investigations have covered many fields, including marketing studies of food and other products. It has conducted studies in such African countries as Nigeria, Sudan, Egypt, Ghana, Malawi (Nyasaland), Cameroon, and the Congo. It has provided advisers on research methods to institutions seeking to develop market research capabilities in such countries as India, Pakistan, and Peru. Responsibility for this project will be placed in SRI's International Development Center (IDC), which specializes in research and technical assistance for the developing countries of the free world. The IDC has performed many projects under auspices of the Agency for International Development, the World Bank, agencies of the United Nations, various foundations, private business firms, and governments of the developing countries.

Stanford University's Food Research Institute (FRI) is a nongovernmental and nonprofit institution deriving its support from the general funds of the University, from endowments, and from grants-in-aid of research supplied by governmental agencies, philanthropic foundations, or individuals. It engages in research in the production, distribution, and

consumption of food. The Institute has devoted sustained attention since 1953 to the study of economic development in Africa, with particular reference to food and agriculture. The original emphasis of research has been on the facts of agricultural production, food supplies, consumption patterns, and commodity marketing. Some studies have dealt with the generating causes of economic development in Africa, with special reference to foreign trade; others with the starchy staple foodstuffs of western tropical Africa, with manioc, and with maize; and with the relationship between primary commodity exports and the whole of a country's economy. Cognate subjects that have been explored are the economic responses of African producers and consumers, the character of local diets and the likely changes in them, the technical limits to change and the potential returns from innovation, and the character and appropriateness of existing economic systems. Research now in progress at the Institute includes studies of the staple food economy of eastern Africa, complementing the earlier work on western Africa; of traditional agricultural techniques in the Congo Basin; of the magnitude and direction of intra-African trade; of the economic and administrative history of Portuguese Africa; of the economics of production and trade in oil palm products; and of the nature and determinants of consumer expenditures as revealed by household budget surveys. (The brochure "African Studies at the Food Research Institute of Stanford University," is being sent with a copy of this proposal to Dr. Frank W. Parker.)

Biographical sketches on the professional staff members from SRI and FRI who are expected to guide the project are included as Appendix C.

#### Time and Cost

The project is to be undertaken over a 30-month period in accordance with the allocation for various phases of the project shown on the schedule of operations (Appendix A).

About 131 man-months of U.S. professional staff time, plus administrative and technical support will be involved, with approximately 15 man-months being provided by SRI, 16 man-months by FRI, and the remaining 100 man-months by staff from the land grant colleges. If arrangements can be completed among all parties concerned by about March 1965, the training seminars will be held in the summer of 1965 and all work will be completed by about September 1967.

The total cost of this project is estimated to be approximately \$558,596, including a fixed fee of \$50,000. A detailed cost breakdown is included as Appendix B.

### Contract Provisions

Except as otherwise provided in this proposal, the collaborating institutions understand that the administrative and support provisions will be substantially in accordance with the standard provisions governing contracts financed by the Agency for International Development. Stanford Research Institute is willing to enter into a cost-plus-fixed-fee contract for the overall management of the research program. The Institute is accustomed to handling contracts of this type, is familiar with AID contracting procedures and standard provisions, and is prepared to negotiate a contract with such mutually acceptable modifications as may be suited to the project.

It is assumed that, to the extent authorized by U.S. law and regulations, the members of the U.S. research teams and their families will be accorded all the customary benefits accruing to USAID contract personnel in each of the African countries, including the prevailing allowances for housing, education, and cost of living; assistance in arranging for the import of family household effects, automobiles, and other essential items; reimbursement for necessary predeparture expenditures; and commissary privileges.

It is understood that, in view of the difficulties of transportation outside the main urban areas, the contract will provide for suitable vehicles to be made available for the U.S. research teams in each of the African countries.

### Acceptance Period

This proposal will remain in effect until January 31, 1965. If a decision regarding it requires a longer period, the Institute will be pleased to consider a request for an extension of time.

Respectfully submitted,



William J. Platt, Director  
Economic Development Division



**Appendix A**

**SCHEDULE OF OPERATIONS**



Appendix A

SCHEDULE OF OPERATIONS

Months from date of contract:	1	2	3	4	5	6	7	8	9 to 14	15	16 to 20	21	22	23	24	25	26	27	28	29	30
Initial visits to coop. univ.																					
Africa	XXXXXX																				
U.S.		XXX																			
Prep. for seminar		XXX																			
Prep. U.S. Team			X																		
Prep. Africans				XX																	
Training seminar at Stanford																					
U.S. team				XXXXXXXXXXXX																	
Africans				XXXXXXXXXXXX																	
Move to Africa							X														
Research in Africa								XXXXXXXXXXXXXXXXXXXXXXXXXXXX													
Visit by coord. comm.						X							XX					X			
						(Stanford)							(Africa)					(U.S.)			
Inspection trip to Africa										XX											
Writeup in Africa												XXXXXXXXXXXX									
Return to U.S.														X							
Repro. & Circ. of draft report															XXXXXXXX						
Review by coord. comm. & others																	XXXXXXXX				
Revise, complete, & edit																		XXXXXXXX			
Publication																				XXXXXXXX	

**Appendix B**

**COST BREAKDOWNS**

TENTATIVE BUDGET

COST SUMMARY

1	Stanford Research Institute	\$71,861	
2	Food Research Institute	60,664	
3	University of Illinois	81,019	
4	West Virginia University	72,746	
5	Michigan State University	77,343	
6	University of Wisconsin	76,047	
7	Cooperating African universities	56,916	
8	Central budget	<u>12,000</u>	
	Total Cost		\$508,596
	SRI Fee		<u>50,000</u>
	TOTAL COST PLUS FIXED FEE		\$558,596

STANFORD RESEARCH INSTITUTE  
 Cost Estimate

	<u>Man-</u> <u>Months</u>	<u>@</u>	
<u>Personnel</u>			
Administrative/supervisory	5	\$1,770	\$ 8,850
Professional support	10	1,000	10,000
Technical and secretarial support	8	550	<u>4,400</u>
Total			\$23,250
Payroll Burden*		16%	<u>3,720</u>
Total Salaries and Wages			\$26,970
<u>Overhead</u> *		86%	23,194
<u>Direct Costs</u> (see following page for details)			<u>21,697</u>
Total Estimated Costs			\$71,861

---

\* The rates quoted are those currently approved for billing and estimating purposes. It is requested that contracts provide for provisional reimbursement at rates acceptable to the Contracting Officer subject to retroactive adjustment to fixed rates negotiated on the basis of historical cost data. Included in payroll burden are such costs as vacation and sick leave pay, social security taxes, and contributions to employee benefit plans.

STANFORD RESEARCH INSTITUTE  
Direct Costs

Travel

4 RT, Menlo Park-Africa @ \$1,337 (1-6 week initial; 1 accompany team to Africa, 3 weeks; 1 with coordinating committee in 15th month of project, 2 weeks; 1--for report writing, 2 weeks)	\$5,348	
2 RT, Menlo Park-cooperating U.S. universities (each 3 weeks) @ \$300	600	
1 RT, Menlo Park-Washington, D.C.	<u>288</u>	
Subtotal		\$ 6,236

Per Diem

International per diem		
Sierra Leone, 21 days @ \$23	\$ 483	
Nigeria, 49 days @ \$21	1,029	
Uganda, 21 days @ \$13	273	
Travel, 24 days @ \$8	192	
U.S. per diem, 49 days @ \$16	<u>784</u>	
Subtotal		2,761

Report Costs

4 country reports, 100 pages each, 30 copies		
1 summary report, 100 pages		
Draft @ \$7/page plus \$350 for reproduction	\$3,850	
Final @ \$17.50/page	<u>8,750</u>	
Subtotal		12,600

Preparatory Costs

Total Direct Costs		<u>100</u> \$21,697
--------------------	--	------------------------

1-b

FOOD RESEARCH INSTITUTE (subcontract)  
 Cost Estimate

	<u>Man-</u> <u>Months</u>	<u>@</u>	
<u>Personnel</u>			
Chairman of coordinating committee	10	1,725	\$17,250
Seminar staff:			
Johnson	3	1,400	4,200
Gray	3	1,400	4,200
Technical support	10	600	6,000
Secretarial support	6	500	<u>3,000</u>
Total			34,650
Payroll Burden		8.5%	<u>2,945</u>
Total Salaries and Wages			\$37,595
<u>Overhead</u>		42%	15,790
<u>Direct Costs</u> (see following page for details)			<u>7,279</u>
Total Estimated Costs			\$60,664

FOOD RESEARCH INSTITUTE  
Direct Costs

Travel

3 RT, Palo Alto-Africa @ \$1,337  
(1 accompany SRI man initially, 6 weeks;  
1 with coordinating committee, 2 weeks;  
1 inspection trip) \$4,011

1 RT, Palo Alto-cooperating U.S. universitie 300

Subtotal

\$4,311

Per Diem

International per diem

Sierra Leone, 14 days @ \$23 \$ 322  
Nigeria, 28 days @ \$16 448  
Uganda, 14 days @ \$13 182  
Travel, 24 days @ \$8 192

U.S. per diem, 14 days @ \$16 224

Subtotal

1,368

Other Direct

Preparatory costs \$ 100  
Research materials, books, etc 1,500

Subtotal

1,600

Total Direct Costs

\$7,279

2-b

Note: Subject to confirmation  
by university

COOPERATING UNIVERSITIES

I-University of Illinois (Njala College--Sierra Leone)

<u>Personnel</u>	<u>@</u>	
1 coordinating committee member, 4 weeks--on campus	\$1,500/mo	\$ 1,500
1 agricultural specialist, 2 years--off campus	12,000/yr	<u>24,000</u>
<b>Total Salaries and Wages</b>		<b>\$25,500</b>
<u>Overhead</u>		
Off campus	25.9%	6,213
On campus	55%	825
<u>Direct Costs (see following pages for details)</u>		<u>48,478</u>
<b>Total Estimated Costs</b>		<b>\$81,019</b>



University of Illinois  
Direct Costs (1)

Travel

International travel

1 RT, Illinois-Africa  
(member coordinating committee) \$1,120

3 RT, Illinois-Sierra Leone @ \$825  
(specialist & wife & 2 half-fare children) 2,475

U.S. travel, 2 RT, Illinois-Palo Alto @ \$222  
(coord. comm. member & specialist) 444

Local Africa travel

12,000 miles by jeep @ approx. 12¢/mile 1,440

Air travel 1,000

Subtotal

\$ 6,479

Allowances and per Diem

Africa subsistence, 14 days @ \$21  
(member coord. comm. in Lagos) 294

Temporary quarters, 90 days @ \$42  
(specialist & family) 3,780

Quarters allowance, 14 months @ \$133.33 1,867

Post allowance, 14 months @ \$150 2,100

Subsistence for local travel, 210 days @ \$23 4,830

International travel, 4 RT (8 trips, 3 days  
each = 24 days @ \$8) 192

U.S. subsistence

Member coord. comm., 14 days at FRI @ \$16 224

Specialist at seminar, FRI, 90 days @ \$16 1,440

Subtotal

\$14,727

3-b

University of Illinois  
Direct Costs (2)

Transportation of Effects

Personal excess baggage, 4 people, 8 trips, Illinois-Sierra Leone, 22 lb/trip @ \$3.09/lb	\$ 544	
Household effects, 9,000 lb*	5,289	
Return shipment	5,289	
Sea freight, personal effects, 200 lb/family member (4 members)	470	
Return sea freight	470	
Air freight, personal effects, 200 lb/principal team member & 100 lb for each family member @ \$2.50/lb	1,250	
Return air freight	1,250	
Vehicles		
Personal automobile	600	
Return shipment	600	
Jeep	570	
Return shipment	570	
Equipment and supplies	<u>500</u>	
Subtotal		\$17,402

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\* The estimate for 9,000 lb is based on the assumption that basic furniture will not be provided. In the event that basic furniture is provided, shipment of household effects would be limited to 2,000 lb and the balance would be stored in the United States.

University of Illinois  
Direct Costs (3)

<u>Overseas Differential @ 25% base pay (\$17,000)</u>	\$ 4,250
<u>Fringe Benefits</u> (Retirement contribution 9.667% all salaries; workman's compensation 1% all salaries; group insurance 1.25% overseas salaries total 11.917% of base salary <u>specialist</u> --and 10.667% of base salary member coordinating committee)	3,020
<u>Preparation Costs</u> , passports, visas, medical exams, inoculations	600
<u>Communications</u> , postage, cables, telephone calls	1,000
<u>Miscellaneous Supplies</u> (local purchase)	<u>1,000</u>
Total Direct Costs	\$48,478

Note: Subject to confirmation  
by university

COOPERATING UNIVERSITIES

II-West Virginia University (Makerere College--Uganda)

@

Personnel

1 member/coordinating committee,  
4 weeks

\$ 1,500/mo

\$ 1,500

1 agricultural specialist,  
2 years

12,000/yr

24,000

Total Salaries and Wages

\$25,500

Overhead

38.3%

9,767

Direct Costs (see following pages for  
details)

37,479

Total Estimated Costs

\$72,746

West Virginia University  
Direct Costs (1)

Travel

International travel

1 RT, W. Va.-Uganda (member coordinating committee) \$1,120  
3 RT, W. Va.-Uganda @ \$1,120 (specialist & wife  
and 2 half-fare children) 3,360

U.S. travel, 2 RT, W. Va.-Palo Alto @ \$300  
(coord. comm. member & specialist) 600

Local Africa travel

12,000 miles by jeep @ approx. 12¢/mile 1,440

Air travel 1,000

Subtotal \$7,520

Allowances and per Diem

Africa subsistence, 14 days @ \$21  
(member coord. comm. in Lagos) \$ 294

Temporary quarters, 90 days @ \$21  
(specialist & family) 1,890

Quarters allowance, 14 months @ \$58.33 817

Subsistence for local travel, 210 days @ \$13 2,730

International travel, 4 RT (8 trips,  
3 days each = 24 days @ \$8) 192

U.S. subsistence

Member coord. comm., 14 days at FRI @ \$16 224

Specialist at seminar, FRI, 90 days @ \$16 1,440

Subtotal 7,587

West Virginia University  
Direct Costs (2)

Transportation of Effects

Personal excess baggage, 4 people, 8 trips, W. Va.-Uganda, 22 lb/trip @ \$4.00/lb	\$ 704
Household effects, 9,000 lb*	4,128
Return shipment	4,128
Sea freight, personal effects, 200 lb/family member (4 members)	470
Return sea freight	470
Air freight, personal effects, 200 lb/principa. team member & 100 lb for each family member @ \$2.40/lb	1,200
Return air freight	1,200
<b>Vehicles</b>	
Personal automobile	570
Return shipment	570
Jeep	570
Return shipment	570
Equipment and supplies	<u>500</u>
<b>Subtotal</b>	<b>\$15,080</b>

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\* The estimate for 9,000 lb is based on the assumption that basic furniture will not be provided. In the event that basic furniture is provided, shipment of household effects would be limited to 2,000 lb and the balance would be stored in the United States.

4-c

West Virginia University  
Direct Costs (3)

<u>Overseas Differential @ 15% base pay (\$17,000)</u>	2,550
<u>Fringe Benefits @ 8.4% of base salaries (\$25,500)</u>	,142
<u>Preparation Costs, passports, visas, medical exams, inoculations</u>	600
<u>Communications, postage, cable, telephone calls</u>	1,000
<u>Miscellaneous Supplies (local purchase)</u>	<u>1,000</u>
Total Direct Costs	\$37,479

Note: Subject to confirmation  
by university

COOPERATING UNIVERSITIES

III-Michigan State University (University of Nigeria--Enugu)

@

Personnel

1 coordinating committee member, 4 weeks	\$ 1,800/mo	\$ 1,800
1 agricultural specialist, 2 years	12,000/yr	<u>24,000</u>
Total Salaries and wages		\$25,800
Fringe benefits	10%	<u>2,580</u>
Total		\$28,380
<u>Overhead</u>	15% of base salaries	3,870
<u>Direct Costs</u> (see following pages for details)		<u>45,093</u>
Total Estimated Costs		\$77,343

5-a



Michigan State University  
Direct Costs (1)

Travel

International travel

1 RT, Mich.-Nigeria  
(member coordinating committee) \$ 900

3 RT, Mich.-Nigeria @ \$900 (specialist  
& wife & 2 half-fare children) 2,700

U.S. travel, 2 RT, Mich.-Palo Alto @ \$250  
(coord. comm. member & specialist) 500

Local Africa travel

12,000 miles by jeep @ approx. 12¢/mile 1,440

Air travel 1,000

Subtotal

\$ 6,540

Allowances and per Diem

Africa subsistence, 14 days @ \$21  
(member coord. committee in Lagos) \$ 254

Temporary quarters, 90 days @ \$42  
(specialist & family) 3,780

Quarters allowance, 14 months @ \$258.33 3,617

Post allowance, 14 months @ \$150 2,100

Subsistence for local travel,  
210 days @ \$16 3,360

International travel, 4 RT (8 trips,  
3 days each = 24 days @ \$8) 192

U.S. subsistence

Member coord. comm., 14 days at FRI @ \$16 224

Specialist at seminar, FRI, 90 days @ \$16 1,440

Subtotal

\$15,007

Michigan State University  
Direct Costs (2)

Transportation of Effects

Personal excess baggage, 4 people, 8 trips, Mich.-Nigeria, 22/lb trip @ \$3.23/lb	\$ 568	
Household effects, 9,000 lb*	5,289	
Return shipment	5,289	
Sea freight, personal effects, 200 lb/family member (4 members)	470	
Return sea freight	470	
Air freight, personal effects, 200 lb/principal team member & 100 lb for each family member @ \$2.62 lb	1,310	
Return air freight	1,310	
<b>Vehicles</b>		
Personal auto	600	
Return shipment	600	
Jeep	570	
Return shipment	570	
<b>Equipment and supplies</b>	<u>500</u>	
<b>Subtotal</b>		<b>\$17,546</b>

\* The estimate for 9,000 lb is based on the assumption that basic furniture will not be provided. In the event that basic furniture is provided, shipment of household effects would be limited to 2,000 lb and the balance would be stored in the United States.

Michigan State University  
Direct Costs (3)

<u>Overseas Differential @ 20% base pay (\$17,000)</u>	\$ 3,400
<u>Preparation Costs, passports, visas, medical exams, inoculations</u>	600
<u>Communications, postage, cables, telephone call</u>	1,000
<u>Miscellaneous supplies (local purchase)</u>	1,000
Total Direct Costs	\$45,093

Note: Subject to confirmation  
by university

COOPERATING UNIVERSITIES

IV-University of Wisconsin (University of Ife--Western Nigeria)

@

Personnel

1 coordinating committee member, 4 weeks	\$ 1,700/mo	\$ 1,700	
1 agricultural specialist, 2 years	12,000/yr	<u>24,000</u>	
			\$25,700
Fringe benefits	10%		<u>2,570</u>
Total			\$28,270

Overhead

On campus	42%	\$ 714	
Off campus	27%	<u>6,480</u>	
			7,194

<u>Direct Costs</u> (see following pages for details)			<u>40,583</u>
			\$76,047

University of Wisconsin  
Direct Costs (1)

Travel

International travel

1 RT, Wisc.-Nigeria (member coordinating committee) \$1,120

3 RT, Wisc.-Nigeria @ \$1,120 (specialist & wife  
and 2 half-fare children) 3,360

U.S. travel, 2 RT, Wisc.-Palo Alto @ \$240  
(coord. comm. member & specialist) 500

Local Africa travel

12,000 miles by jeep @ approx. 12¢/mile 1,440

Air travel 1,000

Subtotal

\$7,420

Allowances and per Diem

Africa subsistence, 14 days @ \$21  
(member coord. comm. in Lagos) \$ 294

Temporary quarters, 90 days @ \$21 (specialist  
& family) 1,890

Quarters allowance, 14 months @ \$158.33 2,217

Subsistence for local travel, 210 days @ \$16 3,360

International travel, 4 RT (8 trips,  
3 days each = 24 days @ \$8) 192

U.S. subsistence

Member coord. comm., 14 days at FRI @ \$16 224

Specialist at seminar, FRI, 90 days @ \$16 1,440

Subtotal

\$9,617

6-b

University of Wisconsin  
Direct Costs (2)

Transportation of Effects

Personal excess baggage, 4 people, 8 trips, Wisc.-Nigeria, 22 lb/trip @ \$3.23/lb	\$ 568
Household effects, 9,000 lb.*	5,289
Return shipment	5,289
Sea freight, personal effects, 200 lb/family member (4 members)	470
Return sea freight	470
Air freight, personal effects, 200 lb/principal team member & 100 lb for each family member @ \$2.62/lb	1,310
Return air freight	1,310
<b>Vehicles</b>	
Personal auto	600
Return shipment	600
Jeep	570
Return shipment	570
Equipment and supplies	500
 Subtotal	 \$17,402

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\* The estimate for 9,000 lb is based on the assumption that basic furniture will not be provided. In the event that basic furniture is provided, shipment of household effects would be limited to 2,000 lb and the balance would be stored in the United States.

University of Wisconsin  
Direct Costs (3)

<u>Overseas Differential @ 20% base pay (\$17,000)</u>	\$ 3,400
<u>Preparation Costs</u> , passports, visas, medical exams, inoculations	600
<u>Communications</u> , postage, cables, telephone calls	1,000
<u>Miscellaneous Supplies (local purchase)</u>	<u>1,000</u>
Total Direct Costs	\$40,583

COOPERATING AFRICAN UNIVERSITIES

Personnel

4 African agricultural economists, 2 years @ £1,000 each/yr (8 man-years @ \$2,800)	\$22,400	
4 African research assistants, 17 months @ £300 each/yr (68 man-months @ \$70)	4,760	
Consultants	<u>1,000</u>	
Subtotal		\$28,160

Travel

2 RT, Nigeria-Palo Alto @ \$1,079	\$ 2,158	
1 RT, Uganda-Palo Alto	1,337	
1 RT, Sierra Leone-Palo Alto	1,029	
Air travel in Africa	<u>4,000</u>	
Subtotal		8,524

Subsistence

International travel, 4 RT, 3 days each way @ \$8/day	\$ 192	
In Palo Alto, 4 persons, 90 days each @ \$16/day	5,760	
In Africa (for travel)		
420 days @ \$16 (Nigeria)	\$6,720	
210 days @ \$13 (Uganda)	2,730	
210 days @ \$23 (Sierra Leone)	<u>4,830</u>	
	<u>14,280</u>	
Subtotal		<u>20,232</u>

Total Cooperating African Universities \$56,916



CENTRAL BUDGET

Purchase of equipment

4 typewriters @ \$150	\$ 600
4 jeeps (four-wheel drive) @ \$2,600	10,400
Supplies, books, and materials	<u>1,000</u>
Total	\$12,000

Appendix C

**BIOGRAPHIES**

William Bredo, Manager  
International Development Center

Dr. Bredo has conducted many economics research projects in the United States and overseas. Those in the United States have been largely concerned with regional development, marketing research on agricultural and industrial products, economics of corporate development strategy, and problems relating to national economic policy. For the past ten years, he has worked chiefly on problems on the strategy of industrialization and economic development in the United States and abroad.

In 1954, Dr. Bredo was a member of an Institute team studying industrial development opportunities in Israel. During 1956 and 1957, he served as economic adviser to the Pakistan National Planning Commission on the Harvard University team assisting in the preparation and implementation of the First Five Year Development Plan. In 1958, he helped prepare plans for setting up the Pakistan Rural Industrial Service. In 1960, in Argentina, Dr. Bredo led a team investigating the feasibility of using industrial parks for decentralizing Argentine industry. Later in 1961 he evaluated the extensive regional industrial development program then being launched in Pakistan and helped to improve the eligibility of projects for international financing. More recently in 1963 he was a consultant to the Government of Pakistan concerned with the redirection of the small industries program. Most recently, Dr. Bredo has performed research for the Greek government on problems of regional economic development and has periodically acted as a consultant on related matters.

Before coming to the Institute in 1952, Dr. Bredo had extensive experience as section chief of a marketing research group in the then Bureau of Agricultural Economics, U.S. Department of Agriculture. For two years he was assistant professor of agricultural economics at the University of New Hampshire. For three years he was executive secretary of the New England Research Council on Marketing and Food Supply concerned with coordinating research in agricultural marketing among the state universities.

Dr. Bredo holds a B.A. magna cum laude in economics from the University of Alberta, an M.S. degree from Iowa State University, and M.A. and Ph.D. degrees from Harvard University. He has written numerous articles, papers, reports, and books on economic development problems. One of these studies received national recognition in 1952 from the American Farm Economic Association and the American Marketing Association for its contribution to research method. His latest book is Industrial Estates - Tool for Industrialization (The Free Press, Glencoe, Illinois, 1960). He is listed in American Men of Science and Who's Who in the West.

Robert C. Brown, Economist  
Economics Studies

Dr. Brown's fields of specialization include agricultural economics, land and water use, and banking and finance. Since joining the Institute in 1959, he has participated in a number of agricultural projects, including the economics of cattle feeding in the United States, factors affecting the flour milling business, the structure of California farm ownership and operation, a linear programming model for planning the economic development of low income rural areas, and long-range forecasts of traffic flows of agricultural products through the Panama Canal. Foreign assignments have included studies of sources and markets for processed foods in Europe and planning for the agricultural development of new irrigation zones in Spain. In addition, he has completed research on the valuation of water rights and an analysis of water demand and supply for a major California water district. He has also participated in a study of the banking structure of California.

Prior to his employment by the Institute, he was a commercial bank lending officer and credit analyst for five years, specializing in agricultural credit and finance. He was also instructor at Chico State College (California) and agricultural economist for the U.S. Bureau of Reclamation

Dr. Brown holds a B.S. degree in agricultural economics from the University of California, Berkeley, and M.P.A. and Ph.D. degrees in economics from Harvard University.

He is a member of the American Economic Association, the American Farm Economic Association, and the American Society of Farm Managers and Rural Appraisers.

Alan E. Lazar, Economist  
International Development Center

Dr. Lazar is the administrative assistant to the manager of the International Development Center. His area of specialization is international trade and investment.

Prior to joining the Institute in 1964, Dr. Lazar served for one and one-half years as an economic analyst and project economist for the National Industrial Conference Board. His work with the Board was primarily concerned with the balance of payments effects of foreign direct investment. From 1957 to 1960, he served as an officer in the U.S. Navy and held both line and staff positions. At present, he holds the rank of lieutenant in the U.S. Naval Reserve.

Dr. Lazar received a B.S. degree in foreign trade in 1957 and an M.B.A. degree in operations research in 1961, both from the University of California at Berkeley. He received his Ph.D. degree in international business in 1964 from Columbia University. While at Columbia, he was given a Ford Foundation grant to write his dissertation on The Effects on Trade of Direct Manufacturing Investment Abroad.

He is a member of Beta Gamma Sigma.

Thomas A. Mainwaring, Senior Industrial Economist  
Industrial Economics Division

Mr. Mainwaring directs the Institute's food industry economics research program. The program provides research services on problems of long-range planning, diversification, production, distribution, and marketing in the food field. In addition, he conducts economics studies to assist Institute clients on major problems in other industrial fields.

While manager of a general marketing research group and during his previous work at the Institute, Mr. Mainwaring directed or conducted many research projects concerned with the size and characteristics of markets, effective marketing methods and programs, new product evaluation, transportation and storage, consumer attitudes and motivation, new plant feasibility, and plant location. His experience has been in product fields which include fresh, canned, frozen, and dehydrated foods; packaging; pulp; paper; paperboard; lumber; plywood; other building materials; paint; farm equipment; and other products. Mr. Mainwaring has recently returned from a project in Peru, where he helped to identify the more promising possibilities for processing food and beverage products derived from Peruvian agriculture. He also made preliminary feasibility studies of selected food and beverage processing industries.

Before joining the Institute in 1949, Mr. Mainwaring was manager of the San Francisco operations of a marketing research firm. He was a member of the staff of the market research department of Socony-Vacuum Oil Company in New York City from 1940 to 1947, excluding time out for service as a naval officer. Before this, he was in the investment securities field in New York City.

Mr. Mainwaring received his A.B. degree from Amherst College. He took his graduate work in business administration at Columbia University, New York University, and Golden Gate College.

BIOGRAPHICAL DATA  
ROGER W. GRAY  
PROFESSOR AND ECONOMIST, FOOD RESEARCH INSTITUTE  
STANFORD UNIVERSITY, STANFORD, CALIFORNIA

Age 42, Married, 3 children, resident at 901 Newell Road, Palo Alto, California.

A.B. in Economics, University of Colorado, 1942, Phi Beta Kappa, Pi Gamma Mu.

U.S. Army Air Forces, 1942-46.

M.A. in Economics, University of Colorado, 1946.

Ph.D. in Agricultural Economics, University of Minnesota, 1952, American Farm Economic Association award for dissertation entitled "An Economic Analysis of the Impact of Government Programs on the Potato Industry of the United States."

Instructor in Economics, University of Colorado, 1946-47, University of Minnesota, 1947-50. Research Fellow and Cooperative Agent, USDA, University of Minnesota, 1950-53. Assistant Economist, Bank of America, 1953-54. Food Research Institute, 1954 to date.

Publications

An Economic Analysis of the Impact of Government Programs on the Potato Industry of the United States, Technical Bulletin 211, University of Minnesota Agricultural Experiment Station, June 1954. Together with Vernon L. Sorenson and Willard W. Cochrane.

Price Supports and the Potato Industry, Station Bulletin 424, Agricultural Experiment Station, University of Minnesota, January 1954. Together with Vernon L. Sorenson and Willard W. Cochrane.

"Price Support Semantics," Journal of Farm Economics, Vol. XXV, No. 4, November 1953.

"Caricature and the Orientation of Agricultural Economics," Journal of Farm Economics, Vol. XXXIX, February 1957.

"Some Current Developments in Futures Trading," Journal of Farm Economics, Vol. XL, No. 2, May 1958.

"An Orientation for Marketing Research," Proceedings of the Committee on Agricultural Marketing Research, Western Agricultural Economics Research Council, December 1957.

"Speculation Helps the Onion Grower," Minnesota Farm Business Notes, March-April 1959.

"Vertical Integration and Market Coordination," Proceedings of the Joint Conference of the Marketing Research Committee and the Farm Management Research Committee of the Western Agricultural Economic Research Council, November 1959.

"The Importance of Hedging in Futures Trading; and the Effectiveness of Futures Trading for Hedging," Futures Trading Seminar, Vol. I, 1960.

"The Characteristic Bias in Some Thin Futures Markets," Food Research Institute Studies, Vol. I, No. 3, November 1960.

"The Relationship Among Three Futures Markets," Food Research Institute Studies, Vol. II, No. 1, February 1961.

"The Search for a Risk Premium," Journal of Political Economy, June 1961. [AFEA award for best published research]

"Onions Revisited," Journal of Farm Economics.

"Some Thoughts on the Changing Role of Price," Journal of Farm Economics, February 1964.

"Advertised Specials and Local Competition Among Supermarkets" (with Roice Anderson), Food Research Institute Studies, Vol. III, No. 2.

"The Attack upon Potato Futures Trading in the United States," Food Research Institute Studies, Vol. IV, No. 2.

"The Seasonal Pattern of Wheat Futures Prices under the Loan Program," Food Research Institute Studies, Vol. III, No. 1.



Discussion, "Land as Space for Living," by Hugh A. Johnson. Proceedings of the Western Economic Association, August 1958.

Discussion, "Competition in the Food Trade," Proceedings of the American Farm Economic Association, Vol. XLI, No. 5, August 1959.

#### Other Professional Activities

1. Participant, seminars at Chicago Board of Trade and Minneapolis Grain Exchange, 1956, 1960, 1961, 1962, 1963. Social Science Research Council seminar for training in Mathematics, Raleigh, 1956.
2. Consultant to Western Agricultural Economics Research Council, Marketing Committee, since 1957.
3. Chairman, Local Arrangements Committee, 1956 American Farm Economic Association meetings and 1960 Western Economic Association meetings.
4. Formerly consultant to Indonesian and Italian consular officials.
5. Member, various committees, American Farm Economic Association.
6. Manager, commodity futures accounts of private clients.
7. President, Western Farm Economic Association (formerly editor and vice-president).
8. Member, ICA Mission to Argentina, 1961.
9. Consultant to New York Mercantile Exchange, Association of Commodity Exchange Firms, and to Cargill, Incorporated.

BRUCE F. JOHNSTON: Biographical Data - 1963

Professor and Economist, Food Research Institute, Stanford University

Personal Data

Married, 2 children  
Date of Birth: September 24, 1919  
Citizenship: U.S.A.

Degrees

B.A., Cornell University (Political Science), 1941  
A.M., Stanford University (Economics), 1950  
Ph.D., Stanford University (Agricultural Economics),  
1953

Employment Record

1941-42 Agricultural Marketing Administration,  
U.S. Department of Agriculture  
1942-46 U.S. Army; Oct. 1944-June 1946, School of  
Military Government, Charlottesville, Va.  
and Far Eastern Civil Affairs Training  
School, Stanford University  
1945-48 Chief, Food Branch, Economic and Scientific  
Section, GHQ, SCAP, Tokyo, Japan  
1952-54 Agricultural Economist, Food and Agriculture  
Division, U.S. Mission to NATO and European  
Regional Organizations, Paris, France  
1954-59 Associate Professor and Associate Economist,  
Food Research Institute, Stanford University  
1959- Professor and Economist, Food Research  
Institute, Stanford University

Activities, Memberships,  
and Honors

John Simon Guggenheim Memorial Foundation  
Fellow, 1962; for travel in East Africa in  
connection with a study of the food economies  
of East Africa

Member, Social Science Research Council Com-  
mittee on Agricultural Economics, 1962- ;  
Chairman, Subcommittee for a Symposium on  
Agriculture and Economic Development

Member, Board of Directors, African Studies  
Association, 1962-

Member, American and Western Farm Economic  
Associations and American and Western Eco-  
nomic Associations

Activities, Memberships,  
and Honors (cont.)

Consultant, Food and Agriculture Organization of the United Nations, March-May 1961 and member of an FAO working party in Tokyo, January 22-February 2, 1963 that prepared a report on Agricultural Development in Modern Japan: The Significance of the Japanese Experience, a paper presented at the World Food Congress, June 1963

Member, Foreign Area Fellowship Program, Advisory Board, 1963-

Member, Telluride Association, Phi Beta Kappa, Phi Kappa Phi

Principal Publications

Books: The Staple Food Economies of Western Tropical Africa (Food Research Institute Studies in Tropical Development, Stanford, 1958) 305 pp.

Japan's Food Management During World War II (Stanford University Press, 1953) [with Yoshio Kusumi and Mosaburo Hosoda] 283 pp.

Articles: "The Choice of Measures for Increasing Agricultural Productivity; A Survey of Possibilities in East Africa," Tropical Agriculture. [In press.]

"Changes in Agricultural Productivity and Patterns of Production in Tropical Africa," in The Economic Transition in Africa, Social Science Research Council Conference, Northwestern University, Nov. 16-18, 1961. [In press.]

"Agricultural Development and Economic Transformation: A Comparative Study of the Japanese Experience," Food Research Institute Studies, Vol. III, No. 3, 1962

"Urban Food Expenditure Patterns in Tropical Africa," [with Hiromitsu Kaneda], Food Research Institute Studies, Vol. II, No. 3, 1961

Principal Publications (cont.)

"The Role of Agriculture in Economic Development," [with John Mellor], American Economic Review, September 1961.

"The Economic Gains of European Integration," [with Franz Gehrels], Journal of Political Economy, August 1955

"Agricultural Productivity and Economic Development in Japan," Journal of Political Economy, December 1951

**WILLIAM O. JONES: Biographical Data - 1963**

**Professor and Economist, Food Research Institute, Stanford University**

Personal Data

Married, 3 children  
Date of Birth: July 6, 1910  
Citizenship: U.S.A.

Degrees

A.B., University of Nebraska (Anthropology), 1932  
Ph.D., Stanford University (Economics), 1947

Employment Record

1933-34 Standard Oil Company of Nebraska  
1935-38 Assistant to the Merchandise Manager, Graybar Electric Company, Inc., Los Angeles, California  
[1938-40 Graduate Student]  
1940-41 Acting Instructor, Department of Economics, Stanford University  
1942 Acting Instructor, Department of Economics, University of Santa Clara  
1942-44 Associate Instructor and Secretary, Department of Ground School Training, Pre-flight School (Pilot), Santa Ana Army Air Base  
1944-45 Instructor, Department of Economics, Stanford University  
1946-48 Assistant Economist, Food Research Institute, Stanford University  
1948-50 Assistant Economist and Assistant Professor, Food Research Institute  
1950-53 Associate Economist and Associate Professor, Food Research Institute  
1953 Economist and Professor, Food Research Institute  
1955-62 Executive Secretary, Food Research Institute

Activities, Memberships,  
and Honors

John Simon Guggenheim Memorial Foundation Fellow, 1953; for travel in Europe and Africa in connection with "A Study of the Economics of Production, Distribution, and Consumption of the Manioc Root."

President, African Studies Association, 1960-61

President, Western Economic Association, 1961-62

Activities, Memberships,  
and Honors (cont.)

- Member, Organizing Committee, First International Congress of Africanists, Ibadan, Nigeria, 1961
- Member, Senior Staff, Human Factors in Middle Africa. Project of the National Academy of Sciences/National Research Council, 1959-1960
- Visiting Lecturer, Agricultural Economics Research Institute, Oxford University, 1959-1960
- Member, Nyasaland Economic Symposium (sponsored by the Nyasaland Government), Blantyre, July 1962
- Member, National Academy of Sciences/National Research Council Advisory Committee for Africa, 1962
- Member, U.S. Department of State, Bureau of African Affairs, Advisory Council on Africa, 1962
- Member, Social Science Research Council/American Council of Learned Societies Joint Committee on African Studies, 1960-
- Member, Social Science Research Council/American Council of Learned Societies, Foreign Area Fellowship Program Advisory Board, 1961-63
- Member, African Studies Association; Agricultural Economics Society (Great Britain); American Economic Association; American Farm Economic Association; Economic History Association; International African Institute; Western Economics Association; Western Farm Economics Association

Publications

**Book:**

Manioc in Africa (Food Research Institute Studies in Tropical Development, Stanford 1959), 315 pp.

**Articles:**

"Impact of War on United States Flour Consumption," Journal of Farm Economics, August 1948

Publications (cont.)

- "A California Case Study on Location Theory: The Globe Artichoke on the Moro Cojo," Journal of Farm Economics, August 1949
- "Price and Mortality Expectations and Valuations of Inventories" [with John Pagani], Accounting Review, July 1950
- "A Case Study in Risk-Distribution: The California Lettuce Industry," Journal of Farm Economics, May 1951
- "Current Farm Price-Support Proposals in the United States," Journal of Politics, May 1951
- "The New Agricultural Economics," Journal of Farm Economics, November 1952
- "How Big Should a Farm Be?," Pacific Spectator, Winter 1953
- "A Map of Manioc in Africa," Geographical Review, January 1953
- "Snake Stones," Africana Notes and News (Johannesburg), March 1955
- "Response of Wheat Growers to Price Changes: Appropriate or Perverse?" [with Helen C. Farnsworth], Economic Journal (London), June 1956
- "Colonial Social Accounting," Journal of the American Statistical Association, September, 1955
- "Farm Price Policy and the Surpluses," Pacific Spectator, Summer 1956
- "Discussion of O. B. Jesness, 'Changes in the Agricultural Adjustment Program in the Past 25 Years' and Marion Clawson, 'Agricultural Adjustment Reconsidered: Changes Needed in the Next 25 Years,'" Journal of Farm Economics, May 1958
- "Economic Man in Africa," Food Research Institute Studies, May 1960

Publications (cont.)

- "Agricultural Policies in the 1960's: Discussion," Western Farm Economic Association, Proceedings, Thirty-third Annual Meeting, Stanford, Calif., Aug. 23-26, 1960
- "The Food and Agricultural Economies of Tropical Africa: A Summary View," Food Research Institute Studies, February 1961
- "Tropical Africa's New Frontier," Stanford Today, Summer 1961
- "Political Independence and Economic Progress in Africa," Africa in Transition (Univ. of Ariz. Kennecott Lectures 1960-1961, No. 6, Tucson, 1961)
- "World Food Problems: The Nature of Our Ignorance," in Food: One Tool in International Economic Development (Center for Agricultural and Economic Adjustment, Iowa State Univ., Ames, Ia., 1962)
- "Food Supply and Requirements in Tropical Africa," in The Role of Wheat in the World's Food Supply. A Report of the Conference, Apr. 30-May 2, 1962 (U.S. Dept. of Agr., Western Regional Laboratory, Albany, Calif.)
- "Consumption of Exotic Consumer Goods as an Indicator of Economic Achievement in Ten Countries of Tropical Africa" [with Christian Mérat], Food Research Institute Studies, February 1962
- "Increasing Agricultural Productivity in Tropical Africa," Relating Principles of Economic Development to African Economic Development (Nyasaland Economic Symposium, Blantyre, July 18-28, 1962.) [In press]