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**EXPERIENCE, INCORPORATED
CAPACITY TO PROVIDE TECHNICAL SERVICES
UNDER
INDEFINITE QUANTITY CONTRACTS**

**RURAL DEVELOPMENT
AID/SOD/PDC-C-0185
April 20, 1979 to April 19, 1981**

and

**AGRICULTURE
AID/SOD/PDC-C-0219
May 18, 1979 to May 19, 1981**



EXPERIENCE, INCORPORATED
MINNEAPOLIS, MINNESOTA 55402



72
EXPERIENCE
INCORPORATED

TO: Agricultural and Rural Development Officers
Capital and Project Development Officers
Evaluation Officers

FROM: *A.A. Delemarre*
Robert A. Delemarre, Vice President

SUBJECT: Indefinite Quantity Contracts

DATE: July 16, 1979

AID recently awarded Experience, Incorporated two IQC's to provide short-term technical services to the Bureaus and the Missions. Permit me to introduce the firm.

Experience, Incorporated is an employee-owned company based in Minneapolis, Minnesota and Washington D.C. We specialize in agricultural and rural development planning, sector integration, agribusiness and market development, transport economics, rural industries development and appropriate technology.

Our company was awarded its initial IQC for Agriculture and Rural Development by the Asia Bureau in September 1974. This contract was superseded by an Agency-wide IQC awarded to us in May 1975. Under the latter contract, which expired in April 1979, we performed 92 Work Orders. Most of these assignments involved project design, while a few addressed project evaluation.

Under the recent IQC competition, the Agricultural and Rural Development sectors were separated and contracted for individually. We were awarded IQC's for both Agriculture (Contract AID/SOD/PDC-C-0219, signed May 19, 1979) and Rural Development (Contract AID/SOD/PDC-C-0185, signed April 20, 1979). These new IQC's are to provide AID and cooperating agencies short-term advisory services related to Agency policy and procedures, including 1) country, sector and program analysis, 2) identification, design and evaluation of programs and projects and 3) the development of design and evaluation methods and procedures and the teaching of these concepts and procedures.

We are confident that we can respond to this much broader scope of work in the same manner in which we previously responded to requests for project identification and design, as we have among our consultants the best professionals in these areas. We also find our ten years experience in implementing agricultural and rural development projects in LDC's materially useful in undertaking work order assignments.

Once we undertake a work order, we follow through to assure the client a quality product in the allotted time. We have a well-established reputation for this policy in A.I.D.

In your use of Work Orders, we urge you to be as explicit as is feasible in describing the tasks to be performed. Our understanding of your objectives and constraints will help us to send you the appropriate team to do the job.

While we enjoy hearing good things about the work of our consultants and field teams, we must also have a feedback system that will permit us to eliminate weaknesses as they occur. If any of our teams or team members do not perform to your expectations, please advise us, and we will do what we can to correct the problem.

For your reference I am sending (I) a statement of institutional capability (II) the scope of work of the IQC's and (III and IV) biographical sketches of the consultants included in our bid proposals, which is fully representative of our consultant force.

Carl F. van Haefte, who joined Experience, Incorporated in 1976 and Lloyd Clyburn, who is also presently associated with us, will have active roles in implementing these IQC's. While requests for Work Orders are to be requested through established channels, Carl, Lloyd and I will be pleased to respond to any specific questions about the firm that you may have.

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TABLE OF CONTENTS

Memorandum of Transmittal

- I. STATEMENT OF INSTITUTIONAL CAPACITY AND CAPABILITY
 - A. General Statement of Capability
 - B. Project Related Experience

- II. PROGRAM DESCRIPTION AND SCOPE OF WORK

- III. DESIGN AND EVALUATION SERVICES AVAILABLE UNDER IQC - RURAL DEVELOPMENT
 - A. Rural Development Categories Addressed in the Contract
 - B. Abbreviated List of EI Rural Development Consultants

- IV. DESIGN AND EVALUATION SERVICES AVAILABLE UNDER IQC - AGRICULTURE
 - A. Agricultural Categories Addressed in the Contract
 - B. Abbreviated List of EI Agricultural Consultants

I. STATEMENT OF INSTITUTIONAL
CAPACITY AND CAPABILITY

A. General Statement of Capability

Experience, Incorporated specializes in agriculture, rural development including appropriate technology, development planning, agri-business development, rural industries development and transport economics. With more than 400 participating consultants, we provide analysis and evaluation of economic feasibility and assist in implementation of development and/or improvement programs. Our firm has provided the above services to governmental and private groups in the United States, Canada, Europe, Asia, Africa and Latin America.

Experience, Incorporated is somewhat unique in that most of our staff members and associate consultants have previously held operating, administrative or scientific positions of major responsibility within private industry, financial and academic institutions or governmental agencies. We are prepared to provide competent consultants with expertise in: agricultural planning; crop production; irrigation and drainage; agricultural machinery; pesticides and fertilizers; food processing; production technology including appropriate technology, dietary fortification and nutrition; rural industries; production and processing of livestock and poultry; plant location, layout and evaluation; by-product utilization; distribution and storage; marketing and market evaluation; environmental studies; transportation; financial systems and procedures; formation and operation of cooperatives; mergers, sales and acquisitions; foreign economics and trade development.

Experience, Incorporated brings to its projects the objectivity of a highly competent team chosen for each specific assignment. These experts, with home office staff support, provide a practical and realistic evaluation of project requirements and feasibility and assist with project implementation.

Experience, Incorporated's capacity to effectively backstop our field teams and more especially maintain communication with technical expertise in the United States is strong and is growing in strength. Our core staff and 400 actively participating associate consultants have either current or past affiliations with major agri-business firms, universities, cooperatives, U.S. Government Agencies and international institutions, including the world's principal agricultural research centers.

B. Project Related Experience:

Experience, Incorporated has been assisting governments with evaluation, design, implementation and management of agricultural and rural development programs for over ten years. The following sections covering feasibility studies, work orders, appropriate technology and project implementation describe/list some of our Africa experience plus related experience in other developing countries/regions.

1. Feasibility Studies:

Prior to the advent of the Indefinite Quantity Contract (IQC) under which Work Orders are the main vehicle for project evaluation and design, Experience, Incorporated undertook a number of feasibility study/design efforts in Black Africa. They include the following:

- o Ethiopia - Evaluation of the total operations and management of the Ethiopian Grain Corporation. Development of specific recommendations and operating guidelines which were subsequently accepted and implemented.
- o Ethiopia - Determine the feasibility of increasing feed grain and pulse production for export and development of a program for increased production. In addition, two special reports were prepared covering a) a plan for improved seed production, processing and marketing, and b) domestic transportation, processing and storage of grains and pulses.
- o Lake Chad Basin - A study of agricultural, industrial and related commerce of portions of Chad, Cameroon and Nigeria in relation to the economic and technical feasibility of developing/upgrading three area roads to all-weather standards.
- o Tanzania - A study to determine the economic and technical feasibility of establishing a seed multiplication and distribution program. Prepared a ten-year time phased approach to implementation of the program.
- o Zaire - Prepared an agricultural economic study of the Luluabourg-Mbuja-Mayi area for a firm evaluating the feasibility of upgrading the road to all-weather standards.
- o Botswana - A study to determine the economic and technical feasibility of establishing a new abattoir.
- o Kenya - A study to determine the economic feasibility of establishing a new abattoir, in the disease-free

area around Nakuru, to serve export markets for beef.

2. Work Orders:

Since the advent over three years ago of the AID world-wide IQC for agriculture and rural development, Experience, Incorporated has undertaken 92 Work Orders (94-2). Each of these Work Orders is listed below, giving a brief description of the assignment, the country or geographical area of site work and the number of consultants provided by Experience, Incorporated. In the majority of cases, Experience, Incorporated provided one or more consultants as part of a combined evaluation and design team. However, in many instances, we provided the full team and assumed responsibility for preparing a complete, draft final Project Paper.

WORK ORDERS EXECUTED UNDER
AID INDEFINITE QUANTITY CONTRACT FOR
AGRICULTURE AND RURAL DEVELOPMENT
Contract AID/afr-C-1130

W.O. #

1. Prepare discreet analyses of the impact on ecology of current and planned agricultural activities, both crops and livestock - Kenya and Tanzania.
Consultants: 1.
2. Provide an engineer to assist REDSO/WA staff with the engineering aspects of various agricultural, health and human resources projects - Abidjan.
Consultants: 1.
3. Cancelled by AID before work was to start.
4. Prepare analyses on: a) potential of Vitamin A fortification of sugar and other alternatives; b) potential for production and distribution of low cost human grade red palm oil; c) the maisoy project including urban and village level processes based on soy and alternative protein sources; and d) potential of private sector participation in Government nutrition efforts - Honduras.
Consultants: 1.
5. Evaluation of the rural sector and the relevance thereto of prior agricultural sector loans, and appraisal of the possibilities for a new loan, including establishment of performance criteria at the sub-sector level - Ethiopia.
Consultants: 2.
6. Assist USAID evaluate a PVO proposal requesting a grant for agricultural production training for young farm families, as well as training in related fields such as rural health and home economics - Cameroon.
Consultants: 1.
7. Provide the Government and USAID assistance in the design and justification of a land-use potentials survey - Mali.
Consultants: 1
8. Assist AID with the design of new projects for OMVS: a) multi-sector development; b) research on irrigated forage production; and c) research on flood recession agriculture - Washington.
Consultants: 1

9. Assist AID in an assessment of agricultural institutions devoted to: a) administration/manpower planning; b) agricultural education/extension; and c) agricultural economics/credit - Cameroon.
Consultants: 1
10. Provide a transport engineer and a transport planner to assist with the Bicol River Basin Development Intermodal Transport Study - Philippines.
Consultants: 2
11. Provide assistance to REDSO/WA in the preparation of rural development and agricultural economic aspects of several proposed agricultural sector loans - Abidjan.
Consultants: 1
12. Assist AID in appraising requirements for carrying out deep-water rice research at Mopti, Mali, and provide recommendations for revising the Project Paper to include appropriate AID support - Mali.
Consultants: 1
13. Based upon work performed under Work Order No. 1, prepare a country background paper (Tanzania) and a country background paper (Kenya) which establish guidelines for USAID Missions to ensure that environmental criteria are evaluated - United States.
Consultants: 1
14. Assist AID with the preparation of technical input for a PRP for a program for increasing the income of small farmers in North Shaba through expanded maize production and marketing - Zaire.
Consultants: 3
15. Assist the Government in formulating a range livestock development proposal and provide technical advice to the Area Development Officer on the Project - Niger.
Consultants: 2
16. Assist AID prepare the required data to respond to a Congressional mandate by developing a comprehensive proposal for the long term development of the Sahelian and other drought stricken countries of Africa - Washington and the Sahel.
Consultants: 6
17. Evaluate the Upper Volta Seed Multiplication Project and make recommendations for its future development. - Upper Volta
Consultants: 1

18. Prepare the economic and social feasibility of an integrated Rural Development/Resettlement Project in the West Benoue Region - Northern Cameroon.
Consultants: 2
19. Assist the AID/Washington Operations Appraisal Staff in conducting country program appraisals. Specifically charged with appraisal of agricultural and rural development programs and activities in Tunisia and in Morocco.
Consultants: 1
20. Provide a consultant to head a team charged with the evaluation and preparation of several agricultural, fishery and manpower development PRP's and PP's. - Chad.
Consultants: 1
21. Prepare the economic analysis for inclusion in the Bakel Irrigated Perimeter PP - Senegal.
Consultants: 1
22. Prepare a site resources inventory (vegetation, soils, water and agricultural potential) as a basis for the design of an integrated livestock and range management project - Niger.
Consultants: 4
23. Prepare an agricultural manpower and training analysis (including ag extension agents) as input into a Project Paper for Manpower Training for Chadian Agricultural Institutions - Chad.
Consultants: 2
24. Provide the detailed technical analysis required to enable REDSO/EA to prepare a Project Paper for the re-establishment of training operations at an existing forge operation at Nyabisindu to permit the production of farm hand tools - Rwanda.
Consultants: 1
25. Assess the general state of the country's poultry and egg industry, make recommendations as to the general feasibility of expanded production and make recommendations concerning supporting activities required to serve the poultry industry - Egypt.
Consultants: 3
26. Prepare for USAID the PL 480 Title I Program data requirements - Senegal.
Consultants: 1

27. Assess the general state of the country's poultry industry, make technical recommendations with respect to increasing broiler and egg production and suggest alternative forms of public and private or mixed enterprises which might be responsible for various aspects of the industry - Syria.
Consultants: 4
28. Provide the services of four agricultural and rural development experts to assist in the review, analysis and refinement of FY 77 PRP's and PP's and FY 78 PID's, and design of subsequent projects - Sahel and Washington.
Consultants: 4
29. Coordinate the preparation of three PRP's and provide technical assistance to the CDO and REDSO/WA on program development and support - Chad and Washington.
Consultants: 1
30. Prepare a PRP giving economic and technical justification of the establishment of five to six farm market service centers in the Eastern Rural Development Region - Upper Volta.
Consultants: 2
31. Replaced by Number 47.
32. Prepare an economic, technical and social analysis of the Rural Development Area Infrastructure Support Project as input to a PRP - Swaziland.
Consultants: 3
33. Gather and analyze data needed to provide an addendum to the Agricultural Sector Assessment and assist in the preparation of the related PRP documentation - Jamaica.
Consultants: 2
34. Undertake the preliminary engineering and sociological analysis necessary for the design of a proposed multifaceted agricultural development project for the Casamance Region - Senegal.
Consultants: 2
35. Determine the agronomic inputs and feasibility of a vegetable production scheme as input into a PRP - Mauritania.
Consultants: 1

36. Prepare the economic and financial tables for a long term master plan for rural electrification - Jordan.
Consultants: 1
37. Prepare preliminary agronomic, economic and social analyses for development of project proposals for development of subtropical lands and intermediate rural technologies - Peru.
Consultants: 2
38. Prepare the social soundness analysis for the Barangay Water Systems Project - Philippines.
Consultants: 1
39. Develop background information, project design and assist in the preparation of a Project Paper for the Rangeland Resource Management: GTS project - Africa-wide.
Consultants: 1
40. Provide the research and technical analysis necessary for preparation of a rural works Project Paper - Mali
Consultants: 2
41. Develop the necessary technical, managerial, economic, social and related analyses and project description for the Rural Development Planning and Coordination PRP - Sierra Leone.
Consultants: 2
42. Provide technical assistance to AID in developing a strategy to include demographic data in development planning and to make recommendations for research and surveys necessary to supplement existing demographic and health data - Sahel and Washington.
Consultants: 3
43. Assist AID in designing specific long-term interventions in agriculture in the Sahel in cooperation with the Rainfed Agriculture and Adoption Technology Working Groups of the Club des Amis du Sahel - West Africa.
Consultants: 2
44. Assist USAID to develop technical and analytical background for the Rural Roads II, Real Property Tax Administration and Rural Service Center Development Projects which will be used in project design and incorporated in project documentation - Philippines.
Consultants: 1

45. Define and design a grain marketing project within the country needs and the Government's capacity to carry out the program - Zaire.
Consultants: 5
46. Appraise an irrigation project (Diagambal Perimeter) prepared by the IBRD and, if it is found to be technically and economically feasible, prepare a PRP - Senegal.
Consultants: 1
47. Assist USAID in the drafting of a Project Paper to incorporate the design of a range and range animal development program - Niger.
Consultants: 2
48. Assist with the design of a comprehensive integrated food crop pest management project - Sahel.
Consultants: 2
49. Review and evaluate the current status of the Agricultural Research Project (No. 497-198) and perform the necessary analysis and design for a three year extension of the project - Indonesia.
Consultants: 2
50. Prepare the social soundness analysis for incorporation by USAID into the Small Scale Irrigation II Project Paper - Philippines.
Consultants: 1
51. Identify and evaluate the reasons for the failure of Pakistan's cotton crop and propose short and long-term policies and programs to overcome them - Pakistan.
Consultants: 1
52. Review all available data and use observations to determine the present environmental conditions of the Gambia River Basin as input into a multi-donor mission appraising the possibilities of developing a comprehensive strategy and program for the development of the Basin - The Gambia.
Consultants: 1
53. Added two cotton experts -breeding and entomology- to the effort described in Number 51.
54. Prepare an overview and identify constraints in the farmer credit system - Cameroon.
Consultants: 2

55. Prepare a Project Paper for the Pindars-Two Meetings River Valleys integrated rural development project - Jamaica.
Consultants: 8
56. Assist USAID with the undertaking of an interim analysis for the preparation of a proposed regional development project in the Casamance Region - Senegal.
Consultants: 1
57. Project the optimal and minimal field and Bureau technical organization and staffing required to implement the draft strategy for agricultural development in Africa at levels contemplated in PPC and AFR program projections - Washington.
Consultants: 1
58. Assist AID in the preparation of position papers on the proposed strategies of the Club des Amis du Sahel for the Rainfed, Irrigated and Livestock Sectors - Washington.
Consultants: 5
59. Assist AID review and evaluate its proposed assistance for the construction of roads and an airport and if positive a PRP and a PP for the two respective efforts. The terms of reference for a road feasibility study was prepared for AID - Lesotho.
Consultants: 1
60. Assist the provincial planning board and provincial authorities select rural public works projects, estimate their costs and prepare a time-phased program for their development - Indonesia.
Consultants: 1
61. Provide a project analysis specialist to assist AID in preparing and reviewing documentation required for project approval with special emphasis on their financial, economic and social feasibility - Washington.
Consultants: 1
62. Prepare the FY 78 Project Paper for the Appropriate Technology project - Haiti
Consultants: 3
63. Assist with and coordinate the preparation of the final Project Paper for the Sahel integrated pest management project - Sahel and Washington.
Consultants: 1

64. Provide assistance to AID with the final feasibility analysis of four projects: a) Zaire Grain Marketing; b) Zaire Inera Support; c) Liberia Bong County Rural Development; and d) Liberia National Training - West Africa and Washington.
Consultants: 1
65. Prepare feasibility studies, in dairy and dairy products and fruit and vegetable enterprises, which are required for the Project Paper for the Land Productivity and Employment Loan Project for FY '78 - Costa Rica.
Consultants: 2
66. Provide analyses and recommendations necessary to develop a Project Paper for an integrated resources management project and a vegetable production project - Mauritania.
Consultants: 4
67. Assist OSARAC in providing consultative services to the Government of Lesotho in planning and coordinating an international donor's conference - Lesotho.
Consultants: 1
68. Provide an agronomist to assist with effort described in Number 66.
69. Prepare technical and economic analysis on the Trans-Cameroon Railroad III project to enable AID to make an independent judgement concerning its potential participation in project funding - Cameroon.
Consultants: 1
70. Provide an engineer experienced in transportation and storage facilities to participate on an AID team to analyze, evaluate and recommend various actions which will address the refugee problems - Eastern and Southern Africa.
Consultants: 1
71. Assist the AID Sahel Development Program Team and the Club du Sahel develop a coherent agricultural development program for the Sahel - West Africa and Washington.
Consultants: 1
72. Develop an analysis of rural learning skills as related to agriculture and assist in developing an appropriate curriculum for training community development/extension workers to promote these skills - Rwanda.
Consultants: 1

73. Review food production projects and propose alterations in project design, if appropriate, under the Entente Fund Food Production/Livestock II Loan - Abidjan.
Consultants: 1
74. Assist the African Development Bank with a program for the monitoring and evaluation of a one million dollar resources management survey of the onchocerciasis-free areas of Benin, Ghana and Upper Volta - Abidjan.
Consultants: 1
75. Provide an environmentalist to participate in the review session by the Multi-donor Appraisal team to the Gambia River Basin during which time the draft report will be revised for final publication - United States.
Consultants: 1
76. Assist AID in preparing and reviewing documentation required for final approval of the Zaire Grain Marketing Project and in preparation of the RFP - Washington.
Consultants: 1
77. Provide technical assistance and analysis to the Lake Chad Basin Commission Multi-donor Project Appraisal Mission in the areas of social anthropology and the environment - Chad
Consultants: 2
78. Undertake the technical, agronomic, economic, health, engineering and social analyses and prepare the design (Project Paper) for the Haute Valley Integrated Rural Development Project - Mali.
Consultants: 7
79. Prepare engineering justification to satisfy Sections 611(a) and (e) requirements for the Village Development Project, including the road rehabilitation and water supply components - Tanzania.
Consultants: 1
80. Assist USAID with the preparation of soils and land use capability as input for the Watershed Management Project Paper - Panama.
Consultants: 1
81. Working with a local rural sociologist, draft the terms of reference for survey analysis which will constitute an interim report leading to an Integrated

Community Development Project Paper - Haiti.
Consultants: 1

82. Provide a project analysis/design specialist to assist AID in the preparation of a Project Paper for the Mandara Mountains Water Resources Project and the Agricultural Management and Planning Project, in particular the economic and financial sections of the Project Paper - Cameroon.
Consultants: 1
83. Review technical design, construction methods and costs estimates and determine if the engineering and technical plans meet the requirements of Section 611(a) of the Foreign Assistance Act - Cameroon.
Consultants: 1
84. As part of an AID evaluation team, assess the engineering components of the Sederhana I Irrigation Project - Indonesia.
Consultants: 1
85. Design a technical assistance project and prepare a Project Paper for the Liberian Agricultural Cooperative Development Bank - Liberia.
Consultants: 3
86. Provide a Project Design Officer to coordinate the final design and Project Paper preparation of an integrated agricultural production project in the Blue Nile Province - Sudan.
Consultants: 1
87. Provide a maize breeder to assist with the evaluation of the Agricultural Research Project - Tanzania.
Consultants: 1
88. Prepare a series of environmental assessments of proposed development plans for the major Sahelian water basins, which set forth recommendations for U.S. participation in the short and long term development of the Lake Chad, Gambia and Niger River Basins - Sahel and Washington.
Consultants: 1
89. Provide engineering input in a Project Committee review of the Transcameroon Railroad III Project Paper - Washington.
Consultants: 1

90. Research and analyze the role of water resources infrastructure and develop guidelines to enable AID field personnel in the Sahel to identify and develop irrigated agricultural projects that are consistent with the Congressional mandate to reach the rural poor - Washington
Consultants: 4
91. Provide a project design officer and a rural sociologist as part of a multi-disciplinary team charged with development of a Project Paper in the area of agricultural development - Djibouti
Consultants: 2
92. Provide research and other support services required for preparation of project design conferences and participate in the case study portion of the conferences - Abidjan and Nairobi
Consultants: 1
93. Assist in the preparation of a cooperative subsector analysis and the subsequent design of an AID-funded project which will address problems in the sector and further develop cooperative institutions - Cameroon
Consultants: 1
94. Prepare a feasibility study on the potential for bringing new lands under irrigation and make recommendations on ways to improve the efficiency of water use on presently irrigated lands - Afghanistan
Consultants: 6

Sixty of the above Work Orders were undertaken for project development in Black Africa and required field work in Africa. Forty-five of these, utilizing 79 consultants, were in Francophone Africa and fifteen, utilizing 18 consultants, were in Anglophone Africa.

Eight of the above Work Orders were undertaken in the Caribbean and Latin America by twenty Experience, Incorporated consultants.

3. Improved Rural/Appropriate Technology:

Over the past several years, Experience, Incorporated has undertaken and is undertaking a number of short and long-term assignments related to improved rural/appropriate technology. Several of these assignments are discussed below.

- o Africa - under a three year contract, three staff members are assisting the African Bureau of AID with a program of 'Improved Rural Technology'. The purpose of the project is to support the improvement of small scale agricultural and other rural related technologies. The project will promote innovation in utilization of local technology systems and technical support services for small scale development activities.
- o Haiti - a three consultant team in conjunction with USAID prepared one of the first appropriate technology Project Papers for AID. This effort addressed both appropriate technology and rural income generation activities.
- o Guatemala - a four consultant team prepared the input for a Rural Enterprise Development Loan and Grant Project Paper for USAID. The report included analyses of credit supply and demand, credit institutions; evaluation of financial criteria; identification of potential technology constraints to rural enterprises development; and assessment of existing programs and institutions engaged in addressing these constraints through the adaption and/or introduction of appropriate technology.
- o Ghana - in our District Planning and Rural Development project based in Atebubu, our long

term advisory team with assistance from short term advisors will work with the local district council in developing programs and activities to overcome obstacles to increased agricultural production, promote activities to generate increased rural non-farm employment and income, and introduce appropriate technology means to increased and improved area roads, water supply, health, food processing, energy, etc. In 1976, Mr. Tatom prepared a report for USAID entitled "Pyrolytic Conversion of Agricultural and Forestry Wastes in Ghana". We intend to pursue this potential for the Atebubu area in addition to improvement of the fishing industry and artisan training (possibly with the Kumasi II Center).

- o Mali - in the Mali Livestock I project, Experience, Incorporated is responsible for the construction of a beef cattle feedlot and development of two managed grazing reserves totaling approximately 40,000 acres. We have tried to maximize use of local labor versus machinery for feedlot construction, harvesting of forage, digging wells, clearing and installing fence lines. We have also tried to maximize use of local materials in our construction and development efforts. This approach has provided welcomed cash income to over 300 Malians who rarely have an opportunity to earn money from other than the sale of their crops and livestock.
- o Pakistan - under our Barani project, we assisted the GOP with an extension and demonstration program for improving crop yields under rainfed cultivation. Our short-term agricultural engineer visited the project area and made recommendations on improving local farming equipment and machinery, developing

village grain storage facilities and desirable future engineering consultancy services to the project.

- o United States - under contract to Control Data Corporation, Experience, Incorporated prepared a study concerning possibilities for agribusiness technology transfer using Technotec. Technotec is a CDC service group which has developed a computerized, inexpensive means to list and retrieve a variety of information which presently is largely made up of world-wide opportunities for investments, licensing or other business potentials not available from standard sources. Subscribers enter details of available technology they are willing to license or sell and technology seekers search the data base to ascertain if the desired technology is 'available'. It is Technotec policy that priority be given to the listing and dissemination of technology in the fields of solar energy and agribusiness.

The overall objective of this study is to provide Technotec with a) a core data base of business opportunities in agribusiness technology through direct contact with 200 agribusiness firms; and b) a plan to further the collection, storage and dissemination of agribusiness technology.

- o United States - under a related contract, Experience, Incorporated is to provide Technotec with the necessary background information to begin implementing an international program to use the Technotec computer network to transfer appropriate technology. The specific objectives encompassed by this technical services contract include:

Identification of the major public and private institutions that are involved in the gathering, cataloging and dissemination of appropriate technology to developing countries;

Description of the means and type of appropriate technology now being distributed by the above institutions;

Indication of which private U.S. companies are the most active in transferring appropriate technology to the developing countries and the type of technology being transferred as well as the means to transfer it;

Determination of the effectiveness of the current methods being used to transfer appropriate technology;

Identification of select developing countries which have developed specific institutions to receive and disseminate appropriate technology.

In addition to the above assignments, a number of the previously listed Work Orders have had as one of their objectives or components an analysis of appropriate technology and/or means for rural income generation (See numbers 4, 20, 24, 37, 40 and 65).

4. Project Implementation:

Experience, Incorporated has been assisting African country entities with the evaluation, design, implementation and management of agricultural and rural development programs for the past ten years. Experience,

Incorporated teams are presently carrying out multi-year assignments in five developing countries:

<u>Country</u>	<u>Project</u>	<u>Duration of Assignment</u>
Tanzania	Seed Multiplication, Processing and Distribution	10 years
Korea	Seed Multiplication, Processing and Certification	3 years
Mali	Livestock Production, Range Management and Small Farmer Credit	4 years
Pakistan	Dryland Agricultural Development through Extension and Demonstration	3 years
Ghana	Seed Production, Processing and Distribution including Extension Advisory Services	2 years
Ghana	District Planning and Rural Development	1-4 years

In each of the first five above projects, Experience, Incorporated personnel are providing on-the-job training to local nationals to prepare them to assume operational and managerial responsibility for their respective functions/areas of responsibility. We have signed a contract for Phase I (one year) of the last listed project which is to prepare the specific project design to be implemented in Phase II (3 years). Phase I is scheduled to begin this winter at which time we will have 21 long-term agricultural and rural development advisors working on the six projects.

For the above projects, Experience, Incorporated has also been assisting the clients in the development of specifications, preparation of tenders and procurement of farm machinery and equipment, seed processing machinery and buildings, feedlot equipment and facilities, animal health supplies, tools, barb wire, etc. Our Capsule Descriptions present in greater detail our activities, both in the U.S. and overseas.

II. PROGRAM DESCRIPTION AND SCOPE OF WORK

1. Summary. The purpose of this contract is to provide AID and/or cooperating agencies with short-term advisory services relating to the planning, design, and evaluation of programs and projects, and related Agency policies and procedures. These services include: 1) country, sectoral and broad program analyses, including the assessment of economic, social and other relevant factors; 2) studies related to the identification, preparation, design and evaluation of specific programs and projects; and 3) services related to the development of design and evaluation methodologies; the development of suitable Agency and participating agency procedures, and the teaching of these concepts and procedures.

2. The contractor will be required to conduct or assist in conducting the services described below primarily in the sector/subsector described in paragraphs [IIIA and IVA].

a. Sectoral and inter-sectoral analyses helpful in defining the objectives and programs for United States foreign assistance; defining constraints, charting resource parameters, identifying alternative interventions; and developing quantitative and other measurable indicators of progress towards the objectives adopted.

b. Studies and analyses concerning the identification, appraisal, and design of projects and project sub-components with emphasis on factors appropriate to each activity. These factors may include but are not limited to technical, economic, and social feasibility, cost, efficiency, equitable distribution of benefits, impact on women and disadvantaged minorities, effects on population growth and distribution, time required for implementation, ease of management, degree of needed effects, risk, and host country commitment and ability to support post project activities. Such studies will integrate evaluative elements into project design, with provisions for periodic review and reformulation.

Program Description and Scope of Work
Page 2

c. Designing and execution of evaluation and/or redesign studies and analyses of projects and project components, sectoral activities or programs.

d. Development of new, and adaptation of existing design and evaluation systems and methods for types of development assistance or for use by developing countries in their own development programs.

e. Preparing and conducting training courses in the planning, design and implementation of development activities and in evaluation methodology and techniques.

III. RURAL DEVELOPMENT DESIGN AND EVALUATION
SERVICES AVAILABLE UNDER
INDEFINITE QUANTITY CONTRACT

AID/SOD/PDC-C-0185
April 20, 1979 to April 19, 1981

Agency for International Development
(World-Wide)

A. Rural Development Categories
Addressed in the Contract

1. Area Development

- a. Spatial Analysis and Planning
 - farm/market-town linkages
 - rural/urban linkages
 - analysis and planning for dry areas and ecologically venerable areas
- b. Rural/Regional Administration
 - local organization and government administration: coordination, information and authority flows
 - public finance/political economy
 - public service delivery systems, analysis, planning and management
 - environmental planning and management
 - resource planning and management
- c. Rural Infrastructure Development
 - appropriate design criteria and management system selection
 - benefit incidence of infrastructure system development
 - social impact of rural infrastructure development
 - rural electrification systems
 - water delivery systems (portable and irrigation)
 - rural roads
 - appropriate technologies in infrastructure development, labor/capital mixes
- d. Resettlement and Colonization
 - community organization
 - planning and finance
 - tenure relationships and access to rural resources
 - human ecology
- e. Types of farms

2. Rural Non-Agricultural Development

- a. Rural Market Systems
 - Spatial analysis of marketing systems
 - target group (including male/female) analysis of marketing systems
 - commodity systems
 - local market systems analysis (efficiency and equity)
 - marketing and retailing in small businesses
 - public and private roles in marketing

b. Off-Farm Employment Generation

- policy aspects of rural industry development
- small-scale manufacturing
- appropriate technology for rural industry
- labor-intensive production methods
- organizations and management of small-scale business
- small-scale agro-industrial processing
- planning and organization of small scale public works programs

c. Rural Financial Institutions

- credit and savings policies
- designing rural credit and savings programs for small producers, rural workers and entrepreneurs
- organization and operation of local/regional financing institutions, credit cooperatives, rural banks, credit unions and savings institutions
- analysis of informal credit and savings institutions, networks and practices
- the economics of credit use and savings by rural producers, workers and entrepreneurs

3. Participation

a. Local Organizations

- political, economic and social organizations
- analysis of decision-making processes
- network and action-set analysis
- motivational approaches
- information processing analysis

b. Social Analysis

- traditional and modernizing structure, impact analysis
- micro-level field analyses
- target group identification and analysis

c. Local Level Delivery (extension) Systems

- technical services to farmers
- marketing services
- access/equity analysis of public goods provision
- analysis of distribution of benefits and burdens within target population

4. Methodologies for Rural Development Analysis

a. Information Systems for Rural Development

- design and management of information systems for areas and regions
- design and management of information systems of projects

Rural Development Categories

Page 3

- b. Techniques for Problem Analysis and Intervention Design
 - target group identification and analysis techniques
 - economic and related social science techniques for optimization or choice analysis in project selection, design and implementation
 - impact evaluation techniques
 - approaches to examining institutional capability and options in project design
- c. Data Collection Systems
 - development of sampling frames
 - design and use of survey instruments
 - design and use of non-survey instruments
 - design and use of non-survey data collection methods (farm records, government and business data, etc.)
 - use of participant observation and other anthropological/sociological methods of data collection

5. National Planning for Integrated Rural Development

- a. Integration of Productive and Social Service Activities
 - sequential/mutually supportive relationships between welfare and income-producing activities
 - demand analysis
 - finance /delivery capability analysis
- b. Cross-Sectoral Impact Analysis for Rural Development Objective
 - sectoral policies and programs
 - macro-economic policies and programs
- c. Rural Labor Migration (internal - international)

B. Introduction to Experience, Incorporated Consultants
(Rural Development)*

1. Area Development

a. Spacial development:

Frank D. Abercrombie, B.S., M.S. EI consultant. Experienced in resource inventory, resource and environmental planning and management. Analysis and planning of fragile, semi-arid areas.

Filmore Bender, B.S., M.S., Ph.D. Professor of ag economics, University of Maryland, specializing in demand analysis. Co-author of book, Systems Analysis for the Food Industry (AUI/1976). University allotted consulting time.

Floyd L. Corty, B.S., M.S., Ph.D. French. Professor of ag economics, Louisiana State University, foreign tropical ag, land economics, farm appraisal, ag policy. Available to EI through University allotted consulting time.

K.D. Duft, B.S., M.S., Ph.D. Extension ag economist, Washington State University, specializing in agribusiness feasibility analysis, financing and management farm-market town linkages. Did ag economic analysis for AID/EI road feasibility study, Chad Basin, 1970. Available to EI through University allotted consulting time.

Norman Ward, B.S., M.S. EI consultant. Former AID RDO, Colombia; ag economist, Asia Development Bank; various project design and evaluation assignments through EI.

b. Rural/regional administration:

Wilmot Averill, B.A. EI consultant. Recently retired from AID, DD/Ag/DS. Experience includes senior positions in city government, cooperatives, public administration development (national government) territorial reconstruction and development, rural development, land reform, agricultural development, health service delivery and rural industry development. Most recently served as EI team leader for designing the Haute Vallée integrated regional development project in Mali.

*This is a selection from the Experience, Incorporated Roster of over 400 consultants, most of whom are available on reasonably short notice.

Gerald Horne, B.S., M.S., Ph.D. Spanish. EI consultant recently retired, DD/DA/TA/AID. Degrees in forestry, political science and public administration. AID rural development officer in various LA countries and ROCAP.

c. Rural infrastructure development:

Sally Findley, B.A., M.U.R.P. French, Spanish. EI consultant. Rural-urban population estimates and projections; population impact on rural development projects. AFR/SDP demographich Research and Training Center, Yaounde, Cameroon: included modification of TEMPO II for demographic research. U.S. Bureau of Census: LRPB, long range planning models. World food projections.

Warren K. Gilbert, B.A., M.A. Spanish. EI consultant. Economic analysis of transportation projects: highways, urban and port routes, rural roads and bridges, railroads, ferry systems, coastal shipping. Development loan analysis, industrial program analysis, Turkey, Iran, Costa Rica, Korea, Nigeria, Tanzania, Zaire, Liberia and Panama.

Warren J. Leatham, B.S. (C.E.) French, Turkish, Creole, Hindustani. EI consultant. Water resources engineer: irrigation project design, detailed studies on farm water use. Design engineer on Haute Vallée Project.

Samuel Lubin, B.S., B.A. French, Italian, Hebrew. EI consultant. Electrical and civil engineer. Six evaluation or design assignments for AFR/DR through EI. With AID/AFR: Chief engineer, power and telecommunications chief engineer. Rural electrification.

d. Resettlement and colonization:

Peter P. Dorner, B.S., M.S., Ph.D. Spanish. Professor of ag economics and director of Land Tenure Center, Wisconsin University. Available to EI through University allotted consulting time.

E.R. Duncan See 1e, below

Kenneth Orr See 3b, below

e. Farming systems:

E.R. Duncan, B.S., M.S., Ph.D. Portuguese, Spanish. EI Consultant. Professor Emeritus, Agronomy, Iowa State. Formerly head department of Plant Science, Ife, Nigeria. Expert in farming systems, crops mixes, fertility maintenance.

Francis LeBeau, B.S., M.S., Ph.D. French. EI consultant. Extensive experience in regional agricultural planning and farming systems in Africa, Central America and Asia.

Howard Sprague, B.S., M.S., Ph.D. EI consultant. Farming systems studies and research reviews in Egypt, Kenya, and Indonesia. Four text or reference books: Hunger Signs in Crops, Grasslands in the U.S., Their Economic and Ecological Significance; Grasslands and their Role in Agriculture; Turf Management.

2. Rural non-agricultural development:

a. Rural market systems:

John Freivalds, B.S., M.A. Spanish, Portuguese, Farsi. Designed a number of domestic and overseas projects involving international marketing and trade; edits a monthly marketing newsletter. Full time employee.

Cecil E. Fuller, B.S., M.S., Ph.D. EI consultant. Director of economics and planning for a regional grain, industrial food, consumer food and agri-service system.

Kenneth M. Gilbraith, B.S., M.S. Associate economist in marketing, University of Florida. Works with growers and shippers on cost effectiveness in location, handling and shipping. Available to EI through University allotted consulting time.

b. Off-farm employment generation:

K.D. Duft See 1a, above

Carl B. Smith, B.C.E. EI consultant. Former chief engineer of AID missions in Korea and Liberia; road and/or airport design engineer in Ecuador, Saudi Arabia, Tanzania, Jamaica and the Philippines.

John W. Tatom, B.S., M.S., Ph.D. EI consultant. Leading researcher in energy recovery from wastes. Developed the Mobile Pyrolysis concept. Designed, built and tested proto-type pyrolytic converter operated on wood wastes in Ghana. Appropriate technology stoves design in Senegal.

Dixon B. Wightman, B.A. EI Consultant. Wholesale and retail farm supply, including farm equipment, feed, seed and ag chemicals. Assistance to retailer clients in finance, inventory, marketing and customer service. Equipment specifications.

c. Rural financial institutions:

Eugene Schroepfer, B.S. Portuguese. EI Consultant. Key advisor for Brazilian rural credit system, rural banks of Vietnam. Designed rural credit programs for Liberia, Ghana, Tanzania and Mali.

3. Participation:

a. Local organizations:

Kenneth G. Orr See 3b, below

Theresa A. Ware, B.A., M.A., Ph.D. French. EI consultant. Eighteen months in Senegal studying human adaptation to drouth and its effects. Consultant to AID for social analysis for Mauritania Renewable Resource Management and Vegetable Projects.

b. Social analysis:

Richard Downs, B.S., Certificat d'ethnologie, Ph.D. French. Professor and chairman, sociology and anthropology, New Hampshire University. In-depth study of conflicting social systems, 10th Region, Mauritania. Available to EI through University negotiated consulting time.

Kenneth G. Orr, B.A., M.A., Ph.D. French, Arabic. EI consultant. Formerly AID C.D. Officer, Chicago University professor of Anthropology. Numerous analytical studies in applied, development anthropology.

Conrad C. Reining, B.A., B.L., Ph.D. Professor of cultural anthropology, Catholic University, specializing in African studies. Former resident in rural Sudan. Available to EI through University allotted consulting time.

A.L. Vilakazi, B.A., M.A., M.A., Ph.D. Zulu, Bantu. Professor of anthropology and African Studies, American University. Extensive studies on social, economic and political anthropology in Southern Africa. Available to EI through University allotted consulting time.

c. Local level delivery (extension) systems:

William D. Burgess, Jr., B.S. EI consultant. Has served as ag extension agent, extension advisor (soil fertility and agronomy) market research, soils management. 1976 to 1979, AID/EI extension advisor to Government of Pakistan.

Jordan G. Holtam, B.S. EI consultant. Extension, community development, ag cooperatives. Experience in Liberia (teaching, associate director, Peace Corps, FAO Rural Development Officer.

Robert L. McDill, B.S., M.S. French, Creole. EI consultant. Served as AID extension/agronomy advisor in Sudan, Nigeria, Haiti, and Senegal.

Gerald McKay, B.S., M.S. EI consultant. Rural communications, audio-visual extension methods. Long-time consultant on AID Projects.

Lynn L. Pesson, B.S., M.S., Ph.D. French. Vice Chancellor for Administration, Louisiana State University, professor of extension and international education, organization, leadership, extension program design and development. State and national program concept, organization, administration, financial analysis and plan. Extension methods, rural youth development. Experience includes Louisiana (county and state level) India, Malaysia, Chad and Haiti, Colombia, Costa Rica (IICA), South East Asia (Ag Development Council), U.S. Southern States. Available to EI through University allotted consulting time.

Betsy Stephens, B.A., M.H.S. French, Setswana, Spanish. Health consultant on EI design team for Haute Vallée integrated rural development Project. Available to EI through negotiated leave arrangements.

4. Methods of rural development analysis:

a. Information systems:

Filmore Bender See 1a, above

b. Techniques for problem analysis and intervention design:

Lloyd Clyburn, B.S., M.S., M.P.I.A., Ph.D. French, Spanish, Portuguese. EI consultant. Sector analysis, program development, integrated rural development, project design. Institutional development. Evaluation. Experience includes LAC, AFR and Asia.

c. Data collection systems:

Filmore Bender See 1a, above

Newton B. Knox, A.B., M.A. French, Spanish. Portuguese.
EI consultant. Former AID employee. Statistical data systems,
census, household survey, population survey, agricultural
statistics, industrial survey methods.

5. National planning for integrated development:

a. Integration of productive and social service activities:

Filmore Bender See 1a, above

b. Cross-sectoral impact analysis for rural development objectives:

Floyd Corty See 1a, above

Lloyd Clyburn See 4b, above

c. Rural labor migration:

Sally Findley See 1c, above

IV. DESIGN AND EVALUATION
SERVICES AVAILABLE UNDER
INDEFINITE QUANTITY CONTRACT:

AGRICULTURE

AID/SOD/PDC-C-0219

May 18, 1979 to May 19, 1981

Agency for International Development
(World-Wide)

A. Categories Addressed in the Contract

a. Agricultural Economics/Sector Planning

- Policy and Planning
- Social/Economic Analysis
- Marketing Economics
- Data Base Development
- Credit Analysis
- Production Economics

b. Crop Production - Small Farm Orientation

- Major Crops (Grains, Legumes, Tuber, Roots)
- Secondary Crops (Fruits, Vegetables)
- Fibers (Cotton, Jute, etc.)
- Seed Requirements
- Insect/Disease Control
- Weed Control
- Fertilizer Requirements
- Cultural Practices/Harvest Systems/ Multiple Cropping
- Post Harvest Food Losses

c. Soil Management/Land Use

- Soil Conservation
- Soil Fertility and Management
- Resource Inventory (includes Remote Sensing)
- Soil Survey, Classification and Land Use
- Land Use Capability/Suitability
- Rangeland Management
- Agro-Forestry

d. Water Management and Irrigation

- On-Farm Irrigation Water Management
- Rainfed Agriculture
- Irrigation Systems Improvement
- Land Preparation
- Farm Drainage
- Watershed Management
- Water Resource Inventory

e. Fisheries/Aquaculture

- Small Scale Fisheries
- Fresh Water Aquaculture
- Salt Water Aquaculture
- Fishery Technology (Storage, Processing, Transportation)
- Resource Inventory
- Production Economics

f. Livestock

- Animal Health
- Animal Nutrition (Forage/Range)
- Breeding and Genetics
- Livestock Production Systems (Management)

g. Agribusiness

- Credit Systems for Financing Small Rural Industries
- Marketing System (including commodity systems)
- Food Processing
- Input Services for Seed, Fertilizer, Ag Machinery, etc.
- Small Scale Agribusiness, Agro-industry, Agri-service
- Post Harvest Food Loss Prevention
- Agribusiness Management
- Farmer Cooperatives

h. Development of Institutional Services

- Agricultural Research Systems (National)
- Agricultural Extension Systems
- Educational Systems to Serve Technical Agriculture
- Credit Institutions, including Cooperatives

i. Appropriate Technology

- Small Farm Tools and Equipment
- Alternate Sources and Uses of Energy for the Small Farm
- Small Scale Processing of Agricultural Commodities

B. Abreviated List of Experience, Incorporated
Agricultural Consultants

<u>Listing</u>	<u>page</u>
1. Agricultural Economist, Macro-Policy	1
2. Agricultural Economist, Production Econ, Farm Management	2
3. Agricultural Economist, Marketing	3
4. Agricultural Engineer, On-Farm Irrigation	4
5. Agricultural Engineer, Irrigation Systems	4
6. Agricultural Engineer, Drainage	5
7. Agricultural Engineer, Storage, Farm Structures	5
8. Agricultural Engineer, Machinery and Appropriate Technology	6
9. Agricultural Engineer, Energy	6
10. Agronomist, Plant Breeding	7
11. Agronomist, Crop Production	7
12. Agronomist, Fiber Crops	9
13. Agronomist, Seed Technology	10
14. Agronomist, Soil Fertility and Management	11
15. Agronomist, Soil Survey, Inventory, Evaluation	11
16. Agronomist, Dry Land Agriculture	12
17. Animal Scientist, Nutrition	12
18. Animal Scientist, Breeding	12
19. Animal Scientist, Management	12
20. Aquaculturalist, Fresh Water	14
21. Aquaculturalist, Salt Water	14
22. Entomologist	14
23. Fisheries Expert, Resource Inventory	15
24. Fisheries Expert, Technology	15
25. Fish Production Economist	15

Abbreviated List Of Ag Consultants

Page

<u>Listing</u>	<u>page</u>
26. Food Technologist, Processing	15
27. Food Technologist, Loss Prevention	17
28. Forester	17
29. Horticulturalist, Fruits	17
30. Horticulturalist, Vegetables	18
31. Hydrologist, Watershed Management	18
32. Institutional, Organizational	18
33. Institutional Specialist, Agricultural R & D	19
34. Institutional Specialist, Agricultural Extension	20
35. Institutional Specialist, Rural Communications	21
36. Institutional Specialist, Agricultural Education	21
37. Institutional Specialist, Agricultural Statistics	22
38. Institutional Specialist, Rural Financial Services, Credit	23
39. Institutional Specialist, Market Systems	23
40. Institutional Specialist, Farm Supply	24
41. Management Specialist, Agribusiness, Cooperatives	24
42. Plant Pathologist	26
43. Poultry	26
44. Range Scientist	26
45. Veterinarian	27

B. Abbreviated List of Experience, Incorporated
Agricultural Consultants

1. Agricultural economics, macro-policy:

Filmore E. Bender, B.S., M.S., Ph.D. Professor of ag economics, University of Maryland, specializing in demand analysis. Co-author of book Systems Analysis for the Food Industry (AUI/1976). Available through University allotted consulting time.

Peter C. Block, B.A., M.A., Ph.D. French. Visiting professor of international economic relations, Fletcher School of Law and Diplomacy, Tufts University. Participated in AID ag synthesis seminar, 1977. Various economic analyses of Senegalese ag development program. Special arrangement with EI.

Floyd Corty, B.S., M.S., Ph.D. French. Professor of ag economics, Louisiana State University, foreign tropical ag, land economics, farm appraisal, ag policy. Available to EI through University allotted consulting time.

Peter Dorner, B.S., M.S., Ph.D. Spanish. Professor of ag economics and director, Land Tenure Center, University of Wisconsin. Available to EI through University allotted consulting time.

Gregory N.T. Hung, B.A., M.A., Ph.D. French. Professor of economics, Howard University. Economic development, international finance and monetary economics. 1973 to 1975: Minister of Economic Development and Planning, Vietnam; 1969 to 1973: associate professor, Howard University; 1966 to 1969: economist, IMF.

R. Wade Jones, M.S. M.A. EI consultant. Retired Associate Director for Programming, USAID/Vietnam; Assistant Director, USAID/Turkey. Agricultural development planning, project design and evaluation.

Clarence J. Miller, B.S., M.S., Ph.D. French, Spanish. EI consultant. Sector analysis, economic analysis, regional planning. Service includes Sahel States, Cameroon, Pakistan.

Leonard H. Rhodes, B.S., M.S. Spanish. EI consultant. Economic feasibility studies, Swaziland, Argentina; sector analysis, Barbados; economic and statistical analyses of crop production, irrigation and colonization: Peru, Chile, Guatemala and Turkey.

Orlin J. Scoville, B.S., M.S., Ph.D. EI consultant. Macro-ag economics, ag policy, integrated rural/ag development, land planning, farm management. Formerly professor of ag economics, Kan. State, executive director, Council of U.S. Universities in India. Headed two-year "Study of Nigerian Rural Development", food and ag officer, USAID/Thailand.

J. Dirck Stryker, B.S., Ph.D. French. EI Consultant. Visiting associate professor, Food Resources Institute, Stanford University. Political economy of rice in West Africa. Other studies: strategies for economic risk reduction, energy costs for alternative ag technologies, comparative village economic systems. Other studies: recurrent costs of Mali livestock project, comparative costs and production incentives, comparative analysis of resource allocation (cocoa) economic history of the Ivory Coast.

Raymond H. Tremblay, B.S., M.S., Ph.D. French. Professor of ag economics, Vermont University: world food and population, marketing, farm management, rural community development, rural land use, ag labor. Experience in Senegal (project evaluation) and Ivory Coast (ag statistics). Available to EI through University allotted consulting time.

James G. Unti, B.S., M.S. EI consultant. Ag program and project analysis, food grain production projections, fertilizer and pesticide requirements. Served as ag economist, USAID/Pakistan and Director, Rural Development Office, USAID/Chile. Practical experience in irrigated field crops.

Norman Ward, B.S., M.S. Spanish. EI consultant. Former AID Rural Development Officer, Colombia; ag economist, Asia Development Bank, various project design and evaluation assignments through EI.

2. Agricultural economics, production economics, farm management:

Lee G. Anderson See 25, below

Brook E. Green, B.S., M.S., Ph.D. Spanish. Staff economist, Caribbean Ag Research and Development Institute. Ag economic analysis; farm budget analysis, rural development. Available to EI via leave from CARDI.

P.R. Hasbargen, B.S., M.S., Ph.D. Professor of Ag economics, extension ag economist, University of Minnesota. Analysis and planning of ag production enterprises, ag financial management. Resource development, price outlook. Recently made analysis of future U.S. meat consumption assuming higher grain prices. Frequent EI consultant for domestic, U.S. Government and overseas clients. Available to EI through University allotted consulting time.

James M. McGrann, B.S., M.S., Ph.D. Spanish. Farm management extension economist, Iowa State University. Farm management economics, ag production economics, ag finance, ag development economics. Practical application of farm management analysis tools: linear programming, budget generator, combined with agronomy and animal production. Available to EI through University allotted consulting time.

3. Agricultural economics, marketing:

R.P. Dahl, B.S., M.S., Ph.D. French. Professor of ag economics, University of Minnesota. Ag prices and marketing, ag development and trade, grain marketing. Was ag economist and chief of party for AID/Minn. Tunis project. Available to EI through University allotted consulting time.

John Freivalds, B.S., M.A. Spanish, Portuguese, Farsi. Designed a number of domestic and overseas projects involving international marketing and trade; edits a monthly marketing newsletter. EI project manager.

Cecil E. Fuller, B.S., M.S., Ph.D. Director of economics and planning for a regional grain, industrial food, consumer food and agri-service system. EI consultant.

Kenneth M. Gilbraith, B.S., M.S. Associate economist in marketing, University of Florida. Works with growers and shippers on cost effectiveness in location, handling and shipping. Available to EI through University allotted consulting time.

R.P. Hasbargen See 2, above

Gordon R. Powell, B.S., M.S. Extension marketing specialist (fruit and vegetables), Texas A & M: domestic and export marketing, quality control, packaging, shipping. Available to EI through University allotted consulting time.

4. Agricultural engineering, on-farm irrigation:

E.R. Allred, B.S., M.S. EI consultant. Ground water development and management, irrigation planning and design (flood, sprinkle, drip); drainage, salinity management. Hydraulic engineer.

James Cherry, B.S. Spanish, French, Arabic. Irrigation engineer, USDA Soil Conservation Service. Farm irrigation systems, on-farm water distribution, drainage. Planning, design, evaluation. Service in Peru, Tunisia and Arizona. Available to EI through negotiated leave arrangements.

Warren J. Leatham, B.S. French, Turkish, Creole, Hindustani. EI consultant. Irrigation project design, layout, management. On-farm water management. Drainage. Successful projects in Haiti, India, Turkey and R.P. Irrigation engineer for Mali Haute Vallee design team.

Albert Petersen See 5, below

Leonard Schiff See 5, below

5. Agricultural engineering, irrigation systems:

E.R. Allred See 4, above

Henry Gembala French. EI consultant. Irrigation project planning, layout, design. Surface and ground water development. Experience includes projects in Jamaica, Mauritania, Indonesia, Haiti, Algeria and Tunis. Irrigation drainage (USDA, Nebraska).

Warren J. Leatham See 4, above

Albert T. Petersen, B.S. Spanish, Farsi, Vietnamese. EI consultant. Water resource development and management, irrigation, drainage, land management, farm machinery. Planned or executed projects in Vietnam, D.R., Iran, Angola and Afghanistan.

Albert W. Plumber, B.S. French. EI consultant. Water resource development: planning, design, construction, operation. Large-scale, multi-purpose water projects. National water resource

development and management organization. Multi-disciplinary coordination. Clients include World Bank (Upper Krishna Project, India; Gazni and Wondach Province, Afghanistan; Maharashtra, India; small dams, Punjab foothills, Sandu Shayak project irrigation, Uttar Pradesh, India), U.S. Army Corps of Engineers, AID (direct hire).

Leonard Schiff, B.S., M.S. EI consultant. Hydraulics, hydrology (surface and ground water) stream gauging, flood forecasting, ground water location, quantity and quality evaluation. Water resource studies for ag and power generation. Drainage, seepage estimates and control. Ground water recharge, including water spreading. Assignments in California, Colombia, Korea, Senegal (Casamance) and Mauritania.

6. Agricultural engineering, drainage:

E.R. Allred See 4, above

Henry Gembala See 5, above

Warren J. Leatham See 4, above

Leonard Schiff See 5, above

7. Agricultural engineering, storage; farm structures:

A.A. Ackels See 8, below

Donald W. Bates, B.S., M.S. Professor and extension ag engineer, Minnesota University. Farm structures: planning, design and layout of structures and associated equipment; animal production systems. Available to EI through University allotted consulting time.

N.C. Ives, B.S., M.S., Ph.D. Spanish. EI consultant. Grain drying and storage, farm structures. Assignments include projects in Peru, Kenya, Ethiopia, RP, Vietnam, Dahomey, Venezuela and Costa Rica.

C.M. Milne, B.S., M.S., Ph.D. Associate Professor, ag engineering, Montana State University. Structural and environmental design, grain storage processing systems: feed processing, and handling. Soil engineering: material testing, foundation design, earth dam design, open pit mining. Available to EI through University allotted consulting time.

John F. Moller, B.S. EI consultant. Design and construction of public works projects. Former Chief engineer, AID/REDSO/W, Liberia, Ethiopia; Division Chief Engineer, Nigeria, Africa Bureau.

8. Agricultural engineering, machinery and appropriate technology:

A.A. Ackels. EI consultant. Cereal grain processing, raw material purchasing, storage, manufacturing, engineering, distribution, central systems, benefit:cost analysis, administration. Foreign studies include: Iraq (World Bank), Morocco (AID), Korea (AID) and Guyana (AID). Formerly with General Mills.

Francis W. Bennett, B.S., M.S. Hindustani, Swahili. EI consultant. Ag mechanization, grain handling, cooperatives, large scale farm operations, extension ag engineering.

James G. Boyd, A.A. Farm machinery mechanic, EI/Tanzania. Farm machinery requirements, service and repair of farm tractors and implements. Retail sales and service, farm production supply.

Wesley F. Buchele, B.S., M.S., Ph.D. Professor of ag engineering, Iowa State University. Ag machinery. Author of Feasibility of Using Intermediate Technology to Produce Agricultural Tools and Machinery in Ghana (Buchele Associates, Ames, 1973). Available to EI through University allotted consulting time.

Herman L. Johnson EI consultant, farmer. Farm machinery specs, parts, inventory. Agribusiness: farm production supply.

Ted W. Lane, A.S. French. Farm mechanic, EI/Tanzania. Service and repair of farm machinery; spare parts.

A.K. Solstad, B.S., M.S., Ph.D. Spanish. Professor of mechanical agriculture, Texas A&I. Appropriate technology. Past service with USAID/Panama. Available to EI through University allotted consulting time.

L. Tex Taylor EI consultant. Heavy equipment: world-wide availability, country support capability, specifications, purchase, service, repair, rebuild. Past projects in R.P., Sri Lanka, Thailand, Spain, Puerto Rico, Indonesia, Kenya, Ethiopia, Uganda, Swaziland, Sudan and Jamaica.

Dixon B. Wightman, B.A. EI consultant. Farm equipment and supplies: production requirements, marketing, sales, service. Agribusiness management.

9. Agricultural engineering, energy:

Samuel Lubin, B.S., B.A. French, Italian, Hebrew. Electrical and civil engineer. Six evaluation or design assignments for AFR/DR through EI. With AID/AFR: Chief engineer, power and telecommunications, chief engineer. Rural electrification.

John W. Tatom, B.S., M.S., Ph.D. EI consultant. Leading researcher in energy recovery from wastes. Developed the Mobile Pyrolysis concept. Designed, built and tested a proto-type pyrolytic converter operated on wood wastes in Ghana. Appropriate technology stoves design in Senegal.

10. Agronomy, plant breeding:

Charles F. Bernhardt, B.S., M.S. German, French, Spanish. EI consultant. Plant breeding, seed production, seed program systems: design, implementation, evaluation. Crop production. Programs in Arizona (director, Arizona Crop Implementation Association), Egypt, Ghana, 13 other countries.

Russell H. Bradley. See 13, below

Thomas R. Richmond, B.S., M.S., Ph.D. Spanish. EI consultant. Plant breeding: cotton (cotton genetics). Service in U.S. Southern Region, Texas, Cuba, Russia, Mexico, Sudan, Rhodesia.

Peter H. van Shaik See 33, below

Bill M. Waddle See 12, below

Henry C. Wiggin See 33, below

11. Agronomy, crop production:

Charles F. Bernhardt See 10, above

E.R. Duncan, B.S., M.S., Ph.D. Portuguese, Spanish. EI consultant, farmer. Farming systems, soil fertility and management, tropical agronomy: technical feasibility, conceptual design, evaluation. Experience in Minnesota (extension soil spec), Iowa (extension agronomist), Nigeria (head department of plant science, University of Ife), Brazil, Argentina and Zaire. Ed., World Food Problems, World Food Institute, Ames.

Duane A. Eriksmoen, B.S. EI staff agronomist. Farming systems, large-scale farm operations and management on farm irrigation, seed production, soil conservation. Service in Nevada, California, North Dakota and Tanzania.

R. Norton Ford, B.S., M.S. EI consultant. Crop production: cotton, maize, sorghum, millet, rice, sugar cane, wheat, fodder: feasibility, design, evaluation, project implementation. Farming systems. Service in Texas (forage production research), Haiti (rice research and production), Kansas (millet), Oklahoma Panhandle, India (seed processing), Alabama, Missouri (develop plan and machinery list for 10,000 acre cotton operation) and Pakistan (extension agronomist).

Henry A. Fribourg, B.S., M.S., Ph.D. French, Spanish, Portuguese. Professor of plant and soil science, University of Tennessee. Farming systems, crop climatology, crop ecology, experimental design and statistics. Forage crops: 60 publications. Service in Iowa, Tennessee, France, Yugoslavia, Turkey, Algeria and Guinea. Available to EI through University allotted consulting time.

Buford H. Grigsby, B.S., M.S., Ph.D. French. EI consultant. Crop production, vegetable production, seed production, weed control. Experience includes, professor of agronomy and botany (Michigan State); agronomy advisor (AID:Sri Lanka, Nigeria, Vietnam, Bangladesh and Tunis); project feasibility and design consultant (Mauritania, Senegal and Haiti). Projects include rice, maize, soybean, wheat, vegetable crops, weed control (crops, turf and aquatic).

Jordan G. Holtam See 34, below

Lewis Jones EI consultant. Crop production, large scale farm operations, hybrid seed production, seed technology. Experience: Nebraska (hybrid corn seed), Ghana (6,000 acre hybrid corn seed operation) Tanzania EI 1,200 acre foundation seed farm.

Francis J. Lebeau, B.S., M.S., Ph.D. French, Spanish, Portuguese. EI consultant. Farming systems: sector analysis, agricultural policy, ag/rural development strategy, farm enterprise mix. Program analysis and development, project conceptualization, design, evaluation. Service: Louisiana (vegetable research), Mississippi (sorghum research), Guatemala (research advisor), Sri Lanka, Tunis (ag officer), Indonesia, Washington, Mali, Senegal, Upper Volta, Chad, Cameroon, Ivory Coast.

Robert L. McDill, B.S., M.S. French, Creole. EI consultant, Rancher. Farming systems, crop production: maize, soybeans, millet, vegetables, specialty crops. Extension agent, rural youth advisor, extension agronomist, Project design, environmental impact analysis, evaluation. Service in Iowa, Nebraska, Haiti, Sudan, Nigeria, Senegal.

Dermot McHugh, B.S. French, Swahili. EI consultant. Crop production: maize, ground nuts, soybeans and vegetable crops. Project design, implementation, training. Seed production. Service in Kentucky, Zaire, (PC) and Mauritania (EI).

John E. Osgothorpe, B.S., M.S. Farming systems, crop production, adaptive research: project conceptualization, design, implementation (team leader) evaluation. Experience includes Alaska (superintendent, experiment station), Lebanon and 13 West African States (WARDA) and Washington. EI consultant.

Howard W. Ream, B.S., M.S. Portuguese. EI Consultant, visiting professor, plant juice protein project, Wisconsin University. Tropical Crop Production: forage and field crops. Farming systems, program and project planning, design, monitoring, evaluation. Soil conservation. Service in Wisconsin, Washington DC, Thailand, R.P., Taiwan, Brazil, Ethiopia, Pakistan, Indonesia and Venezuela.

Sheldon Sandager. EI consultant; manager, Sandager Farms, Inc., Hills, Minnesota. Crop production, seed production, beef cattle (cow/calf, feedlot). Experience in Minnesota (family owned incorporated farm), Ethiopia (demonstration farm), Tanzania (manager, EI foundation seed farm).

Howard Sprague, B.S., M.S., Ph.D. EI consultant. Farming systems. Studies and research reviews in Egypt, Kenya, and Indonesia. Four text or reference books: Hunger Signs in Crops, Grasslands in the U.S., Their Economic and Ecological Significance: Grasslands and their Role in Agriculture; Turf Management.

Roy L. Thompson, B.S., M.S., Ph.D. Spanish. Extension agronomist, University of Minnesota. Farming systems, crop production: small grains, flax, edible dry beans, sunflowers, soybeans. Integration of commercial crops in small-scale farming systems. Agronomic research: station supervision, variety testing, fertilizer. Seed production and quality control: foundation, seed production, certification: head: row purification, field inspection, seed processing, allocation, distribution. Service in Minnesota, Colombia (CIAT), Mexico (EI). Available to EI through University allotted consulting time.

Henry C. Wiggin See 33, below

12. Agronomy, fiber crops:

R. Norton Ford See 11, above

Thomas R. Richmond See 10, above

Peter H. von Schaik See 33, below

Billy M. Waddle, B.S., M.S., Ph.D. EI consultant. Fiber crops. Cotton and cordage fiber production research: cotton breeding. Field station management. Service in Arizona, California, Western Europe, Pakistan, Maryland (Beltsville).

13. Acronomy, seed technology:

Thomas E. Bedell See 43, below

Charles F. Bernhardt See 10, above

Russell H. Bradley, B.S., M.S., Ph.D. EI consultant. National seed programs, seed industry development: feasibility, design, evaluation, implementation team leader. Activities in New York State, Arizona, Bolivia, Paraguay, Costa Rica, Uruguay, Chile, Brazil, Iraq and Korea.

Michael W. Chilton, B.S., M.S. French, Vietnamese, Thai. EI consultant, farmer. Seed production, marketing and distribution: requirements, feasibility, design, evaluation, implementation. National and regional programs. Rural development planning, design, evaluation. Agribusiness: input supply management. Activities in Vietnam (IVS seed technology advisor, rural youth IVS team leader, private sector consultant), Thailand, Oregon (present).

Duane A. Eriksmoen See 11, above

Franklin Fanberg EI consultant. State and national seed control systems, seed production and processing technology. Seed marketing and distribution. Service in Minnesota (quality control, including inspection and legislation, seed company) and Tanzania (team leader, national seed multiplication project).

Lee R. Hewett Farm management advisor, AID/EI/Tanzania. Seed production, harvesting and processing; including training senior farm management staff. Feed grain advisor, farm manager, multi-enterprise farming.

Lewis Jones See 11, above

Austin B. Sanford, B.S. EI consultant. Owner and sales manager, seed company. Seed processing and marketing: jobber, wholesale, retail. Analysis and evaluation of seed processing and distribution ventures. Farm production supply. Projects: Oregon (present business), Bangladesh, Vietnam.

Orris H. Shulstad, B.S., M.S. EI consultant, farmer. Seed testing, certification: laboratory set-up, systems, operations. Seed processing. Vegetable production and marketing, ornamental horticulture.

Agricultural Consultants

Page 11

Roy L. Thompson See 11, above

Thomas E. Webb, B.S., M.S. Spanish, Portuguese. EI consultant. Seed production, seed technology. Foundation and certified seed production: field control, processing, distribution. Seed programs, seed law, training. Service: Florida (University foundation seed farm, state seed improvement program), India, Ecuador, Brazil, Ghana.

14. Agronomy, soil fertility and management:

E.R. Duncan See 11, above

William D. Burgess, Jr. See 34, below

Mohamed Radwan See 15, below

15. Agronomy, soil survey, inventory, evaluation:

MacKay B. Bryan See 28, below

Harold E. Fisher See 28, below

Gerald F. Horne See 28, below

Russell F. Jongewaard, B.S. Portuguese, Si Swati, Zulu. EI consultant, instructor, adult vocational ag. Soil recommendations, land use potentials, soil conservation. Survey, feasibility analysis, design, implementation, evaluation. Environmental impact assessment. Service in Minnesota, Greenland, Brazil (ICA), Bulgaria (FAO), Swaziland (UK), Ethiopia (IBRD).

Mohamed Radwan, E.S., M.S., Ph.D. Arabic, English, Spanish, French. EI consultant. Soil classification survey, land use potentials, soil fertility: design, implementation, evaluation. Laboratory support requirements, detailed design and specs. Land reclamation, salinity problems. Experience in Egypt (professor of soil reclamation, soil chemistry), California, Arizona, Pakistan (FAO), Sudan (FAO), Mauritania (EI) and Panama (EI).

W.D. Shrader, B.S., M.S., Ph.D. Professor of agronomy, Iowa State. Soil survey, management, conservation. Land use potentials: plant growth potentials and problems. Rural development planning, land allocation, project siting. Available to EI through University allotted consulting time.

John L. Swensen, Jr., B.S. EI consultant. Soil science: land capability classification, interpretation, mapping. Land use potentials inventory. Salinity management. Soil conservation.

Experience includes SCS (South Dakota, Arizona, Washington State, Utah, Colorado), Zambia and Tanzania.

Albert P. Thatcher See 43, below

16. Agronomy, dry land farming:

Charles F. Bernhardt See 10, above

E.R. Duncan See 11, above

R. Norton Ford See 11, above

Francis J. Lebeau See 11, above

Robert L. McDill See 11, above

Peter H. van Schaik See 33, below

17. Animal science, nutrition:

Leonard S. Bull, B.S., M.S., Ph.D. German. Associate Professor of animal science, University of Kentucky: Ruminant nutrition and physiology, energy, protein metabolism (dairy), mineral metabolism. Teaching and research. Service in Maryland, Kentucky and Oklahoma. Available to EI through University allotted consulting time.

Richard F. Davis, B.S., M.S., Ph.D. Professor and chairman, dairy science, University of Maryland: Animal nutrition. Author, Modern Dairy Cattle Management (Prentice Hall). Dairy cooperatives. Available to EI through University allotted consulting time.

Walter R. Houston See 43, below

18. Animal science, breeding:

George B. McLeroy See 19, below

Rex A. Ottley See 19, below

Neil C. Fine See 19, below

19. Animal science, management:

Raymond E. Anderson, B.S., B.S. Spanish, Portuguese. EI consultant. Animal production, animal nutrition, range management. Range and cattle management systems under low-rainfall, tropical conditions. Impact analysis, feasibility, project design, project implementation. Service in Arizona (continuing), Venezuela, Brazil, Iran, Botswana, Kenya, Nevada (tribal grazing program), Niger and Mexico.

Leonard S. Bull (dairy) See 17, above

Richard F. Davis (dairy) See 17, above

Neil C. Fine, B.S., M.S., Ph.D. French, Spanish. EI consultant. Livestock management, animal breeding, agricultural development. Livestock management systems: range cattle, sheep, goats, integrated livestock and cropping systems, dairy production: sector assessment, planning, design, evaluation. Agricultural development: organization. Service in Texas, Iraq, Salvador, Surinam, Costa Rica, Panama, Ecuador, Niger and Honduras.

John M. Halpin, B.S. Spanish, French, Portuguese. EI consultant. Livestock production: sector analysis, project identification, design, implementation, evaluation. Range animal research, management, AI. Agricultural development: planning, implementation, evaluation. Agricultural research administration. Service in New York State, Arkansas (Winrock Farm), Bolivia, Argentina, Bahamas, Washington, Jamaica.

George B. McLeroy, B.S., M.S., Ph.D. EI consultant. Ruminant animal science: genetics, breeding, production: Races, environmental adaptation, purpose and capabilities. Balancing ruminant livestock with production factors: nutrition, breeding, health, herd balance, marketing. Herd analysis, market data management. Service in Texas, Near East, Middle East, Nigeria, Southeast Asia, Cameroon, Lake Chad Basin, Washington.

Mack H. McLendon See 32, below

Arnold N. Moeller, B.S., M.S. EI consultant. Ruminant animal production, range animal management, dairy management and production. AI. Tsetse eradication, management. Project identification, feasibility analysis, design, implementation, evaluation. Service in Kansas, Illinois, Chile, Uganda, Tanzania, Mali and Mauritania.

Rex A. Ottley, B.S. Rancher, EI consultant. Ruminant livestock management, production, animal breeding. Project identification, feasibility assessment, design, evaluation. Breeding farm: design, operations, management. Extensive range herd management, breeding, nutrition, balance.

Gilles Stockton, B.A., M.S. French, Somali, Italian. EI consultant, manager, Stockton Ranch, Grass Range, Montana animal production, livestock management: range allocation, herd management, breeding, grazing, cow-calf management, animal hygiene, marketing.

Henry E. Van Blake, B.S., M.S. EI consultant. Animal production, AI. Extension animal husbandry. Regional and national livestock extension programs: planning, implementation. Artificial breeding program: survey, design, organization, implementation, evaluation. Service in New York State, Georgia, Alabama (Tuskegee Institute), Nigeria and Mali.

Terrence O. Wheeler See 44, below

Poultry Science: See 43, below

Range Science: See 44, below

Veterinary Science and Public Health: See 45, below

20. Aquaculture, fresh water:

Charles S. Holt, B.S., M.S., Ph.D. French. Assistant Professor, Bemidji, Minnesota State College. Aquatic biology, stream ecology: fresh water fisheries, lake and stream management, environmental impact assessment, analysis, evaluation. Service in Caribbean and North Atlantic. Available to EI through College allotted consulting time.

Clifford E. Soderstrom, B.S. Fishery biologist, National Marine Fishery Service, Beaverton, Oregon. Inland fishery development: production, economics. Economic and technical studies of fishery potentials (streams and lakes under management hydroelectric and irrigation projects). Farm production. Hatchery establishment and operation. Available to EI through negotiated leave.

21. Aquaculture, salt water:

Cliff E. Soderstrom See 20, above

Joseph F. Punchochar See 23, below

22. Entomology:

Edgar Dresner, B.S., M.S., Ph.D. French, Spanish, Malay. EI consultant. Economic entomology, ecology, integrated pest management, problem analysis, program design, project identification, design, implementation, evaluation. Extension crop pest management and national programs, training. Service in Hawaii, Indonesia, Costa Rica and Nicaragua.

Sloan E. Jones, B.S., M.S., Ph.D. EI consultant. Integrated pest management (cotton), research administration. National and regional research programs: sector analysis, project identification, design, evaluation. Service in Texas, California/Hawaii, ARS regional director.

55

Richard D. Petersen, B.S., M.S., Ph.D. Thai. EI consultant. Entomology, vector bionomics and ecology, forest entomology; integrated pest management: problem definition, research design, implementation, evaluation. Service in California, North Carolina, Thailand, Tanzania, Nigeria.

23. Fisheries, resource inventory:

Joseph F. Punchochar, B.S. President, Sea Resources Associates, EI consultant. Marine fishery resources: exploratory fishing, inventory, statistics. Resource management: enforcement of international treaties and agreements. Market development, technology. Service in North Atlantic waters.

24. Fisheries technology:

Joseph F. Punchochar See 23, above

25. Fish production economics:

Lee G. Anderson, B.S., Ph.D. French. Associate Professor College of Marine Studies and Department of Economics, Delaware University. Natural resource economics, economic analysis of fisheries, agriculture. Benefit:cost analysis. Service in Florida (University of Miami), Washington State, Delaware, Portugal (IBRD sector assessment). Available to EI through University allotted consulting time.

Clifford E. Soderstrom See 20, above

26. Food processing, technology:

Minor C. Conn Spanish. EI consultant. Food and feed processing and marketing: meat, poultry, milk, vegetable oil, feed. Feasibility analysis, plant design, equipment, product flow, marketing (domestic, export) Plant supply: production, integration, collection. Service in Chicago, Cuba, Kenya and Botswana.

Frank C. Hildebrand See 41, below

Kenneth E. Holt, B.S., M.S. President, EI. Research and development, processing and marketing of agricultural products and derivatives, technical administration: raw material specifications, processing, byproduct utilization, quality control, marketing. Development administration: Trend forecasting, development planning, industry feasibility analysis, project identification, design, implementation, evaluation. Service in Kansas, Missouri, Utah, Minnesota, Mexico, Japan, Thailand, Tanzania, Lake Chad Basin, Ethiopia, Botswana and Hungary.

John M. Jackson, B.S., Ph.D. French, Spanish. EI consultant. Food technology -- thermal processing and packaging of canned and frozen foods, new product development. Technology transfer in agribusiness technologies. Service in Illinois (American Can), Minnesota (Green Giant), Europe, Cuba and Mexico.

Edward E. Kuphal, B.S. EI consultant. Process engineering: agricultural products and chemical derivatives; milling corn, potatoes, wheat, sorghum and casava into flour, starches, sugar and dextrose. Feasibility analysis, planning, plant design including definition of product flow, equipment recommendations, building design and operations cost projections. Bakery, meat products processing. Service in U.S., Cuba, Mexico, Western Europe and Bangladesh.

C. Keith Laurie, B.S. EI consultant. Sugar cane technology, mill design, equipment, process control. Service in Barbados, St. Kitts, Trinidad.

George Parman, B.S. French, Spanish, Norwegian. Food and feed processing: technology, economics. Nutritional improvement of new food and feed products (vitamin and protein fortification). High protein concentrates: feasibility analysis. Service in East Asia, India, Togo, Benin, Nigeria, Romania, Syria and Chile.

George N. Pedersen, B.S. EI consultant. Milk and diary product management, assembly, processing and marketing: feasibility analysis, planning, design, implementation, evaluation. Service in Minnesota, Missouri, Spain, Honduras, Peru, Costa Rica and Guyana.

Paul Speer, B.S. EI consultant. Food process engineering: handling, storage, processing, quality control. Problems of machinery design, materials handling, refrigeration, warehousing, sanitation, sterilization, cost control. Processing of animal and poultry by-products. Abattoir and meat processing plant feasibility analysis, design, evaluation. Service in U.S.A., Argentina, Brazil, Botswana, Benin, Kenya, and Iran.

Betty Sullivan, B.S., Ph.D. French. Vice-Chairperson, EI Board. Food technology research and development: protein, enzyme and carbohydrate chemistry. Processing and marketing studies of agricultural products, especially grains, milling and nutrition. Cereal chemistry, biochemistry. Past member, USDA National Ag Research Committee. 60 publications.

27. Food technology, loss prevention:

Amos H. Flint, Jr. See 44, below

Kenneth Gilbraith See 3, above

John M. Jackson See 26, above

Paul Speer See 26, above

28. Forestry:

MacKay B. Bryan, B.S., M.S. Spanish, French, Malay. EI consultant. Tropical forest inventory, management. Survey planning, training, field data collection, processing; photo interpretation and field measurement procedures. Land use capability and planning. Tropical forest management: base data, growth rate and mortality sampling, supply projection, forest management planning. Land mapping. Service in N.C., R.P., Nepal, Korea and Malaysia.

Harold E. Fisher, B.S. Vietnamese, Nepali. Nurseryman, EI consultant. Forestry: Cadastral survey inventory, land use survey, long term land management planning. Timber management planning: reforestation, growth, harvest, marketing regeneration, wildlife habitat planning. Fire control: planning, suppression. Service in Georgia, Virginia, Nepal, Vietnam and Hawaii.

Gerald F. Horne, B.S., B.S., M.S., Ph.D. Spanish. EI consultant. National forest programs: sector assessment, resource survey and evaluation, policy, legislation, long range planning, project design, evaluation. National renewable resource inventory, planning: technical program goals, priorities, program management control.

29. Horticulture, tropical (tree crops):

Harold E. Fisher See 28, above

Arnaud Loustalot, B.S., M.S., Ph.D. French, Spanish. EI consultant. Horticultural research, plant physiology. Ag research organization, project design, monitoring, evaluation. Service: 50 U.S. States, Ecuador, 13 West African States, Eastern Europe, Central America (IICA). 60 publications.

Ralph H. Sharpe, B.S., M.S. EI consultant. Deciduous and subtropical horticulture: peach, nectarine, pecan, blackberries, tung. Research, program development, production, evaluation. Service in Georgia, Louisiana, Florida.

L.C. Snyder, B.S., M.S., Ph.D. Professor and Director, Minnesota Arboretum. Tree horticulture: research, extension, teaching. Available to EI through negotiated consulting time.

30. Horticulture, vegetables:

Russell H. Bradley See 13, above

Buford H. Grigsby See 11, above

Francis J. LeBeau See 11, above

Dermot McHugh See 11, above

Orris H. Shulstad See 13, above

Erwin E. Widders, B.S., M.S. Spanish. EI consultant. Vegetable production: plant physiology, nutrition, production, plant protection (pathology, including post-harvest diseases, entomology, weeds) Adaptive research. Marketing. Service in Pennsylvania, Honduras and California.

31. Hydrology, watershed management:

See 5, above

32. Institutions, organization:

Alphonse Chable, B.S., M.S. Spanish, Portuguese. Agricultural development: Project identification, feasibility analysis, integrated ag development project design, implementation, evaluation. Land settlement. Service on Florida, Honduras, Ecuador, Colombia, D.R., Guatemala, Brazil, Washington, Costa Rica, Bolivia, Kenya and Eastern Caribbean.

Neil C. Fine See 19, above

Francis J. LeBeau See 11, above

Lynn L. Pesson See 34, below

Mack H. McLendon, B.S. Spanish. EI consultant. Agricultural development programs: sector analysis, country program, institutional development: feasibility analysis, inputs, design, evaluation, agricultural extension. Animal production. Service in Arkansas, Panama, Paraguay, Guatemala, Peru, Nicaragua, El Salvador and Jamaica.

33. Institutions, research and development:

E.R. Duncan See 11, above

Henry A. Fribourg See 11, above

Kenneth E. Holt See 26, above

Sloan E. Jones See 22, above

Francis J. LeBeau See 11, above

Arnaud Loustalot See 29, above

Howard B. Sprague See 11, above

Betty Sullivan See 26, above

Roy L. Thompson See 11, above

Peter H. van Schaik, B.S.A., M.S.A., Ph.D. Dutch, French, Persian. Assistant Director, USDA Ag Research Service, Fresno, California. Ag research: regional planning, budgeting, coordination. Dry land farming systems. Available to EI through private contract.

Billy M. Waddle See 12, above

Henry C. Wiggin, B.S., M.S., Ph.D. Spanish, French. EI consultant. Ag research, research agronomist, breeder (wheat, maize). Horticultural research (fruit and vegetable). Service in Kansas, Mexico (Rockefeller Foundation), Ecuador (ICA), Bolivia, Liberia, Tanzania (AID), Nigeria, Iowa (Iowa State) and Afghanistan.

34. Institutions, agricultural extension:

William D. Burgess, Jr., B.S. Spanish.
EI Consultant: Extension advisor, farm production inputs: requirements, feasibility, distribution. Soil fertility, result demonstration, method demonstration, training. Service in Kentucky, Midwest, New York, India, Vietnam and Pakistan.

Royal D. Colle See 35, below

E.R. Duncan See 11, above

Jordan G. Holtam, B.S. EI consultant, farmer. Extension, community development, ag cooperatives. Service in Liberia (college professor, crops project manager, associate director, PC, FAO as rural development officer and design officer).

Robert L. McDill See 11, above

Mack H. McLendon See 32, above

Lynn L. Pesson, B.S., M.S., Ph.D. French. Vice Chancellor for Administration, Louisiana State University, professor of extension and international education, organization, leadership, extension program design and development. State and national program concept, organization, administration, financial analysis and planning. Extension methods, rural youth development. Experience includes Louisiana (county and state level), India, Malaysia, Chad and Haiti, Colombia, Costa Rica (IICA), S.E. Asia (Ag Development Council), U.S. Southern States.

John T. Spaven See 35, below

Roy L. Thompson See 11, above

Dale E. Thorngren, B.S. Indonesia. EI consultant. Agricultural development programs, extension: national programs, design, implementation, evaluation. Feed manufacturing, distribution. Service in Iowa, Indonesia, Laos, Korea, Vietnam, Ghana, Liberia and Washington.

Terence O. Wheeler See 43, below

35. Institutions, rural communications:

Lloyd Clyburn, B.S., M.S. M.I.P.A., Ph.D. French, Spanish, Portuguese. Rural development, rural communications: social systems, technology transfer, diffusion: sector analysis, planning, feasibility analysis, design implementation, evaluation. Project evaluation. Service in Texas, Brazil, Cambodia, Bolivia, Vietnam, Zaire, Tanzania, Costa Rica and Washington.

Royal D. Colle, B.A., M.S., Ph.D. Spanish. Professor of Communications, Cornell University. Communication systems for rural development, non-formal education: application of new communications technology, radio, television. Use of communication technology and development of software for in-school and non-formal education needs. 16 articles on development communication. Service in New York, Malaysia, Singapore, Hawaii (East West Center), Guatemala (Basic Village Education, PAHO, WHO), Indonesia (AID), Mexico (World Bank), Colombia (UNDP), Colombia (World Bank). Available to EI through University allotted consulting time.

Gerald R. McKay, B.S., M.S. EI consultant. Communication, audio-visual education, non-formal education, extension information: program planning, equipment, training, production, evaluation. Service in Minnesota, Yugoslavia, Portugal, Germany, Austria, England, France, Pakistan.

John W. Spaven, B.S., M.S. EI consultant. Extension communications, non-formal education. National and state programs, campaigns: feasibility, design, equipment, implementation, evaluation. Training: pre-service, in-service. Graphic arts. Service in Vermont, Brazil and India.

Robert A. Wesselmann, A.B. Spanish, French, Creole. Rural communication, agricultural information, extension training, audio-visual methodology, non-formal education: Target analysis, planning, design, equipment, training, evaluation. Service in Ecuador, Iran, Haiti, Washington, D.R., Kenya, Morocco, Nigeria, Vietnam, Thailand, Turkey, Ethiopia, Zambia, Venezuela, Dahomey and Togo.

36. Institutions, agricultural education:

Gary D. Boring See 45, below

Lloyd Clyburn See 35, above

Royal D. Colle See 25, above

John J. Harvey, B.S., M.S. Ph.D. EI consultant. Extension education, non-formal education. Extension training, agricultural education, teacher training in extension methods: Curriculum design, teaching, administration, evaluation. Service in West Virginia, Wisconsin, Washington, Ethiopia and Malawi.

Anthony Mumphrey, B.S., M.S., Ph.D. Agricultural education: administration, skill requirements survey and analysis, curriculum. Organization, plant and equipment, library, budget. Teacher, non-formal education: Joint school-community development: community efforts, fairs.

Lynn Pesson See 34, above

Joachim F. Pusch, B.S., M.A. German. Director, college audio-visual services. Agricultural information technology, ag education, vocational ag. Audio-visual teaching methods, organization of materials, synchronization. Rural youth development.

Hannis L. Stoddard See 45, below

37. Institutions, statistics:

Filmore Bender See 2, above

Donald A. Hodgen Spanish, French. Economist, N.H. Department of Employment Security. Labor market development, production economics: Household employment and budget survey, labor market analysis. Farm budget survey. Data systems organization and management. Service in Peru, Tunis and New Jersey.

Nabil S. Khaldi, B.B.A., M.B.A., Ph.D. Arabic. Associate Professor, economics, Iona College, New Rochelle, New York. Economics and quantitative analysis. Agricultural production statistics. Systems. Service in Texas, New York State, Iraq, Jordan, Syria and Egypt. Available to EI through university allotted consulting time.

Ralph C. Stevens See 41, below

38. Institutions, rural financial services, credit:

Joseph R. Hanson, B.S. Norwegian. EI consultant. Ag credit: supervised credit, coop credit, supplier credit. Credit management, procurement. National programs, feasibility analysis, design, evaluation, milling operations, production control, distribution. Services in Iowa, Minnesota, Montreal, Washington, Alaska and Egypt.

Wallace J. Maddock, Certificate Industrial War College. Thai. EI consultant. Ag credit, cooperatives policy, feasibility analysis, design, training, implementation, evaluation: personnel, training, financial management, cash flow, procurement, marketing. Service in North Dakota, Kansas, Thailand, Korea, Vietnam, Bangladesh, Jordan.

Alfredo Maldonado See 41, below

Eugene Schroepfer, B.S. Portuguese. EI consultant. Key advisor for Brazilian rural credit system, rural banks of Vietnam. Designed rural credit programs for Liberia, Ghana, Tanzania and Mali.

Robert W. Wilcox See 39, below

39. Institutions, market systems:

Herman L. Johnson See 8, above

Alfredo Maldonado See 41, below

Allan Q. Moore EI Chairman. Grain and grain products procurement, marketing, distribution. National programs: conceptualization, planning, design, implementation, evaluation. Service in Minneapolis, Chicago, Washington, Ethiopia, Nicaragua, Western Europe, Thailand and Saudi Arabia.

George N. Pedersen (dairy products) See 26, above

Lee F. Schrader, B.S., M.S., Ph.D. Professor of ag economics, extension economist (poultry and eggs). Price analysis. Experience includes industrial food manufacturing, supply and buying (Armour, Lever Brothers), farmer cooperatives. Available to EI through University allotted consulting time.

T.J. Totushek EI staff economist. Market research: price analysis, relationships, agribusiness outlook; country elevator marketing, collection and storage; multiple delivery points; market research organization. Bulk of career with Cargill.

Robert W. Wilcox, B.S., M.S., Ph.D. EI consultant. Extension economist, marketing, international travel (Pacific, Near East), agribusiness management training, ag mechanization, ag planning (production and marketing), ag finance.

40. Institutions, farm supply:

William D. Burgess, Jr. See 34, above

William G. Bursch, B.S., M.S., Ph.D. Vice President, EI. Purchasing and marketing farm supplies, vertical coordination, farm supply economics, cost management in farm supply retailing.

Michael W. Chilton See 13, above

Franklin M. Fanberg See 13, above

Allan Q. Moore See 39, above

Dixon B. Wightman See 8, above

41. Management, agribusiness, cooperatives:

Francis W. Bennett See 8, above

Michael W. Chilton See 13, above

K.D. Duft, B.S., M.S., Ph.D. Extension ag economist, Washington State University, specializing in agribusiness feasibility analysis, financing and management farm-market town linkages. Did ag economic analysis for AID/EI road feasibility study, Cad Basin, 1970. Available to EI through University allotted consulting time.

Amos H. Flint, Jr. Spanish. EI consultant.. Agribusiness development, supply, marketing, management. Corporate analysis of earnings, manufacturing costs, overhead, budgets, reports. Cost control. Raw material procurement. Import-export. By-product processing, marketing. Benefit:cost analysis. Commodity supply and requirements analysis, national nutrition assessment. Product development. Service in Illinois, Missouri, Mexico, Colombia, Puerto Rico, Bangladesh, R.P., Honduras and Syria.

Walter R. Herzog, B.S., B.A. French, Spanish. EI consultant. Agricultural cooperatives: supply, marketing. Cross-cultural training. Service in California, Liberia, Zaire, Swaziland.

Frank C. Hildebrand, B.S., M.S., Ph.D. EI consultant. Financial administration: feasibility analysis, cash flow, money markets; project identification, design, evaluation. Corporate administration: policy, organization, planning, communication control. Applied nutrition, cereal chemistry; new product development, quality control.

Joseph R. Hanson See 38, above

Herman L. Johnson See 8, above

E. Fred Koller, B.A., M.A., Ph.D. German. Professor of Ag Economics, University of Minnesota. Dairy marketing, dairy plant economics, ag finance, cooperatives. Service in Minnesota, Central Europe and Tunis. Available to EI through University allotted consulting time.

Wallace J. Maddock See 38, above

Alfredo Maldonado, B.S., M.S. Spanish. EI consultant. Agribusiness, cooperatives: commodity marketing, retail (food) marketing, quality control, agricultural credit, finance: National, regional feasibility analysis, planning, market analysis, training, evaluation.

Ralph J. Mutti, B.S., M.S., Ph.D. EI consultant. Agribusiness management, ag finance, ag cooperatives, ag marketing in developing countries, management problems of farm cooperatives, ag markets and prices, grain marketing. Service in Zaire, Haiti, Sri Lanka and Sierra Leone.

Harvey P. Nelson, B.S., M.S. EI project manager. Agribusiness industry analysis, ag input industries, processing and marketing, strategic planning, new products, corporate financing, facility planning. Corporate development: assimilation, analysis and interpretation of financial, economic and legal data of industry studies.

George N. Pederson (dairy products) See 26, above

James G. Speer, EI consultant. Corporate development, long-range planning, financial planning, general management - especially meat packing operations, transportation.

Ralph C. Stevens, B.A., M.B.A. French. Managing partner, investment fund, EI consultant. Small scale industry development, finance: long-range organization planning, executive development, investment and acquisitions. Service in New York, London, Malta, Australia, Geneva, New Jersey, Botswana (managing director, Botswana Development Corporation) and Philadelphia.

Austin B. Sanford See 13, above

Dale Thorngren See 34, above

Dixon B. Wightman See 8, above

42. Plant Pathology

Francis J. Lebeau See 11, above

Erwin E. Widders See 30, above

Gerald H. Smith, B.S., M.S. German. EI consultant. Plant protection,, adaptive research, farm operation. Field survey, damage assessment, control strategy. Integrated pest management. Large scale farm operations. Service throughout the U.S.

43. Poultry Science

Ren Allen, B.S. Production manager, Allen Hatchery, Inc., Deaford, Delaware, EI consultant. Integrated poultry operations: hatching, broiler production, contract growing, processing. Disease control. Service in Delaware and Syria.

Lee W. Herrick, B.S., M.S. EI consultant. Poultry management, extension poultry husbandry: large and small schemes, farm flocks. Management, nutrition, disease and parasite control. Improvement. Service in North Carolina, New Jersey, Nigeria, Vietnam and Egypt.

44. Range Management

Frank D. Abercrombie, B.S., M.S. Italian, Swahili, Hausa. EI consultant, rancher. Range and range livestock management. Land use potentials inventory, range survey and evaluation, range site survey, range project identification and design, bush fire control, range project implementation, evaluation. Author of Range Development and Management in Africa (AID, Washington, 1975). Service in New Mexico (on-going), Somalia, Nigeria, Ethiopia, Botswana, Cameroon, Chad, Mauritania, Senegal, Mali and Kenya.

Raymond E. Anderson, B.S., B.S. See 19 above

Thomas E. Bedell, B.S., M.S., Ph.D. Area extension range and livestock specialist, Oregon State University. Range Science: research, condition assessment, grazing systems, feasibility analysis, project designs. Range livestock management systems, nutrition, project feasibility analysis and design. Available to EI through University allotted consulting time.

Robert E. Bement, B.S., M.S., Ph.D. Rancher, EI consultant. Range science: research, range management programs, range site assessment. Consultancies in Africa, Iceland and Rome (FAO).

Don Davis, B.S. EI consultant. Retired AID range management advisor, food and agricultural officer: Libya, Jordan, Afghanistan, Laos, AID/W.

Walter R. Houston, B.S., M.S., Ph.D. EI consultant. Range management, plant ecology, animal nutrition, ecosystems. Survey assessment, site survey, range plan, environmental analysis; rehabilitation of disturbed lands. Big game range management. Range animal nutrition. Service in Colorado, Montana and Utah.

Albert P. Thatcher, B.S., M.S. Spanish. EI consultant. Range ecology, range management, soil science. Soil survey and interpretation, range survey, plan, site design, management systems. Regional and national range development and management programs. Service in Wyoming (SCS soil scientist, conservationist), Arizona (SCS state range conservationist; consultant to State Land Commission).

Terence O. Wheeler, B.S. Agricultural extension agent, Apache Indian Reservation, San Carlos, Arizona. Agricultural extension, range management, livestock production. Range survey, range management, livestock management (private ranching company, tribal grazing programs: survey, planning, design, implementation). Heavy equipment, fencing, stock water. Range conservation, environmental analysis. Service in Arizona, North Dakota, Idaho, Utah. Available to EI through University allotted consulting time.

45. Veterinary science and public health:

Gary D. Boring, D.V.M., M.S. Spanish. EI consultant. Veterinary public health: program planning, design, implementation evaluation. Clinical medicine, chemotherapeutic and prophylactic agents, typhanosomiasis control. Marketing and distribution of veterinary pharmaceuticals, environmental assessment, teaching. Service in Texas, New Hersey, Canada, Mexico, Central America, Pakistan, Ghana, Nigeria and Mali.

Alphonse J. Kunkel, B.S., D.V.M. EI consultant. Private practice (farm animals) mastitis control, nutrition, fertility. Quality control in feed manufacturing, meat processing. Feasibility studies and project design. Service in Minnesota and Guyana.

E.H. McCauley, B.S., D.V.M., M.S. Spanish. Assistant professor, clinical services, Minnesota University. Large animal medicine, animal hygiene, animal health economics. Research and teaching. Service in Minnesota, India, Zambia, Kenya, Mexico, Vietnam.

Hannis L. Stoddard, B.S., D.V.M., D.V.T.M. Private practice, EI consultant. Tropical veterinary medicine, public animal health services, animal health delivery systems, rural health delivery systems, general veterinary practices, research, teaching. National and regional systems, communicable disease eradication, control. Animal production, nutrition. Services in Texas, Mississippi, Wyoming, Paraguay, Latin America, Cambodia, Latin America (FAO), Minnesota (professor of tropical veterinary medicine) and Florida (present practice).