

RESEARCH ACTIVITIES FROM 1979 TO 1984 AT  
OKLAHOMA STATE UNIVERSITY ADDRESSING  
THE NEEDS OF WOMEN IN DEVELOPING  
COUNTRIES WITH AN EMPHASIS  
ON FAMINE PREVENTION AND  
FREEDOM FROM HUNGER

By

DEBRA HOPE SUROVIEC CARTER  
"

Bachelor of Science

The Pennsylvania State University

University Park, Pennsylvania

1978

Submitted to the Faculty of the  
Graduate College of the Oklahoma  
State University in partial  
fulfillment of the requirements  
for the Degree of  
MASTER OF SCIENCE  
May, 1985

Thesis  
1985  
C323r  
Cop. 2



RESEARCH ACTIVITIES FROM 1979 TO 1984 AT  
OKLAHOMA STATE UNIVERSITY ADDRESSING  
THE NEEDS OF WOMEN IN DEVELOPING  
COUNTRIES WITH AN EMPHASIS  
ON FAMINE PREVENTION AND  
FREEDOM FROM HUNGER

Thesis Approved:

*Lea L. Kro*

-----  
Thesis Adviser

*Ester Kintzopf*

*Marguerite Stungo*

*Norman N. Durham*

-----  
Dean of the Graduate College

## ACKNOWLEDGEMENTS

My appreciation and thanks are extended to Drs. Esther Winterfeldt and Marguerite Scruggs. They took time to carefully review and criticize the thesis and to add helpful suggestions for improving the study.

I especially thank Dr. Lea Ebro for many hours of reading the drafts and revisions of this thesis and for her suggestions for improvement. I sincerely appreciate her encouragement, donated articles, and guidance during my entire graduate program.

The financial support of the Office of International Programs, Oklahoma State University, is also acknowledged. Without this support and opportunity, my awareness of women in developing countries, famine prevention, and freedom from hunger would be minimal. It was, indeed, a unique experience, highly recommended to other graduate students.

Special thanks are given to my personal support systems. I would like to thank my husband, Brian, for his time, criticisms, and patience volunteered to this study. To my son, Dustin, I give thanks for giving me a chance to view reality. Lastly, special appreciation is extended to my parents who have encouraged my advanced education and expansion of knowledge.

## TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
Statement of the Problem.....	4
Objectives.....	4
Limitations.....	5
Assumptions.....	6
Definitions.....	6
II. REVIEW OF LITERATURE.....	9
Introduction.....	9
Legislative Background.....	10
Legislation and Involvement of Universities in Developing Countries.....	13
International Projects of Selected Institutions Involving Home Economics.....	19
History of Women in International Development.....	29
Nutrition in Development.....	31
III. METHODOLOGY.....	41
Research Design.....	41
Sample.....	42
Data Collection.....	42
Research Instruments.....	44
Data Analysis.....	45
IV. RESULTS AND DISCUSSION.....	46
Background Project Information.....	46
Most Recent Project Involvement.....	49
Women in International Development.....	61
Famine Prevention and Freedom From Hunger... Coordinated Research.....	66
Extent of Involvement of OSU in Addressing Famine Prevention.....	72
Networking for Famine Prevention and Total Development.....	73
Total Development.....	73
V. Summary, Recommendations, and Implications.....	80
Summary.....	80

Chapter	Page
Recommendations.....	82
Implications.....	84
BIBLIOGRAPHY.....	85
APPENDIXES.....	91
APPENDIX A - LEAST DEVELOPED COUNTRIES.....	92
APPENDIX B - DOCUMENTS REVIEWED FOR THE PROJECT PROPOSAL INVENTORY.....	94
APPENDIX C - FORMAT FOR INFORMATION RECORDED INTO PROJECT PROPOSAL INVENTORY.....	96
APPENDIX D - LETTER FOR REQUEST OF INTERVIEW.....	98
APPENDIX E - INTERVIEW SCHEDULE.....	101
APPENDIX F - TITLE OF PROJECTS.....	105

LIST OF TABLES

Table	Page
I. Number of Faculty Interviewed Represented by Colleges or Unit.....	47
II. Routes of Access to International Projects in Developing Countries.....	55
III. Funding Sources for International Projects.....	60
IV. Faculty or Departmental Roles in Famine Prevention.....	71
V. Areas of Expertise Considered Supportive to International Project.....	72

LIST OF FIGURES

Figure	Page
1. Range of Time of International Involvement of Faculty.....	48
2. Time Period of Most Recent International Project.....	50
3. Countries Focused on by OSU in International Projects, 1979 - 1984.....	53
4. Model for Famine Prevention and Freedom From Hunger.....	75



## CHAPTER I

### INTRODUCTION

With the signing of the United Nations Charter in 1945, an attempt was made to protect the dignity and worth of the people and "to strive toward equal rights of men and women internationally" (Eckhard, 1977, p.1). Many revisions followed this charter which protected against sex discrimination and declared that all people without exceptions have the right to enjoy the products of social and economic progress. Although these laws had good purposes, their application to reality was not fully accomplished. Another attempt to integrate women was made when the Foreign Assistance Act of 1961 was amended in 1973 to integrate women into national economies. Section 113 of the Foreign Assistance Act of 1973 was administered

... to give particular attention to those programs, projects, and activities which tend to integrate women into the national economies of foreign countries, thus improving their status and assisting the total development effort (p. 785).

In an effort to alleviate hunger and prevent international hunger, Congress established Title XII (Famine Prevention and Freedom from Hunger, 1975) under the Food Assistance Act (Public Law 94-161) of 1975. In this Act

it was declared that the United States (U.S.) should

1) strengthen the capacities of the U.S. land grant and other eligible universities in program related agricultural institutional development and research, 2) improve participation of the government in international efforts to apply more effective agricultural sciences to the goal of increasing world food production, and 3) provide increased and longer term support to the application of science to solving food and nutrition problems of the developing countries (p. 861).

Women joined forces together in 1975, the beginning of the "International Decade for Women," to fight against the differences in the legal, economic, social, political, and cultural status of women and men in their respective countries (World Bank, 1977 and Eckhard, 1977). Policy makers since have become aware of the impacts of development on women and men, and attention has been given to the inclusion of women in development planning.

From these two laws (Public Law 93-189 and Public Law 94-161), and involvement of women in international development, campaigns, activities, and research projects have been initiated at Oklahoma State University (OSU) and many other land-grant institutions. Both the International Decade for Women and the Foreign Assistance Act served as the impetus for the establishment of Women in International Development (WID). The Oklahoma State University's Women in International Development (OSU-WID) program grew out of an organizational meeting held December 6, 1982 in the College of Home Economics at the Oklahoma State University, Stillwater, Oklahoma. Men and women from the university met to establish a group dedicated to the involvement of women

in the development process (Stadler, 1983). The U.S. Agency for International Development (AID) has been funding various Title XII research projects involving Oklahoma State University faculty. These projects will be evaluated in Chapter IV of this thesis.

A question is raised on how the issue of women in development is related to famine prevention and freedom from hunger. The answer may seem obvious to many, yet these two issues are often not addressed in many research activities. Women's role in their respective developing countries, especially in farm production, is a major factor determining whether there will be hunger within the family (Longhurst, 1983). Minor crops are often grown by women to add to the family diet and enhance the nutritional status of the family. Longhurst (1983) suggested that an increase in income of women in the household would be the most significant contribution toward removing malnutrition. When production is increased by women farmers, nutritional benefits tend to increase at the same time. A major concern of both issues of women in development and famine prevention is that women's role in food procurement for the family is insufficiently recognized by policy makers in national government. It is thought that in university research conducted to include famine prevention and freedom from hunger, women are forgotten as an influential resource for enhancing the developing country's economy.

### Statement of the Problem

This study was planned in recognition of the need to include women in developing countries in research or projects with less developed countries. Since women additionally have a large influence on the nutritional status of children and in rural areas may comprise up to 70 percent of the agricultural labor force (Blair, 1980), the importance can be seen on how nutrition can be affected by the inclusion of women in decision making processes. The purposes of this study were: 1) determine the extent to which international projects at OSU have focused on or involved a) women from developing countries and b) the issue of famine prevention and freedom from hunger, and 2) to conceptualize how all colleges of a university can incorporate a unified goal of research to include women in development and freedom from hunger.

### Objectives

In this research project several objectives were sought. The first objective was to determine the extent of involvement of women in international projects at Oklahoma State University. Since there is a growing need for inclusion of women, the university should be assessed as to where it presently stands on this issue in its international involvement. The second objective was to synthesize information on how Oklahoma State University can approach the

problems of famine prevention and freedom from hunger. A final objective was to present a model which would represent a workable solution to incorporate the entire university in both the inclusion of women in development and famine prevention and freedom from hunger decisions in all international projects at OSU.

#### Limitations

There are a number of limitations in this research project. One limitation was the differences in the format and hence amount of information provided in proposal or project reports at OSU. Each faculty member submitted project reports to the Office of International Programs with varying degrees of information about persons involved, funding amounts and results obtained. Additional time and follow-up interviews with faculty were necessary to locate missing information. A second limitation was the investigator's limited experience in knowing which information sources would provide all the information needed in the report. The investigator's lack of direct involvement in women in international development on a national basis or involvement with university meetings to address projects in developing countries such as rural farmers and agricultural committee meetings would preclude information on new international projects. A third limitation was the availability of all faculty to interview. Several faculty were overseas working on international projects during the time

when interviews were conducted. Other faculty were on sabbatical leave. A final limitation was time constraints. Personal interviews were scheduled around faculty availability. Some faculty found they had little available time to spend on personal interviews. Finally, summary statements of this study are applied only to international research accomplished through Oklahoma State University during 1979-1984.

#### Assumptions

The first assumption in this study was that the faculty interviewed did provide accurate information. A second assumption was that the answers obtained from interviewees reflected their true feelings, not socially accepted ideals. Third, it was assumed that information found in the documents was accurately reported. Finally, it was assumed that every possible research report available at Oklahoma State University was reviewed for international interests from 1979-1984.

#### Definitions

For the purposes of this investigation, the following definitions will be used.

AID - Agency for International Development. An agency which administers most of the foreign economic programs of the United States (U.S.) government. The administrator serves as the principal adviser to the President and the

Secretary of State on International Development (BIFAD, 1983).

AWID - The Association for Women in Development. An association based in the U.S. and created by a group of scholars, practitioners and policy makers in 1982. It is committed to emphasizing the awareness of the interdependence of nations, institutions and individuals in development and ensuring that women participate as full and active partners in the development process (AWID, 1985).

BIFAD - Board for International Food and Agricultural Development. The board's mission is to bring together and match the needs identified by AID for its overseas programs authorized by Title XII in food and agriculture with the experience and expertise in U.S. universities (BIFAD, 1983).

Developing Countries - "All countries excluding those of Eastern and Western Europe, USSR, Canada, USA, Israel, Japan, and South Africa" (IADS, 1981).

JCARD - The Joint Committee for Agricultural Research and Development. The committee provides a two-way communication link between AID and the universities (BIFAD, 1983).

Least Developed Countries (LDC's) - Those 36 countries identified by the United Nations as least developed (Appendix A) based on measurements of per capita GNP, industrialization, and literacy (UNCTAD, 1983, and IADS, 1981).

MIAC - Mid-America International Agricultural Consortium. A not-for-profit corporation which accepts and

administers grants and contracts utilizing the institutional experience of its member universities (Iowa State University, Kansas State University, University of Missouri, University of Nebraska, and Oklahoma State University) and the professional experience and expertise of their agriculturally related faculties in teaching research and extension (MIAC, 1982).

Title XII - A document entitled "Famine Prevention and Freedom From Hunger" - a subdivision of the International Development and Food Assistance Act of 1975 (Public Law 94-161, 1975). The primary goal of a Title XII program is to develop a country's ability to conduct research, extension, and teaching. This is accomplished through (a) training people to perform agricultural development work adapted to their needs, (b) discovering new knowledge through research, and (c) improving delivery of knowledge locally to small farmers and laborers many of which are women (BIFAD, 1983, and PL 94-161, 1975).

The need for information on whether Oklahoma State University is addressing issues of women or hunger in developing countries is necessary. In order to make changes in the University's research directions in developing countries information is needed on whether OSU is addressing issues of women or hunger. It is hoped that this study revealed what has been done in developing countries, so that an organized system of international involvement of each college may be continued or enhanced.



## CHAPTER II

### REVIEW OF LITERATURE

#### Introduction

Research conducted at Oklahoma State University through Title XII was intended to enhance university involvement in the U.S. Government's international programs. More effective use of agricultural sciences was suggested to support increasing world food production. In addition, university research needs to be provided for longer terms in applying science to solving food and nutrition problems of developing countries.

Section 113 of the Foreign Assistance Act of 1973 required that emphasis be given to integrating women into the national economies of foreign countries which would improve their status and strive to achieve "total development." Out of this act came several organizations on national and university levels to address women in international development.

Today, responsibility for implementing the Agency for International Development's Women in Development Policy rests with all of AID's offices and programs. AID project identification and plans must clearly explain strategies to

involve women (Bureau (WID), 1982). Therefore, any Title XII or other project funded by AID should not only address the needs of women but include overall development needs of a country.

Agricultural sciences, although increasingly attracting women to study agriculture, remains a male dominated area of study. Thus, agricultural research to address famine prevention and freedom from hunger is undertaken mainly with male values, which may be concerned primarily with the idea of economic growth and technology, hence according to Swantz (cited in vonTroil, 1984), becomes detrimental to women in particular. Smith (1984) stated that "women cannot be treated in isolation. They are part of a family, farming, community, or global system." (p. 2).

As part of the farming system, women do need input into agricultural research programs in their countries. Through farming, they supply the foods to their families. With little effort, it can be shown that women are a vital link in solving the worlds food crisis in developing countries.

#### Legislative Background

Up until the 1940's, the developed world had little money or technology to give to developing countries. World Wars I and II forced industrialized countries to attend to their own needs first. After World War II, some industrialized nations began to assist newly independent developing nations (Wortman and Cummings 1978).

Involvement of the U.S. in relief and rehabilitation of people in other nations began on November 9, 1943. Representatives of 44 nations met in Washington, D.C., to sign the agreement which established the United Nations Relief and Rehabilitation Administration (UNRRA) (UNRRA, 1946).

The World Bank was formed at a United Nations Monetary and Financial Conference in 1944, with the primary purpose to help less developed countries raise their living standards. The World Bank's operations began in 1946. Money is loaned through the World Bank for specific productive projects, and each loan must be guaranteed by the government concerned (The World Bank, 1977).

Although ground work for the Food and Agriculture Organization (FAO) of the United Nations was laid in 1943 (when UNRRA was established), it was not officially formed until October 16, 1945. The goals of FAO were to:

...raise levels of nutrition and standards of living of the peoples under their respective jurisdictions, securing improvements in the efficiency of the production and distribution of all food and agricultural products and better the conditions of rural populations and thus contributing toward an expanding world economy (Office of the Federal Register, 1983, p. 687).

The United Nations (UN) was established according to the Charter of the United Nations in 1945. The purposes of the UN are to maintain peace and security between nations, to keep relations friendly between the countries, to strive towards international cooperation in solving economic, social, cultural problems in each country, to promote respect for human rights, and to be a central figure for

pulling together the actions of nations in attaining these common interests (Office of the Federal Register, 1983).

The constitution of the World Health Organization (WHO) was drafted in 1946. It was formed in order to attain in all people the highest possible level of health; physical, mental, and social. WHO visualizes health as important to attain peace and security throughout the nations (Office of the Federal Register, 1983).

Public Law 480 was introduced in 1956 as a Food for Peace program. Under PL-480, food is distributed to save lives, prevent malnutrition and increase family incomes (AID, May, 1983 and World Food Program, 1976). Under Title II of PL-480, the President of the U.S. would be able to transfer surplus agricultural commodities to nations friendly to the U.S. to meet famine or other urgent relief requirements, and to friendly but needy populations without regard to friendliness of their governments (Agricultural Trade Development and Assistance Act of 1954).

In 1961, Senator George McGovern presented a proposal for the creation of the World Food Program which would provide resources used for emergency in countries struck by disasters. The World Food Program was officially established on June 1, 1961. Since the World Food Program's establishment, resources have become a tool for development in the United Nations system. As an action oriented program, men and women receive food rations in return for work in projects with goals of improving conditions and

promoting self-sufficiency in areas of development. The program has helped countries in finding ways to stop the relocation of people from rural areas to the cities. This has been achieved through support for projects of rural development which have resulted in improved health, education, and social services in rural communities. The World Food Program's major goal is "to improve the nutrition of people who live in conditions of chronic hunger" (World Food Program, 1976, p. 7). In India, for example, a project helped the main cities of India to meet their milk requirements through a milk marketing and dairy development plan. Economic and social benefits have also resulted from this study (World Food Program, 1976).

#### Legislation and Involvement of Selected Universities in Developing Countries

President Truman proposed a "Point Four" program in his inaugural address on January 20, 1949, which would involve sharing U.S. technical skills, knowledge, and investment capital with people in underdeveloped areas (Technical Cooperation Administration (TCA), 1952). The Point Four Program evolved into Title IV of the Act for International Development. This Act was signed into law on June 5, 1950. It declared that the U.S. should aid the efforts of people in undeveloped countries to develop their resources and improve their working and living conditions through an exchange of technical knowledge and skills (Act for In-

ternational Development, 1950).

Oklahoma State University began involvement in international technical assistance projects when President Harry Truman chose Henry G. Bennett, President of Oklahoma State University, to be the first administrator of the Technical Cooperation Administration (Gill, 1976). The Technical Cooperation Administration was created out of the Point Four Program and is well known today as the Agency for International Development (OSU Terminal Report, 1969). Henry Bennett visited Ethiopia in April of 1950, to evaluate the existing educational program in Ethiopia in relation to how it met the needs of the nation. In Ethiopia, Bennett saw a potential for agricultural advancement.

Bennett outlined a proposal for a nationwide system which would provide for an Agricultural College with components of teaching, research and extension. On May 16, 1952, an agreement between the Technical Cooperation Administration and Oklahoma Agricultural and Mechanical College (now Oklahoma State University) was signed. The University agreed to assist Ethiopia in establishing: a college of agriculture, a system of agricultural extension services to people in rural areas, agricultural research and experiment stations, and economic development alternatives (OSU Terminal Report, 1969).

From 1951 to 1976, faculty and staff of the Division of Engineering, Technology, and Architecture at OSU contributed to OSU's international technical assistance programs. Per-

sonnel were involved in various projects in countries of Algeria, Ethiopia, Egypt, Pakistan, Brazil, and Peru. The School of Engineering Technology at OSU planned an extensive training program in Pakistan. The purpose of this program was to provide specialized training for Pakistani instructors and administrators of technical schools and to devise a curriculum guide for three polytechnic institutes in Pakistan (Gill, 1978).

The Ford Foundation developed a close working relationship with Oklahoma State University on the technical education project in Pakistan. Because of this, Henry Adams, Director of the School of Engineering Technology at Oklahoma State University, was assigned to head a survey team in Brazil to analyze technical training programs and to recommend technical education programs for continued growth of the economy and industry (Gill, 1978).

The College of Home Economics at OSU became a leader in international education among Home Economics colleges in the U.S. under the leadership of Dean Lela O'Toole. The College of Home Economics at OSU was the first college to join the International Federation for Home Economics (IFHE). A grant was given by the Ford Foundation in 1952 to aid in the establishment of a College of Home Economics in Karachi, Pakistan. Funds were later offered for developing and equipping a College of Home Science in Lahore, Pakistan. These two colleges opened in 1955. A separate grant made in 1958 to the Government of East Pakistan by the Ford Foun-

dation provided for the opening of a College of Home Economics in Dacca, Pakistan (Cooperative Program, 1972).

In 1968, OSU contracted with the U.S. Agency for International Development to provide technical advisors from the College of Education for vocational education programs in Thailand. Personnel and services for the project lasted until the end of 1973 (Gill, 1978). Oklahoma State University advisors contributed support to schools in the development of curriculum and in producing teaching aids and instructional materials. The College of Education continued international service in the 1970's and in 1974 it developed an academic relationship with the University of Carabobo in Venezuela. At the University of Carabobo, an agreement was set up between OSU and the University of Carabobo to improve the graduate program in Education and to improve the competencies of education faculty. Oklahoma State University professors were authorized to teach at the University of Carabobo through January 1, 1978 (Gill, 1978).

Faculty and staff in other fields at OSU have served in many projects overseas. Colleges of Veterinary Medicine, Business Administration, and Arts and Science contributed to international education. An OSU-AID project from 1965 to 1971 involved 35 faculty and staff members of Veterinary Medicine and Animal Sciences to serve in Guatemala and other Central American countries. The purpose of this project was to evaluate the veterinary medicine program at San Carlos and to survey Guatemalan agriculture to see if there could



be a mutual assistance program between the San Carlos University and Oklahoma State University (Gill, 1978).

In 1966, the Department of Agricultural Economics participated in a program to develop agricultural resources in Colombia. The objectives of this project were to enhance competencies of agricultural economists in Colombia, improve training of undergraduates, and provide graduate training for those interested in agricultural economics (Gill, 1978). One of the most important contributions of this project was an establishment of research projects in farm management and production economies.

Faculty and staff of the College of Business Administration served as consultants and lecturers overseas. One faculty in Economics served as an economic advisor to the Ministry of Economic Planning and Development in the Government of Kenya. In Kenya, economic advisors were hired by the Ford Foundation to work with government officials in solving economic problems related to urban crowding (Gill, 1978).

The College of Arts and Sciences supported OSU's role in international education. OSU received grants from the National Science Foundation (NSF) to teach extension courses on modern mathematics and science to high school teachers. OSU signed an agreement in 1964 with the Federal Government to teach courses in modern mathematics to the Dependent Schools of the U.S. Overseas Military in Southwest Asia and the Pacific. Also in 1964, the NSF requested Oklahoma State

University to provide a project in developing science material that would aid college instructors in Central America. Both of these projects lasted until 1968 (Gill, 1978).

From 1967 to 1973, the Zoology Department of OSU conducted research and studied fish populations in Guatemala. The Guatemalan project provided information about Lake Atitlan in Guatemala and its delicate ecosystem. In addition, the project helped introduce more effective fishing gear among native fishermen (Gill, 1978).

The Office of International Programs at OSU provided leadership in international programs. In the 1960's and 1970's, international educational efforts of American universities shifted from large contract projects to training programs in the U.S. for students and scientists of participating countries. The Office of International Programs and Department of Foreign Languages jointly developed an English Language Institute on a full time basis in March, 1975. This program was designed to train international students at Oklahoma State University in the English language.

University involvement in global research was strengthened in 1975, when Congress passed legislation for Title XII of the International Development and Food Assistance Act. Title XII recognized the importance of the application of science in solving the food and nutrition problems of the developing countries. This document emphasized the idea

that U.S. universities should increase involvement between nations in fields of agricultural science and development. Title XII legislation also created the Board for International Food and Agricultural Development (BIFAD). This board was designed to help mobilize the resources of U.S. universities to assist the Agency for International Development in carrying out the U.S. development assistance efforts (York, 1983).

In reviewing OSU's involvement in international projects, one can see how closely linked the U.S. legislation and political leaders were to both universities and other nations. Throughout the years, there have been many growth spurts in international-university affairs which have led to a continuum of interests of all colleges at OSU in international development.

#### International Projects at Selected Institutions Involving Home Economics

Home Economics colleges at other land grant institutions have been involved in Title XII and non-Title XII international projects. Nancy Granovsky compiled a report in 1982 describing the international experiences, interests, and professional competencies of home economics staff members of the Texas Agricultural Extension service. In her report she found that the international experiences of the home economic staff had provided insight and information about the standards of family living in other countries that

would be useful to personnel formulating project proposals for Title XII projects (Granovsky, 1982). The skills of home economists were found to be applicable to three priority areas of Texas A & M University's Strengthening Grant: 1) nutrition and agricultural development, 2) women in development, and 3) small farmers. Also of interest from this study was the statement that "it is likely that constraints other than professional qualifications hinder the availability for and low entrance of home economists into technical assistance assignments" (Granovsky, 1982, p. 8). From Granovsky's observations of competencies of staff in Home Economics, there were areas in which the home economic profession needed to enhance their skills for future international involvement. A few of the suggested areas were language, working with other cultures, observational skills, and international perspectives (Granovsky, 1982).

Mary Futrell at Mississippi State University reported on a Title XII project conducted by Eunice R. McCulloch, Department of Sociology and Anthropology, and Mary Futrell, Department of Home Economics and Nutrition. This project was designed to determine the nutritional status of pre-school children in Honduras where sorghum is consumed. The project entitled "International Sorghum Millet Project" (INTSORMIL) covered sociological and nutritional field research in Southern Honduras during 1981 to 1983. Farming methods, and social, economic, and nutritional conditions of subsistence farming family members were determined in areas

where grain sorghum is the staple food (Mississippi State University, 1983). One notable finding of this project was that although the average crop yields of maize, sorghum, and beans, grown on farms could provide a minimum recommended amount of calories and sufficient protein, an over dependence on these crops resulted in serious deficiencies of several essential nutrients. Another point made was that because of limited land resources and the nature of the production and consumption patterns in subsistence economies, family existence was dependent on the food supply (McCulloch and Futrell, 1983).

Miriam Seltzer of the University of Minnesota's College of Home Economics is the coordinator of the Jamaica Technical Assistance Project. The project is an experimental program using technical assistance for short terms (not to exceed three months) to selected agencies and institutions in Jamaica. The Jamaican agency submits requests for technical requests for technical assistance to the University of Minnesota's College of Home Economics. The University of Minnesota's College of Home Economics faculty and experienced graduate students are then selected to consult, advise, design research and evaluation, and provide expertise to Jamaican government agencies and private voluntary organizations. The six areas of Home Economics involved are Food Service and Nutrition, Social Work, Family Social Science, Design Housing and Apparel, Home Economics Education and the Center for Youth De-

velopment and Research (University of Minnesota, 1984).

Other international programs are offered at the University of Minnesota. An International Development Collateral program is offered, which provides experiences for US and international students who are interested in development of the less developed areas of the world. The program focuses on issues of household and food production, distribution, and consumption, with special attention given to the roles of women and youth. Seminars are conducted by the Colleges of Agriculture, Home Economics, Public Administration, and Anthropology. Specific departments involved in instruction are Agricultural Economics, Home Economics Education, Agricultural Education and Food Science and Nutrition. A second program is an optional three to six month internship experience for the students participation in a developing country. The Minnesota Studies in International Development (MSID) internship seeks through one of its objectives to form long-term linkages between the University of Minnesota and third world institutions involved in social and economic development (University of Minnesota, 1984 and MSID, 1984). The MSID Internship Program is not funded by Title XII, although other projects have been funded, in part or totally by Title XII funds (Seltzer, 1984).

A newly created International Program Office has been opened in the College of Home Economics at the University of Minnesota with a major goal of integrating an international

dimension in teaching, research and extension. The Office oversees the aforementioned programs, represents the College of Home Economics in committees concerned with international issues, participates in a Inter-University Consortium for International Social Development (attended by faculty from various disciplines), and investigates possibilities for an institution-building relationship between the College of Home Economics and educational institutions abroad (Seltzer, 1984).

Miriam Seltzer was also coordinator for a seminar on Home Economics and Agriculture in Third World Countries, May 14, 16, and 23, 1980 at the University of Minnesota, St. Paul, Minnesota. An overall goal of the seminar was to promote the consideration of social, psychological, and economic ramifications of program outcomes on rural families in projects designed to increase food production. Those who attended the seminar were made aware of disciplines in Home Economics and Agriculture which are relevant to development. Women's situation in economic development and ways to promote cooperation in teaching, research, or teaching, or in-country projects were other issues addressed.

East Carolina University's College of Home Economics was involved with two projects supported by Title XII funds. Kathryn Kolasa, Professor of the Department of Food, Nutrition, and Institution Management, at East Carolina University completed development of a course on international food and nutrition issues while working at Michigan

State University. A segment of the course was called "Women and Food." Title XII funds were also used to initiate a research project with the Institute of Nutrition in Ecuador. The remainder of the research was funded by the Ford Foundation. A dissertation concerning the project is currently being prepared by Beth Ann Sandlin Witcher, a Ph.D. student at East Carolina University entitled "Internal Migration and the Nutrition Status of School Age Children in Cotacollao Alto, Kuito, Ecuador (Kolasa, 1984).

The department of Vocational Home Economics at Southern University, Baton Rouge, Louisiana, has been working with the International Development Program at Southern University since 1982. Southern University shares with Louisiana State University and the Government of Sierra Leone, West Africa, involvement in the Adapted Crop Research and Extension Project (ACRE) (Southern University, 1984). The Sierra Leone Adaptive Crop and Extension Project was funded primarily by US-AID. The purpose of the project was to develop an adaptive crop research and replicable technological delivery system responsive to the needs of the rural small farm holder in Sierra Leone. Accomplishments of this project included participation of rural small farm holders in research and extension, improved seed/plant materials, production techniques and storage/marketing techniques for 20,000 farm families, and permanent linkages between the Government of Sierra Leone research/extension system and international tropical agriculture research institutions



(Carpenter, 1984b). Barbara Carpenter, in the department of Home Economics Teacher Education, was involved in the ACRE project. Her objectives were to work with adding on a Nutrition Education Component of the project, and to establish linkages in home economics education with the University of Njala College in Sierra Leone. The goals of the nutrition component of the ACRE project emphasized improvement of nutritional status of ACRE farm families, especially small children and pregnant/lactating women, encouragement of growth, preservation, and storage of nutritious foods in households, introduction of appropriate labor saving devices for use by rural women, and training field staff in the use of appropriate methods for effective delivery of nutrition information to rural women (Carpenter, 1984a).

Margaret Younathan, Professor of Human Nutrition and Food at Louisiana State University, Baton Rouge, Louisiana, was also involved in the Nutrition Component of the Southern University-Louisiana State University Consortium on Adaptive Crop Research and Extension (ACRE). Younathan was assigned the task to improve educational training of personnel dealing with the nutritional component of the ACRE project. Outcomes of this project included instructional materials made specifically for the project, a program content outline with objectives for each class conducted, lesson plans for teaching nutritional needs of the pregnant mother, the lactating mother, the infant and the young child, and teach-

ing strategies including new teaching tools such as the flip chart, the flannel board and food models (Younathan, 1984a and 1984b).

Virginia Polytechnic Institute and State University in Blacksburg Virginia is a Title XII Institution. It has an established Women in World Development Office directed by Mary Hill Rojas. Women in Development (WID) issues are involved in several ways. Direct involvement is achieved through Virginia Tech's Resource Conservation and Utilization project in Nepal. The Institutions primary mission in this project is to develop the Institute of Renewable and Natural Resources of Tribhuvan University at Pokhara and Hetuada, Nepal. Faculty with expertise in forestry, soils, and agricultural engineering are serving long-term assignments in Nepal (VPI, 1984). Indirect involvement in WID issues is through training and orientation of faculty and students going overseas, as well as the encouragement of women faculty involvement in projects overseas (Rojas, 1984).

The Ohio State University sponsored Women in Development Seminar Proceedings in Spring 1982, which were coordinated by the Department of Anthropology and the Department of Home Management and Housing, College of Home Economics. The interdisciplinary seminar was conducted to help graduate students and faculty members gain an understanding of the scope of issues in women in development. During the 1982 seminar, Francille Firebaugh, Vice Provost

for International Affairs at the Ohio State University, led a working group on Women in Development within the Joint Committee on Agricultural Development of US-AID. The Ohio State University also acted as an active participant in a Women in Development network created by the Midwest Universities Consortium on International Affairs (Bourguignon and Firebaugh, 1982).

Catherine Mumaw, Chair and Professor of the Home Economics Department at Goshen College, Goshen, Indiana, reported having international projects not funded by Title XII (Mumaw, 1984). There is an undergraduate general education requirement for students of Home Economics which includes a 14-week study-service trimester in a country in Central America, the Caribbean or some other approved location. Goshen College offers a China Educational Exchange Program (CEE). The CEE has sent American teachers of English to China and arranged for placement of Chinese teachers of language, history and culture in Menonite colleges (CEE, 1983). Goshen College is a co-sponsor for a Transcultural Seminar for pre-service international volunteers and servants. Many interest areas are covered, including nutrition, agriculture, health care, and general development. The seminar is designed for persons who anticipate serving overseas in a field related to agriculture, education, health care, nutrition, or general community development (Goshen College, 1984).

Michigan State University (MSU) has an Office of Women

in International Development which sends out monthly newsletters and publishes working papers on women in international development. The working paper series includes reports of studies and projects written by scholars working on development issues affecting women in relation to social, political, and economic change. A project advisement task force as well as a special course on women in development are being developed by Women in International Development members. International development seminars are co-sponsored through the MSU office of International Development. January 1985 seminars were conducted by faculty from areas of agricultural economics, social science, sociology, and the bean/cowpea CRSP program (OWID-MSU, 1985).

The Iowa State University (ISU) has been actively involved in international activities, especially through its establishment of the World Food Institute in 1972. The Institute encourages involvement and commitment of scientists and educators from all disciplines at ISU in following up on recommendations suggested by the World Food Conference of 1976 (The Iowa State University Press, 1976). The World Food Conference of 1976 was developed to intensify involvement of scientists and educators in solving world food needs through unified efforts among university research organizations, extension and their disciplines. Dr. Charlotte E. Roderuck, a Human Nutritionist in the College of Home Economics at ISU, is the current director of the

World Food Institute.

ISU's College of Home Economics is extensively involved in international activities of faculty students and alumni. International programs in the college include providing 1) opportunities for U.S. students to increase their understanding of the international dimension, 2) undergraduate and graduate programs that foreign students can apply to their home situations, and 3) opportunities for faculty to build or increase their expertise by working in another culture. For example, Donna Cowan, Assistant Dean of the College of Home Economics at ISU spent two weeks working in the Community Nutrition and Family Resource College in Bogor, Indonesia. At Indonesia, Dr. Cowan provided technical assistance to the college in curriculum and course development, set up faculty development programs and established linkages with other colleges on campus as well as the Ministry of Education and the U.S. Embassy (Glanville, 1984).

#### History of Women in International Development

Women in development was first introduced into the U.S. Agency for International Development program after Congress passed the Percy Amendment in 1973. This legislation required U.S. assistance programs to give attention to activities integrating women into the economies of foreign countries (Bureau-WID, 1982). An official Office of Women in Development of the Agency for International Development

(AID) was established in 1974 to promote and support policies and activities which would incorporate women into the national economies of the developing nations. Its most important goal is to help women in developing countries have an active role in their country's development process, by raising their income, status, productivity, and enhancing their self-sufficiency (AID, 1983).

The Association for Women in Development (AWID) was created by a group of scholars, practitioners, and policy-makers at a founding conference held in Racine, Wisconsin, in May, 1982. This association is based in the U.S., but linkages are hoped to be formed with comparable institutions outside the U.S. AWID has commitments to "increase awareness of the interdependence of nations, institutions and individuals in development, ensuring that women participate as full and active partners in a more equitable development process and that they share in its benefits" (AWID, 1983, p. 46). The first AWID international conference was held October 13, 1983 in Washington, DC. Over 800 people attended the conference.

The development of the Office of Women in Development, and AWID, served as an impetus for formation of the Oklahoma State University's Women in International Development organization on December 6, 1982. Men and women university-wide joined together to form a group committed to involving women in the development process. Goals included increasing awareness of women's roles in developing coun-

tries, coordinating and expanding the independent and interdisciplinary research efforts at OSU on the role of women in developing countries, increasing OSU women's participation in Women in Development projects, expanding teaching efforts at OSU on the role of women in developing countries, and developing external linkages with professionals (Stadler, 1984).

### Nutrition in Development

There have been numerous reports written on solving the world's food problems and on nutrition research in developing countries. Z.I. Sabry, Director of the Food Policy and Nutrition Division of the FAO, reported on issues in evaluating nutrition interventions. Dr. Sabry noted that the major nutrition problem in less developed regions is overall low food consumption. An improvement in sanitary conditions was recognized as a second factor in the nutrition problem, as it prevents disease and promotes proper digestion of food. Sabry emphasized that "for nutrition interventions to be most effective, they should be implemented in conjunction with socioeconomic development measures" (Sabry, 1982, p. 4). As a result of his report, FAO has emphasized introducing nutrition interventions as part of planning socio-economic development. This strategy makes development planners responsible for including nutrition in less developed areas (Sabry, 1982).

Horner (1982) analyzed the nutritional component of a

Food-for-Work program in Eastern Nicaragua. The study was designed to determine the effects of a World Food Program project on food intake of pre-school Miskito Indian children. The families in Eastern Nicaragua earned their living through subsistence farming and fishing for sea turtles. Poor environmental and sanitary conditions were present. Mild to moderate malnutrition was found in 49 to 55 percent of the preschool children and 17 percent of the children died before the age of five years. Work projects included building roads and bridges and draining swamps. Eventually community projects, resettlement of families, and agricultural diversification were functions added to the project. The World Food Program provided ingredients such as whole wheat, oatmeal, and powdered milk. These foods needed to be adapted to the Miskito Indian diet. Often, however, these people lacked the income to purchase other ingredients for their recipes (Horner, 1982).

One contrast was made between Food-for-Work and free food programs in Horner's study. Horner stated that distribution of free government food upset Sandy Bay, Nicaragua, each time a shipment arrived. The townspeople began to distrust the people in charge and hostility among families and villages erupted. In Food-for-Work programs, the investigators did not observe these negative aspects (Horner, 1982).

Ivan Beghin (1983) had a solution to attacking malnutrition in developing countries. He suggested that a



rural development project be designed so that improved nutrition is one of the results. One of the qualities of a good development project would be that it should "mount a concerted attack on some of the causal factors of malnutrition" (Beghin, 1983, p. 40). One of the causal factors which would affect nutrition was income. An increased income to families of developing countries would reduce real prices of food, increase food availability, improve health services and improve the quality of life (Beghin, 1983).

Longhurst reported on some neglected linkages in agricultural production and food consumption. An overall thought was that policy makers and researchers need to understand the linkages between production on the farm and consumption in the house, before nutritional levels can be increased to adequate standards for all people (Longhurst, 1983).

One idea neglected in agricultural policy formation was the seasonality of production. Especially for the poor farmers, food is not available year round. Peak food production times of the year have an inverse effect on food prices. The landless and poor are unable to buy the food when it is scarce because the prices are too high (Longhurst, 1983).

There is a "hungry season" before harvest in most developing countries. This has importance in two ways. First, continuous times of acute food shortages usually happen when all family members, especially adults, need to

be working strenuously. Any growth progress made by children earlier during the year can be offset at these times of stress. Second, other factors occur before harvest that add to stress within families. There may be high infection rates for malaria, diarrhea, guinea worm, and skin diseases. In addition, food prices increase and short term loans are only available at high interest rates (Longhurst, 1983).

Longhurst (1983) found that women have a large contribution at the seasonal peak of heavy farm work, and often take their children to the fields. Food preparation suffers as foods are prepared well in advance and at risk of contamination. It was suggested that a supplemental food program would be more effective in the wet season when food would more likely be consumed than traded for income. In contrast, nutrition education programs may be best utilized in the dry season when the work load has less time constraints (Longhurst, 1983).

In regard to women, Longhurst (1983) stated that the best contribution toward removing malnutrition would be an increase in income or the level of living of women in the household. In a majority of developing countries, women are the pivot between production and consumption. Women often lack the power to have their views heard, a position which is accentuated by heavy work loads in the house and on the farm. Therefore, it was suggested that a plan be designed to strengthen womens institutions such as savings groups,

traders associations or guilds (Longhurst, 1983).

Cavusgil, Amine, and Vitale (1983) reported on problems encountered in marketing socially desirable supplemental food products in Morocco. Three concepts of consumers in developing countries must be understood for more efficient food marketing. These concepts are 1) low incomes force individuals to remain with traditional markets where obtaining credit will be easier, 2) people refrain from paying for additional services offered by modern stores, 3) there is a limited storage capacity in most households, and household members like to socialize during daily shopping, and 4) there is a limited means of transportation. The researchers incorporated these ideas into a case study of introducing a weaning food, high protein infant cereal, to people in Morocco. The weaning food was used for children aged six months to five years. A one-million-dollar grant from UNICEF funded the building of a production plant for the cereal and for marketing of the weaning food. Within three years of production, the manufacturer lost large amounts of money and the project was ended.

Many cultural, social and economic factors were related to the failure of the project. The cereal was marketed in a pouch which was perceived by the poor as inferior or of lower quality. The price difference between this product and those from other competitors in the market was too small to convince consumers to purchase the product. The advertising used to promote the cereal was designed without

regard to cultural habits. The parties involved with advertising showed a weighing scale with the infant food on one side and raw steak, fish, and fruits on the other. The consumers perceived the product to be made out of fish. First of all, fish is an inexpensive staple of the working classes and second, fish is thought unsuitable as an ingredient of infant food and third, cultural habits forbid preparing any fish dish with milk (Cavusgil et al., 1983).

Cavusgil et al. (1983) identified factors which interfered with the success of past supplementary food programs. The first factor was the marketplace. There are scarcities of resources which increase the cost of production when imported materials are necessary. Second, there were government related difficulties. Governments have not always followed through with commitments. Agreements to purchase a certain amount of annual production for free distribution through institutions was not carried out. Third, there were marketing related mistakes. Consumer orientation was lacking in most supplementary food programs. Only in a small number of cases were acceptability tests performed with the consumers. Finally, in almost all cases of food programs, distribution was too limited. It was usually restricted to one region or to urban areas (Cavusgil et al., 1983).

Paul Lunven (1982) reviewed six case studies of agricultural and rural development projects to determine what their nutritional consequences were. Case Study I was a

project designed to provide roads, rural industries, tree planting, soil conservation, dryland agriculture, and small scale irrigation. The new rural industries (honey, and inland fisheries) created a market for local products and provided alternate sources of income for people. The irrigation schemes were developed in regions of the project area with the best soil, the closest access to water, and people with lower risks of poverty and malnutrition. The seeds provided to farmers were not drought or pest resistant according to the regions they were grown in. The most serious problem was the demands for intensive labor in the fields which conflicted with times that livestock herds needed intensive labor. Only wealthier farmers could hire others to do their labor to increase their incomes and food supplies (Lunven, 1982).

Case Study II involved an African country whose population was increasing at an alarming rate and whose soils of poor quality were affected by droughts and poor farming techniques. A five year integrated program was set up to deal with small farmers. Problem areas tackled were inadequate extension services, a lack of training, inadequate marketing facilities, and the lack of available credit. To encourage increased incomes, farmers planted two acres of cash crops; usually cotton, plus one acre of staple crops and an acre of rescue crops in case of staple crop failure. The shift from food crops to cash crops limited the food supplies produced in the region. Furthermore, the

cash crop, cotton, depleted the soils of nutrients, more than the food crops (Lunven, 1982).

Case Study III involved a government supported tea growing project in a developing country to help small farmers existing on subsistence living. There was a high rate of stunting and wasting in children of households with small tracts of land. The objective was to help the small farmer produce tea in order to bring in a steady cash flow into the household. The result was that the households did have higher incomes, but there was no improvement in nutrition. Two suggested reasons for poor nutrition were 1) land previously used to grow food was used to grow tea, and 2) those with money to spend in the market place did not have a knowledge of what foods to purchase for a nutritious diet.

Case Study IV involved a project in a developing country of Africa. Loans of seeds and fertilizer were given to small farmers to grow cotton or maize. It was thought that the loan of seeds along with technical assistance from extension workers and a guaranteed market of crops would increase productivity and crop quality, and give the farmers a source of cash income. One of the problems noted in this study was that the poorest farmers with the smallest tracts of land and at risk of malnutrition did not qualify for the loans. Thus, the poorest farmers received no benefits from the credit program. Their farms were no more productive and their incomes did not increase (Lunven, 1982).

Case Study V was a cooperative dairy development pro-

ject in rural Asia. It was designed to increase the incomes of the smaller subsistence farmers and supply wholesome unadulterated milk to the urban poor. In the short run, the project was successful. The deficit farmers with less than 1.5 acres of land and the subsistence farmers with 2.5 to 5 acres of land who owned cows used profits from milk sales to buy rice, vegetables, and fruit to feed their families. In the long run, the wealthier farmers within the cooperative began to dominate, with investments not serving the interests of all the people (Lunven, 1982).

Case Study VI involved a country in Asia where a development program was initiated for small farmers and landless laborers. In this case, social structures interfered with efforts to improve life for the rural poor. The elite group in some communities saw the small farmer groups as a threat to their position and influence. They feared a loss of cheap labor and threatened employees from joining the program. In other communities, the wealthy would join and take control of the program to increase the size of the loans available. The project, needless to say, benefitted only a small percentage of the rural poor (Lunven, 1982).

These case studies suggest that very focused ideas of how nutritional status can be improved by outsiders are of little benefit unless an entire network of factors are considered. These factors include politics, cultural taboos, economics, sociology, seasonality of food production,

health services, sanitation, and environment in addition to enhanced food production methods and nutrition. There is a need for a global perspective in project development incorporating all disciplines who are interwoven into the development of a country.



## CHAPTER III

### METHODOLOGY

An investigation was designed to examine the research or projects with developing countries that Oklahoma State University was involved in, focusing on the needs of women in development and freedom from hunger. This chapter includes information pertinent to the research design; the sample, the method of data collection which included assessments of reports and interviews, and data analysis.

#### Research Design

This study's design can best be described as survey research. Survey research includes the study of variables that depend on a human's response (Joseph, 1979). In this study, the dependent variables are inclusion of women in research of projects which involved development, famine prevention, and freedom from hunger. Examination of results from this study is based on responses obtained from faculty involved in international research or projects. Survey research "focuses on people and their needs, beliefs, opinions, attitudes, motivations and behavior" (Joseph, 1979, p. 19).

The type of survey research utilized in this research

is a descriptive survey. Descriptive surveys describe situations, opinions, attitudes, variables, or sets of variables in a factual and accurate manner. The description is dependent on data collected from a representative sample without bias (Joseph, 1979).

#### Sample

The research sample composed of 24 individuals (18%) as selected from the total population (N=134) of Oklahoma State University faculty involved in international projects listed in the Project Proposal Inventory (Carter, 1984) based on the following criteria:

- 1). Faculty were involved in international research, teaching, extension or consultation during the years 1979-1984;

- 2). Faculty worked on projects in a developing country, i.e., any country except those of Eastern and Western Europe, USSR, Canada, USA, Israel, Japan and South Africa; and

- 3). Faculty were currently on staff at Oklahoma State University.

#### Data Collection

A preliminary study was conducted which entailed a review and analysis of research activity report documents from 1979 to 1984. The documents searched are listed in Appendix B. Contracts and Grants Offices, the Edmon Low Library, and

research units of Home Economics and Life Sciences of Oklahoma State University were tapped for information on projects and proposals. Also utilized was information obtained through the International Programs Office at Oklahoma State University. These personal contacts revealed background information on US-AID projects. Information obtained from documents and personal contacts was recorded on a Project/Proposal Inventory Sheet (Appendix C). These Project/Proposal Inventory Sheets were incorporated into a report entitled "An Inventory of Projects and Proposals from 1979 to 1984 Concerning International Issues" (Carter, 1984).

For the study itself, survey data were collected through interviews with selected faculty. A list was compiled of faculty involved in developing countries from the inventory report developed by the author. A sample of faculty members was derived from this list based on the previous mentioned criteria. Addresses of faculty on the Oklahoma State University campus (N=22) were obtained from the Faculty-Staff Directory of Oklahoma State University, 1984-1985. Each faculty person was sent a letter informing him or her of the authors research and a request for a personal interview (Appendix D, Letter 1). The interview schedule (Appendix E) was sent along with the cover letter through campus mail.

Ten faculty who were overseas on an international project were also contacted by mail. Each person was sent a

letter explaining the authors research (Appendix D, Letter 2) and the interview schedule which they returned via air mail. These faculty addresses were obtained through the secretaries in their respective departments. Two out of ten interview schedules were received by mail.

#### Research Instruments

Survey data may be collected by methods such as interviews (Joseph, 1979). An information gathering interview was selected as the research tool (Stewart, 1982). It is composed of a directive component, gaining information for the project/proposal report, and an indirective component, in an attempt to determine the sensitivity of the person interviewed to women in development, and specifically, problems of famine prevention and freedom from hunger. Approximately three weeks after the cover letter and interview format were sent, faculty were contacted personally by telephone. The purpose of the interview was explained in detail by the author. The interviewees were given a choice of times for interviews from which they could select.

Interviewees selected for initial interviews were purposely mixed into a list of interviewees more favorably inclined to interview and interviewees less favorably inclined to interview. Dexter (1970) felt this type of method would avoid a risk that the interviewee may have a tendency to share preconceptions with the interviewer if familiar with him or her. Responses from familiar interviewees may

mislead the interviewer as they could remain unchallenged in following interviews.

Information from the interview was recorded in the researcher's notebook, following the interview schedule format. The interviewer's notes were rewritten shortly after the interview to prevent loss of additional information. The answers were then categorized, recorded, and summarized.

#### Data Analysis

Information gathered from this descriptive study did not require statistical analysis. Therefore, clear and precise descriptions were made of the information collected (Joseph, 1979). Where information was obtained that could be tabulated, summary statistics such as frequencies and percentages were used. Illustrations were added to influence the readers thoughts on the issues of women in development and famine prevention as they are related to Oklahoma State University research.

## CHAPTER IV

### RESULTS AND DISCUSSION

Information was compiled from documents from 1979 to 1984 to discover which faculty were involved in international projects. From a total of 134 faculty, a sample of 24 was chosen according to specific criteria for the interviews. Information from these interviews was recorded on the interview schedule form (Appendix E). The responses to each question asked were analyzed. This chapter presents the data analysis to determine the extent to which international projects at Oklahoma State University have focused on or involved a) women from developing countries, and b) the issue of famine prevention and freedom from hunger.

#### Background Project Information

The following information was obtained to provide readers with data useful to them when considering international involvement. A perspective on which colleges are very active in development, plus the amount of time one can expect to spend in a developing country can be gained from this information.

Faculty Interviewed

The number of faculty interviewed according to colleges are listed in Table I. The highest percentage of interviewees (54%) were from the College of Agriculture, followed by Arts and Science, International Programs, and Home Economics.

Faculty's Years of Involvement in International Programs

The highest percentage (39%) of time spent by faculty in developing countries ranged from less than one to five years (Figure 1). Within the less than one to five year category, time of involvement varied from two to three weeks (3), to six months (1), to one year (1), to two years (2), to five years (2).

TABLE I

NUMBER OF FACULTY INTERVIEWED  
REPRESENTED BY COLLEGES  
OR UNIT

Unit	Number
Agriculture	13
Arts & Sciences	4
International Programs	3
Home Economics	2
Engineering, Architecture, & Tech.	1
Veterinary Medicine	1
Total	24

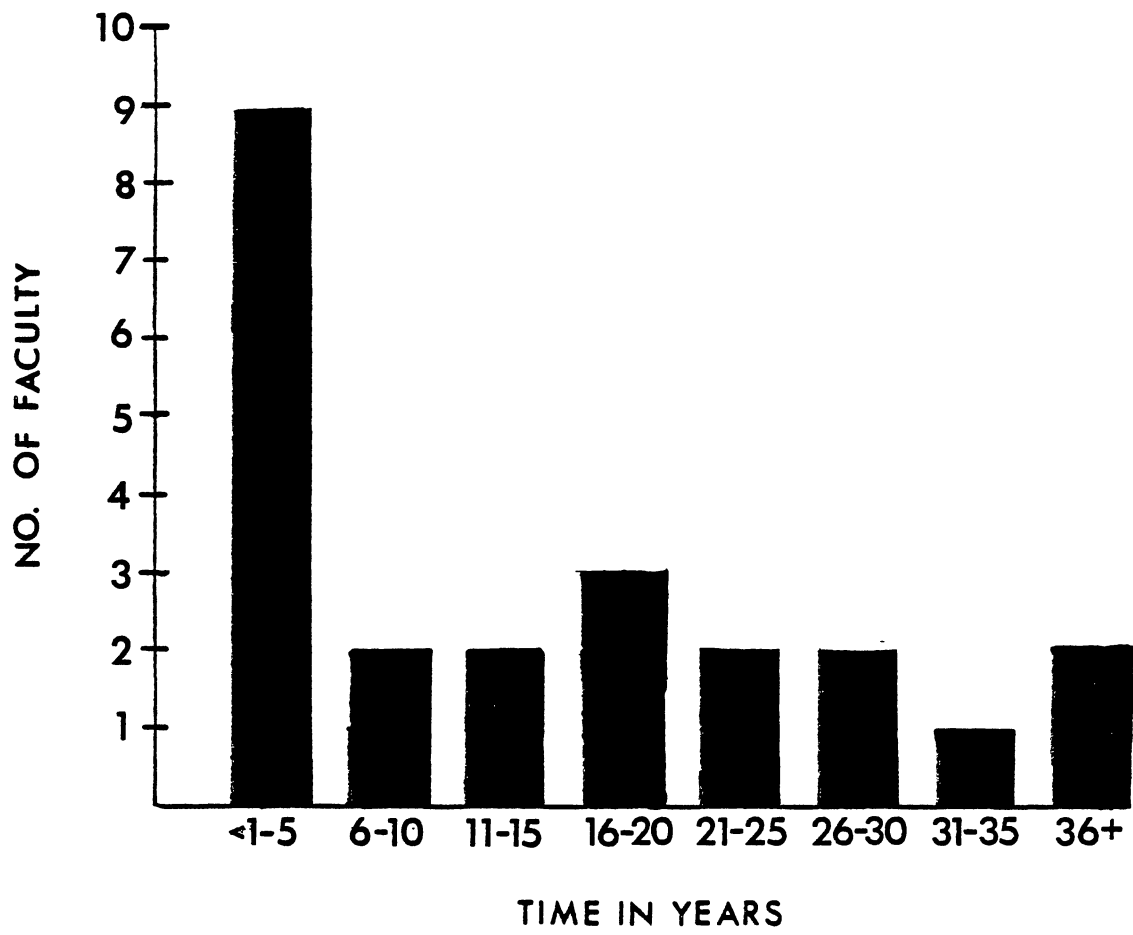


Figure 1. Range of time of international involvement of faculty



### Percent of Time Faculty Spend on International Projects

Fifteen out of 22 faculty (68%) involved in International Programs currently spend less than 25 percent of their time on international projects. Faculty with 100% involvement are either overseas working solely on their project or are employed exclusively to work with international programs.

### Time Period of Most Recently Completed International Project

The amount of total time spent on the most recent international project ranged from six days to five years. Ten faculty spent from one week to one month on the most recent project. In contrast, seven spent between two to three years (Figure 2).

### Most Recent Project Involvement

Several faculty had many projects throughout the years in developing countries. The researcher chose the most recent project to obtain information on the present status of the inclusion of women and famine prevention throughout international projects.

### Project Titles

Six of the projects dealt with the Morocco Applied Research Program for Dryland Farming. Different aspects of dryland farming were researched. These aspects included aridoculture, weed assessment, management of soil management

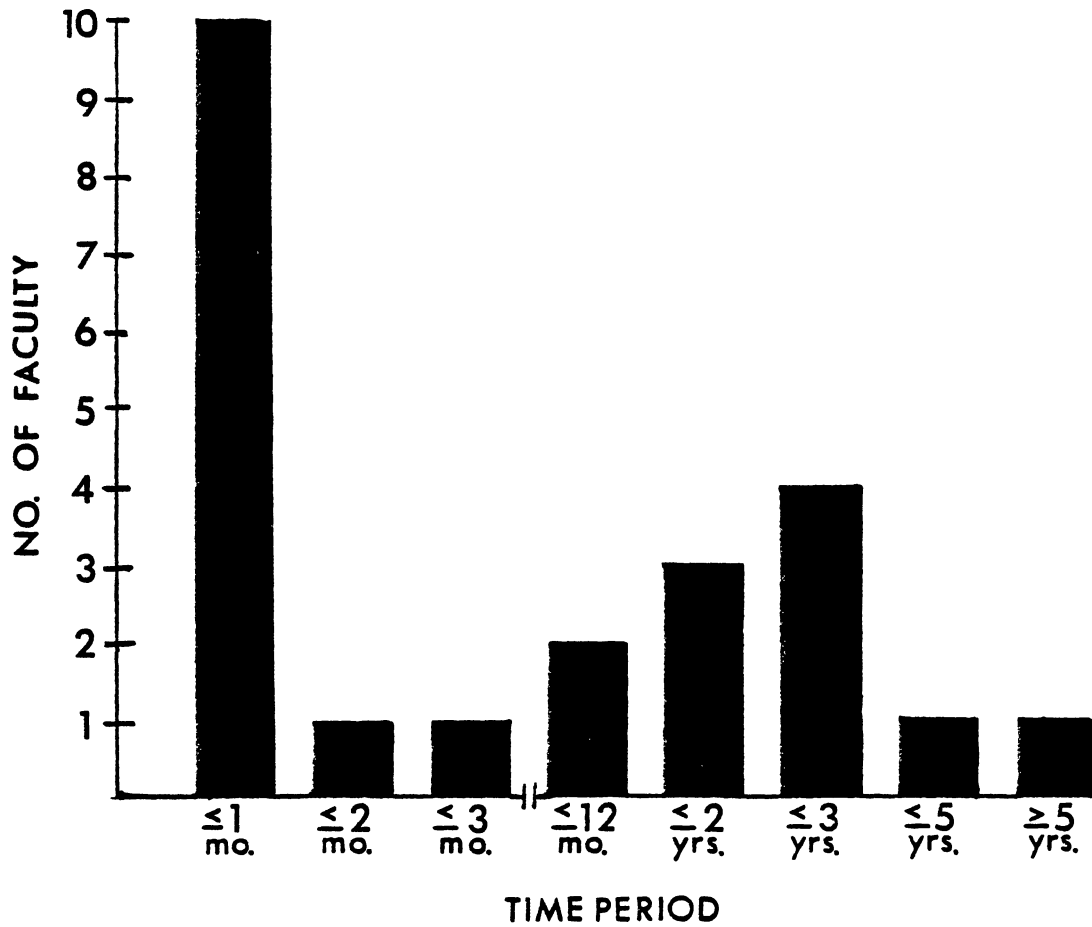


Figure 2. Time period of most recent international project

practices, and cereal root disease problems. Two projects were listed under the Agricultural Policy Analysis Project. These projects both involved analysis of agricultural policies in developing countries. The remaining projects had different titles, as different issues or problems were addressed and funding sources varied (Appendix F).

#### Number of OSU Personnel Involved in Each Project

Twelve international projects conducted by OSU faculty involved only one person, however, a team of personnel (two to 15 people) were utilized in 12 other projects. The most predominant number in a team was two persons (seven projects).

#### International Graduate Student Involvement

Graduate students from developing countries were involved in 17 out of 24 projects (71%). Countries represented were: Honduras, Brazil, Liberia, Morocco, India, Jordan, Costa Rica, Zimbabwe, Ecuador, and the Philippines.

#### Project Directors

Ten of the 24 projects were directed primarily by Oklahoma State University personnel. Seven agriculture-related programs were directed by the Mid-Atlantic Agricultural Consortium (MIAC) through the University of Nebraska. Other single representations of directors

included the governments of Sudan, Ecuador and the United States, Washington State University, the University of the Philippines and organizations such as the International Federation for Home Economists (IFHE) and the National Academy of Sciences (NAS).

#### Countries Where OSU Faculty Have Involvement

The countries which the international projects involved are displayed in the map on the following two pages (Figure 3). As can be seen in this map, there is a good distribution of OSU's involvement across the Southwestern (Central and South America) and Southeastern (chiefly Africa) part of the world.

#### Access Pathways to International Involvement

Accesses to involvement in developing countries fell under one of six categories: bidding on a proposal, application to a grant, fellowship, or lectureship, request for expertise, previous involvement with the developing country, faculty-student exchange, international meeting contacts and an expressed interest to authorities involved with international affairs (Table II). In the College of Agriculture, the major key to international involvement was requesting faculty expertise in specific US-AID projects overseas. Next in importance was submitting bids on proposals which was done by the department of Agricultural Economics for the Agricultural Policy Analysis Project.



## THE WORLD

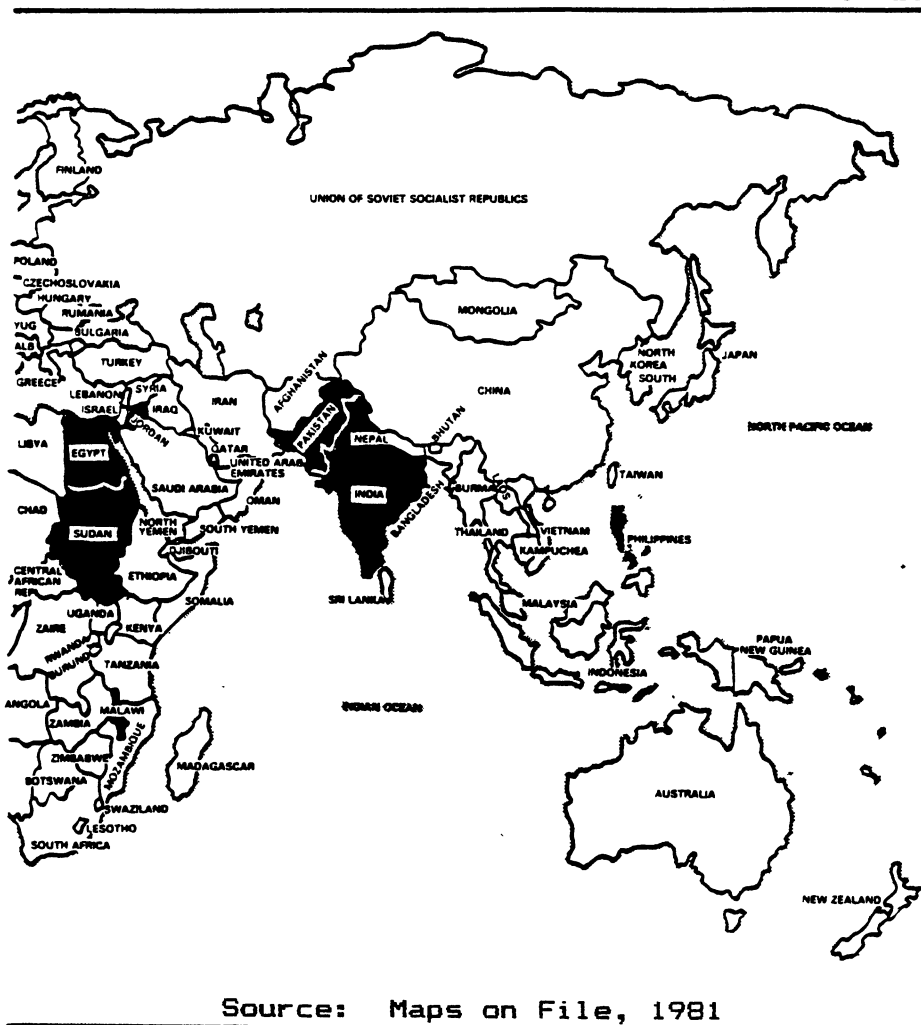


Figure 3. Countries focused on by OSU  
in international projects,  
1979-1984

KEY:



- Countries Involved

Oklahoma State University's avenue to current international involvement lies primarily with US-AID projects. The University has kept its ties with developing countries outside US-AID projects through application to major foundations for support, attending international meetings and faculty-student exchange. Furthermore, a faculty person most likely will be chosen for a project in a particular country if he or she has had previous experience in that country.

TABLE II

ROUTES OF ACCESS TO INTERNATIONAL PROJECTS  
IN DEVELOPING COUNTRIES

Routes	Unit*					
	IP	AG	A&S	ENG	HE	VM
Bid on Proposal	1	3				
Application		1	1	1	1	
Expertise	1	6				
Previous Work	1	2	1			
Faculty-Student			2			
International Mtg.						1
Interest		1			1	

\*Key to Unit:

IP - International Programs  
 AG - Agriculture  
 A&S - Arts and Science  
 ENG - Engineering  
 HE - Home Economics  
 VM - Veterinary Medicine

### Preparations Made for International Involvement

Of 24 faculty interviewed, 10 have prepared either a proposal, contract, budget, or filled out an application as a preliminary step in preparing for international involvement. Nine faculty were not required to prepare contracts or grants; five of the nine faculty had other agencies prepare the contracts. Five faculty participated in language training. French was the most popular language learned (3), followed by Spanish (1), and Portuguese (1). Interpreters were used when dialects such as Arabic were spoken.

Other initial preparation included attending a meeting, an initial consulting trip, placement of international students into research projects, reviewing reports, purchasing books, and written reports of OSU's capabilities for international involvement.

### Amounts of Briefing Prior to International Involvement

Of the 21 faculty who responded to this question, seven had no briefing, while 14 had some briefing. Personnel conducting these briefings were US-AID officers (5), MIAC officers from the University of Nebraska (4), students from developing countries (2), and other agencies (2). Other agencies that briefed faculty before international involvement were the Board for Science and Technology, the World Bank, and the International Agency of Development Bank.



### Project Goals and Outcomes

The largest number of goals (6) were related to agriculture and food production. Other common goals (3 in each category) involved education, evaluation of projects, research, and researcher specific goals. Two project objectives dealt with agricultural policy analysis. Other goals listed involved economic enhancement, community preservation, introduction of technology, faculty-student exchange, enhancing linkages with other countries, and promoting international involvement.

Out of 24 projects, six led to advanced degrees or training of students and faculty of developing countries. Reports including recommendations for project improvement were identified in five projects. Training of personnel occurred in areas of agricultural policy analysis, agricultural leadership, human development and education of Jordanians. Information learning was the outcome of two projects; subject areas were agricultural production in dryland conditions, and in broadening perspectives in international development. The remaining outcomes represented by single projects were improved research design for the developing country, improved standards of living and community stability, production of two films, translation of literature, data set compilation from rural women, and published papers on tarantula venoms.

Project Beneficiaries

Beneficiaries of the international projects fell into seven categories: Oklahoma State University, the country itself, people of developing countries, developing countries' faculty, students in general, ministries of developing countries, and special groups. Countries included Brazil, Liberia, Peru, Dominican Republic, Cameroon, Morocco, Sudan, Colombia, Jordan, Costa Rica, Central America, Panama, Honduras, Guatemala, and the United States. Areas at Oklahoma State University which benefitted from international work were economics, agricultural leaders, animal sciences, ceramics, anthropology, religion, Indian studies, biochemistry, electrical engineering, family relations and child development, graduate students, faculty including home economics faculty and agronomy faculty, and the university as a whole. The people of Costa Rica, Honduras, Liberia, Peru, Dominican Republic, Cameroon, Morocco, Ecuador, the Philippines, Korea and Japan benefitted from the researchers' projects. Developing country faculty beneficiaries were from China, Egypt, Jordan, Tunisia, and Japan. Students who benefitted from projects were from Liberia, Zimbabwe, Morocco, the Philippines, Korea and Japan. One student organization of the International Federation for Home Economics also fell under this category. The Ministries of Honduras and Liberia were ministries who benefitted. Specific groups including Indian agencies, U.S. Water Research Scientists, and agricultural development

district data collectors were beneficiaries of the projects in developing countries.

#### Funding Source

Information was obtained on the source of funding in order to learn where Oklahoma State University derives its monies for international development projects. This information may also be useful for those pursuing future development projects.

The amount of funding varied from "travel only" to amounts exceeding 23.4 million dollars for an extensive research program in Morocco over a ten year period. The major funding source for 14 of 24 international development projects was US-AID (Table III). The remaining projects were funded by U.S. and overseas universities, foundations, organizations and private businesses and agencies. In some projects more than one funding source was utilized.

#### Development or Strengthening Project

Two definitions were used to define "development" and "strengthening" projects in order to determine whether a project was a development or strengthening project or both. Definitions for these terms may be found in the interview schedule (Appendix E). Sixteen of 24 project faculty interviewed described their project as both a strengthening and development project. Five faculty described their work as strengthening the university for potential work in

developing countries. The remaining three faculty stated that their project directly contributed to development in a developing country.

TABLE III

## FUNDING SOURCES FOR INTERNATIONAL PROJECTS

Funding Source #,+	No. of Projects
US-AID	14
OSU	3
Other Univ.	2
NEH	2
NSF	2
NIH	2
OHEA	2
WORLD BANK	1
BOARD SCI. & TECH.	1
OICD	1
U.S. GOVT.	1
OTHER GOVTS.	1
PRIVATE	1

# Funding may be from more than one source for some projects.

+ Key to Abbreviations:

NEH - National Endowment of the Humanities  
 NSF - National Science Foundation  
 NIH - National Institute of Health  
 OHEA - Oklahoma Home Economics Association  
 OICD - Office of International Cooperation  
 and Development

## Women In International Development

Questions were presented to the interviewee in order to determine the extent to which the role of women in development is recognized and addressed in Oklahoma State University's international projects from 1979 to 1984. In those projects where involvement with women was not emphasized, interviews had little information to offer. Thus the number of responses to questions is lower than responses from previous questions on the interview schedule.

### Awareness of Women in Development

Six of the 14 faculty involved with projects funded by US-AID projects were unaware of the "women in development" requirement stipulated in AID projects. One of these six participants also acted as director of a project with AID.

The Bureau of Women in Development of the Agency for International Development (AID) had not recommended integration of women into the economies of foreign countries until 1982. Projects initiated prior to 1982 did not specifically request that women be included in the faculty's development projects.

### Inclusion of Women in Decision Making or Project Planning

Of the 24 interviews, 18 faculty have included women in their projects in the area of decision making. Seven of these choices were made by the researcher, five by US-AID,

and three by others, including another university and a foundation. Though the faculty had included women in the majority of projects, it was not intentional. Women usually were included if they met the qualifications for the work and had an interest in international development. Reasons for exclusion of women in project planning or decision making were 1) there was no additional funding for women, 2) it was the choice of the Ministry of Education, 3) the number of trained women agriculturists was low and 4) the culture prevented women from education for the type of work involved. Of those projects which did not specifically include women, every interviewee agreed that in retrospect, women could have been included in their projects. The stipulations offered for female involvement by the faculty were qualifications such as age, time commitment, academic fit, and interest. An absence of extra funds for a research associate was another reason why women were not included in the project planning.

#### Women's Roles in International Projects

Eighty seven per cent (N=23) of the women who were involved in the international projects of OSU faculty were classified as having either professional or equal roles as men. The remaining roles were associated with lower status positions. In one case, women's roles were limited because male researchers were only permitted to speak with male workers or farmers. In a second case, the women's education

system was hindered by religion. This information indicates two reasons for the exclusion of women: religious beliefs and cultural beliefs. These barriers are difficult to change or eliminate. One positive solution would be to include woman professionals in the project who would deal directly and specifically with women and their own needs for development. Secondly, there is an apparent need for a clear understanding of the impacts of culture and religion in developing countries. Even if these impacts are understood, the project personnel need to know how to deal with these beliefs when introducing or implementing change.

#### Activities in Which Specific Genders or Ages Were Involved

Group activities in which only men were involved included professional roles. A few groups of men participated in farming. Men's roles as farmers included producing cash crops, land preparation, operating farm machinery and raising horses. Women's farming chores included raising vegetables, specialty crops, and planting, weeding and marketing of cash crops. Housework was an activity designated only for women. Children assisted in housework as well as farming chores. Hoeing and herding were a few chores designated to children only.

#### Type of Women Involvement in Project

Over one-half (60%) of faculty interviewed stated that women were allowed to attend classes. Health, sanitation,

latrine building and policy making were examples given by Oklahoma State University faculty.

Hands-on experience was participated in by 48 percent of all women involved in the different international projects. Growing vegetables, building stoves, and working with micro-computers (on a professional level) were examples given for hands-on learning.

Seven or eight of 23 projects involved women in project planning or decision making. This number represents approximately one-third of all the projects where OSU faculty were involved.

Decision making included deciding what seeds to purchase and when to sell beans and corn at the market. In one instance, a higher level decision was made by a female vice-president of a shrimp industry. Other activities of women included work with clay and craft making, collecting field data, technical work, and graduate research.

On the community level, men were the only people allowed to attend classes in one project. These classes were on building windbreaks and terraces. Classes for "women only" occurred in one project and involved nutrition and sanitation. Both genders were permitted to attend classes in the remaining nine projects. One class noted was on policy planning.

#### Strategies for OSU Involvement With Women in Development

What strategies could Oklahoma State University take in



efforts to involve women? Mary Roodkowsky of the Food and Agriculture Organization (1984) suggested two alternatives of support to the inclusion of women in development. The first alternative involves projects directed exclusively toward women. Two examples would be marketing womens goods and developing cooperatives. Advantages of this approach would be 1) women are less likely to be bypassed, 2) roles will not be neglected in agriculture, and 3) it would be easier for the women to catch up to status levels of the men. On an Oklahoma State University level, this type of project would need to be specifically designed to meet women's needs. Women's needs would most likely not be considered unless assessed by female faculty. It is suggested that in agricultural planning, a female faculty person be assigned to assess women's needs and develop the project through the international agency. The second alternative would be to give attention to the needs of women within general development projects. This may entail a section on training women within a larger project. Advantages to this approach are that women are not perceived as extras but as important links to food production, and women's contributions to agriculture will be acknowledged and further project inclusion will ensue.

The strategy which presently would best fit into the Oklahoma State University system would be the second alternative. Oklahoma State University is already involved in international development. Women in developing countries

need to have some training within one of the larger US-AID projects conducted by OSU in the areas of food production and preparation, nutrition education, family planning, income generation, and policy making.

#### Famine Prevention and Freedom From Hunger

One goal of this research was to determine the extent to which famine prevention and freedom from hunger were addressed through OSU's international involvement. Faculty were asked their viewpoints on the following ideas or questions to obtain this information.

#### Steps U.S. Should Take to Relieve Hunger

According to responses from OSU faculty, the issue of highest priority for the U.S. government to take in hunger relief is to supply food aid (9 out of 24 responses). Education was a second priority for U.S. government's involvement in hunger relief. Education and literacy programs for children, improved school systems, education for women on the use of new food products, educating the leaders of developing countries and general education of the people in developing countries were ideas stressed by faculty.

Economic assistance to developing countries was considered a responsibility of the U.S. in four of 24 faculty responses. An equal number of responses stressed the importance of the U.S. government supporting agricultural

development. Other ways in which the U.S. government can assist developing countries include introduction of technology (three responses), helping the infrastructure of developing countries (two responses) integrating women's roles into hunger programs (one response) and impacting cultures with education (one response).

Jean Mayer (1985) emphasized the importance of global action to be taken to prevent future famines similar to the 1984-1985 famine in Ethiopia. Specifically, he promoted the idea that the U.S. government needs to commit itself to support education of modern appropriate agricultural systems for developing countries. This is being presently achieved through Title XII and US-AID projects conducted by the university, but needs to be strengthened. Oklahoma State University needs to strengthen its knowledge about international food problems and become more globally educated. Advanced study in language and culture was a strong need for internationally involved faculty. This can only be achieved, however, through continued government funding for language training and courses on cultural factors in development planning.

#### Steps OSU Can Take Toward Solving World Food Problems

Seven out of 24 faculty responses to this question mentioned providing faculty incentives for work in developing countries. One suggestion was to include faculty incentives for international development in performance

appraisals. Furthermore, if faculty have a desire to work overseas, they should have freedom of choice to participate without negative incentives. The University administration needs to support faculty in international development with positive incentives. For example, time spent overseas should count toward tenure.

Oklahoma State University should attempt to educate faculty and students of developing countries according to seven of the 24 faculty interviewed. OSU is able to use its expertise to teach scientists from developing countries, for example, how to improve food production. In addition, international students need to be directed to other OSU faculty in areas where their country needs development. Professor exchange between OSU and developing countries can give the universities an awareness of other cultures, social systems, and problems facing each nation.

There was a need indicated by six faculty for strengthening activities for OSU in future international projects. Suggestions for strengthening activities were 1) to encourage OSU faculty and students to learn a second language, 2) provide travel opportunities and orientation programs in reference to developing countries, and 3) make "strengthening" a priority at Oklahoma State University.

Four of the 24 faculty cited long range institution building as a goal for Oklahoma State University in solving world food problems. There is a need for OSU to become involved in a large program with a country who has matching

expertise. Long range institution building is needed to keep and build on an agricultural base. A final thought on institution building is that developing countries would benefit from an institution and expertise similar to OSU, as OSU has been and continues to be successful in its agricultural development potential.

Developing countries have a need for OSU's expertise in developing agricultural production. Three of 24 responses supported this idea. The College of Agriculture's expertise in soil management and crops, handling and use of ground water, pollution control, plant genetics and developing hardy species of legumes and grains is one useful avenue for increasing agricultural production of a developing country. Other steps which OSU could take in contributing its expertise to solve world food problems are the following: 1) Faculty-student exchange with developing countries (2 of 24 responses); 2) Increased funding for international projects (2 of 24 responses); 3) Greater involvement of women in international projects (1 of 24 responses); 4) Project integration into the structure of developing countries (1 of 24 responses); 5) Developing the economies of least developed countries (1 of 24 responses), and 6) Continue research on world food problems (1 of 24 responses).

#### Role of Faculty Member or Department in Famine Prevention

A variety of ways faculty members or their department as a whole could contribute to famine prevention was illus-

trated in Table IV. The answers to the question on a faculty's role in famine prevention would lead to information on how faculty fit into the network of people needed for a country's development.

#### Nutritional Component of Most Recent Project

Questions were presented to gain information on the type of expertise used in nutritional interventions of developing countries. Out of 24 faculty interviews, 10 noted that a nutritional component was included in their project. "Nutritional components" included testing impacts of growing rubber versus food crops, improving grain production, nutritional analyses of sorghum, income generation for food purchasing, nutrition education, development of a high lysine corn, and food preparation in a film narration. Seven of the personnel in these projects were from another country; while five were from the U.S.

The type of personnel conducting the nutritional component varied. Six personnel were in the field of agriculture, including agricultural economists, agronomists, agronomists, and legume research station specialists. Three extension personnel from home economics colleges of their respective countries conducted the nutrition component. Other categories of nutritional component instructors included artists, economists and volunteers.

TABLE IV

## FACULTY OR DEPARTMENTAL ROLES IN FAMINE PREVENTION

---

AGRICULTURAL ECONOMICS	-Efficient product production with least cost -Farm management -Marketing -Trade
AGRONOMY	-Agricultural policies with emphasis on economic development -Adaptive research for increased or stabilized production -Providing an agricultural base to build upon expertise in food production -Technological assistance programs
ARTS & SCIENCES	-Raise educational level and awareness through international teacher training
BIOCHEMISTRY	-Training and educating international students
ELECTRICAL ENGINEERING	-Developing energy systems useful to food production
FAMILY RELATIONS & CHILD DEVT.	-Expertise in resource management
FOOD, NUTRITION & INST. ADMIN.	-Monitor nutritional status -Introduce culturally acceptable foods to offset nutrient deficiency -Nutrition education -Management of food production systems
HOME EC. ED. & COMM. SVCS.	-Capitalizing on products unique to an area
GLOBAL STUDIES	-Support services to developing countries assist in policy analysis -Input into cultural factors -Awareness building for students and public in regard to famine prevention
INTERNATIONAL PROGRAMS	-Determine course of action for international involvement -Suggest areas to administration for OSU participation -Keep up-to-date on programs for tech transfer to developing countries -Facilitates US-AID participant training -Evaluation of international students for OSU placement
SOCIOLOGY	-Creating "awareness" of international development problems
VET. MEDICINE	-Expertise in snake venoms

---

## Coordinated Research

Questions were presented to determine whether a faculty person felt a need for additional expertise in their project. Other expertise which faculty felt would be beneficial to the overall success of their international efforts are shown in Table V. As can be seen from this list, a variety of expertise was listed as important for the faculty and projects. Not one department had a monopoly with regard to needed supplemental expertise for international projects, however, Agronomy, Economics, Anthropologists, and Agriculturists had two votes each by faculty.

TABLE V  
AREAS OF EXPERTISE CONSIDERED SUPPORTIVE  
TO INTERNATIONAL PROJECT

---

Agricultural Economics	Extension
Agricultural Engineering	Family Planning
Agronomy	Food & Nutrition
Animal Agriculture	Forestry
Anthropology	Language
Banking	Media
Ceramics	Microbiologists
Customs & Society	Pest Control
Economics & Marketing	Personnel Development
Education	Political Science
Engineering	Statistics
Entomology	Water Management

---



## Extent of Involvement of OSU in Addressing Famine Prevention

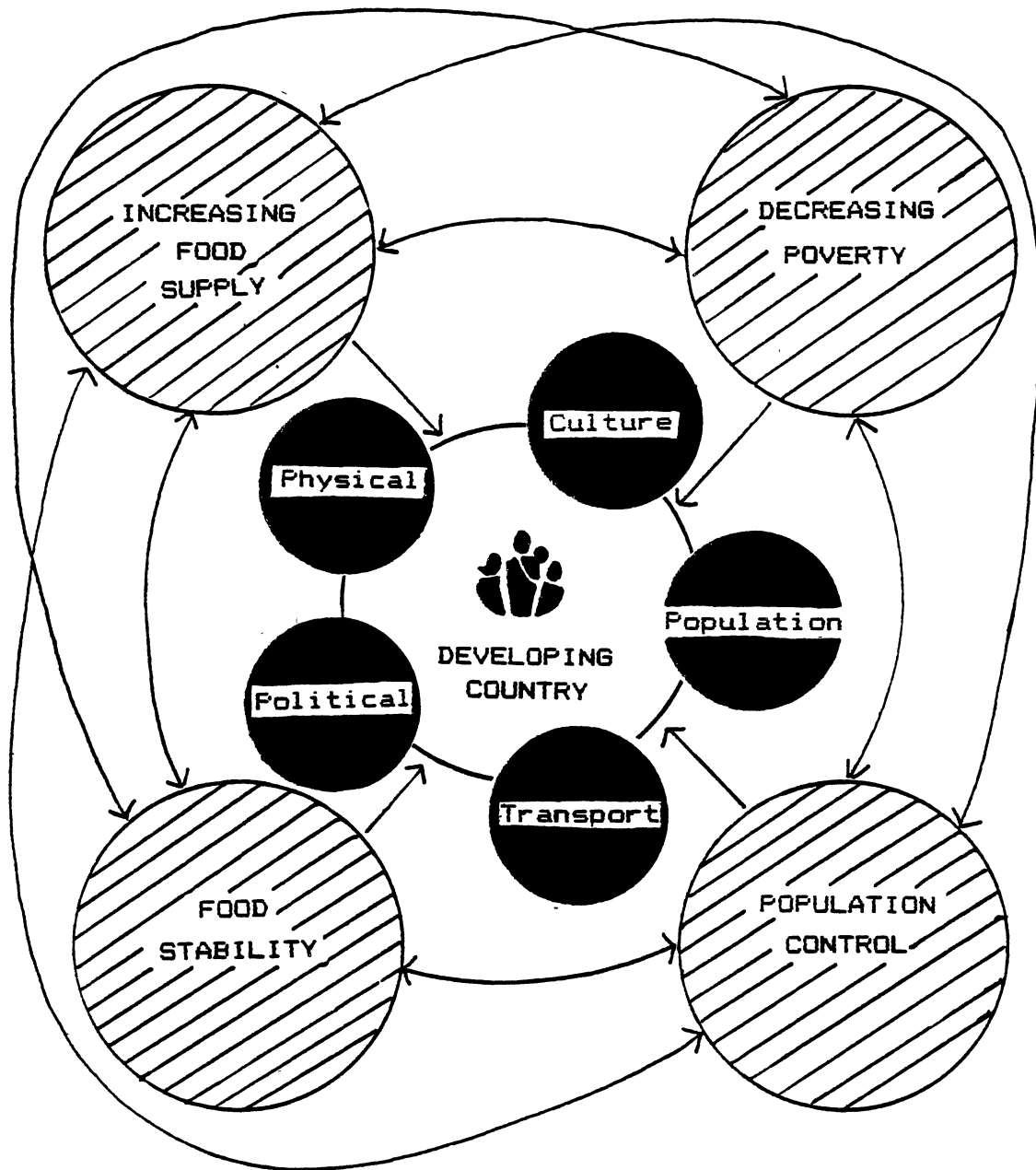
As can be shown from project titles (Appendix F) and involvement of nutritional component responses, not one of the projects conducted directly addressed the issue of famine prevention and freedom from hunger. There were indirect components to famine prevention, however, if one looks at events preceding famine. It is beginning to be recognized that famine and hunger related problems may be caused less by nutrient deficiencies and more by social, political, and economic factors (Pellet, 1983). This being the case, one socially directed project was conducted regarding the impact of introduction of new technology into developing communities. Three projects were politically oriented involving agricultural policy analysis, and one project was specifically an economic adventure; income generation. Thus, there is support for the premise that famine prevention and freedom from hunger has not been the immediate goal of OSU faculty in development areas.

## Networking For Famine Prevention and Total Development

Oklahoma State University's involvement in international programs tends to be narrowly focused. In order to achieve development of man, woman, and country, more than one discipline needs to be included into a project. For

prevention from famine and hunger the same integrated approach needs to be implemented.

Pellet (1983) gave recognition to four tasks which are essential to be achieved for freedom from hunger: 1) increasing the food supply wherever needed and providing the right kinds of foods, 2) decreasing the amount of poverty, 3) improve food preservation and storage techniques which in turn improve food stability, and 4) lowering the rate of population growth. With these concepts in mind, a model is presented (Figure 4) which would interrelate departments and colleges within Oklahoma State University for a more workable famine prevention and freedom from hunger approach. In this approach several departments can be involved. Fields in the College of Agriculture such as Agronomy and Plant Pathology can provide developing countries with new disease resistant and higher yielding foods. Agricultural Economics would benefit developing countries by creating markets for the foods so their production would be encouraged. Decreasing poverty is addressed by creating income generation projects through the College of Home Economics, and Departments of Business and Marketing. In addition, an analysis and change of present agricultural policies in developing countries would aid poverty prone areas. Food preservation and storage techniques can be approached by the Food, Nutrition and Institution Administration (FNIA) Department, of the College of Home Economics. The Human Nutrition Center of the FNIA Department at OSU may contribute



## KEY:

Inputs from  
OSUIntervening  
variables

Figure 4. Model for famine prevention  
and freedom from hunger

expertise in food preservation, proper food storage, and food preparation techniques to prevent food borne illnesses. The Agronomy Department can introduce disease and pest resistant varieties of foods which will keep for longer periods of time. Population control rests mainly with health professionals, however, many home economists have been active in projects planned to convey the importance of family spacing (American Home Economics Association, 1984). Thus, OSU has the capability to prevent hunger in developing as well as developed countries throughout the world. An integrated team effort, is needed at the same time to achieve this goal. Each department or college involved needs to be sharing their information with others as a form of networking to have a substantial or synergistic effect. Another component needs to be added to this approach since the approach requires a more political than scientific sphere (Pellet, 1983), faculty from the political science, religious studies and sociology departments should be involved.

William Dando (1980) revealed five types of famines which have occurred over the past 4000 years: physical, transportation, cultural, political, and population. These five factors incorporated into Figure 4 can be seen as intervening variables in the University's efforts to prevent famine as well as the inclusion of women developing countries. Each one of these factors must be taken into consideration when dealing with international development.

Where regional political systems determine the production and distribution of food, university personnel need to approach the various ministries and governments in developing countries to find their needs before participating in a project. Assuring transportation of newly marketed food products to needy areas is essential. Arrangements need to be made between OSU and the developing country to provide for adequate transportation. If a culture was against consumption of a food for religious reasons, it would be of no use for OSU to plan for production of that food. Instead, culturally acceptable foods would be found and produced in the developing country. Physical barriers can only be removed if the university helps countries develop food production techniques that will provide food in crisis situations. During long periods of drought, there needs to be a back up system, such as a food storage center. Another option is implementation of a warning system that will allow enough time for action on hunger and famine. A famine warning system has been implemented in Ethiopia which predicts crop estimates, weather conditions, food price lists, and information about the health status of children. Over-population has been another common source of famine over the past few years. This obstacle can be overcome by university personnel if people are approached with respect for their cultural beliefs and educated so that they will see the beneficial reasons for family planning.

To ensure the inclusion of women in famine prevention projects, their needs must be given attention in all development projects. Women are important links to food production and agriculture, two areas which developing countries are primarily dependent on for food and life. There needs to be an increased effort on behalf of Oklahoma State University to include women from developing countries in project planning, and policy making.

In OSU's efforts to increase the food supply, women faculty from OSU and the developing country plus representative women from farming communities in developing countries should be included in policy making. Food stability should be taught to women in the developing countries in an effort to assure proper storage of foods for hunger prevention. The Food Nutrition Institution Administration Department of the College of Home Economics, for example, has the resources to offer support in this effort.

Population control continues to have positive benefits for hunger prevention in developing countries. The American Home Economics Association has begun a "Rural Reach" family planning program in Africa in areas where annual population growth is high (International Section, 1985). Oklahoma State University's Family Study Center and Family Relations and Child Development Department could conduct this program in a developing country.

Furthermore, there needs to be continuing education of women in developing countries. Advanced education has been

shown to decrease the number of children born per family. All colleges and departments of OSU could contribute to the continuing education of these women, however, it may be necessary to have female faculty assigned to areas where women may be approached by women only.

Finally, women need to have ways to reduce poverty, which is a major cause of hunger. Income generation projects should be planned utilizing both OSU's resources as well as resources of the developing country. Home Economics Colleges throughout the U.S. have been successful in developing women cooperatives and income generating projects. Without integration of women into development projects, fragmented results will occur. Perhaps the economy of the developing country itself would improve, yet women and children would remain without access to income and food. In all efforts to achieve development, it is imperative that women be tapped as vital resources and links to famine prevention and freedom from hunger.

## CHAPTER V

### SUMMARY, RECOMMENDATIONS, AND IMPLICATIONS

This research was undertaken to 1) determine the extent to which international projects at Oklahoma State University has focused on or involved a) women from developing countries, b) the issue of famine prevention and freedom from hunger; and 2) to conceptualize how all colleges of a university can incorporate a unified goal to include women in development and freedom from hunger. Projects that were examined were completed over a five year period from 1979 to 1984. Faculty involved in international projects were personally interviewed following the interview schedule (Appendix E) to obtain information about the separate issues of women in development and famine prevention and freedom from hunger.

#### Summary

Twenty-four interviews were conducted by the researcher with OSU faculty to discern their involvement in developing countries. Colleges represented in the interviews were the College of Agriculture, the College of Arts and Sciences, the College of Home Economics, the College of Engineering, Architecture and Technology, the College of Veterinary



Medicine, and International Programs.

Questions were presented at the interview to determine the extent to which the role of women in development is recognized and addressed in Oklahoma State University's international projects from 1979 to 1984. Six of 14 participants of US-AID projects were unaware of the "women in development" inclusion requirement in US-AID projects. Of the remaining 10 non-AID projects, five faculty were aware of this component in AID projects and the remaining five were not. From the total number of OSU faculty interviewed, one-half are aware of the inclusion of women.

The roles of women in international development have been overlooked. Women in developing countries often are the backbone of the family's daily food supply. They are involved in the subsistence farming which ultimately provides family food. It may be impossible to reach these women in some cultures unless the personnel involved are also female. As is apparent from the type of farmers involved in most of the projects cited in this study, the males who are involved mostly in cash crops are being aided in boosting production and simplifying farming techniques.

Faculty were presented questions in regard to U.S. efforts and their own personal efforts which are needed to prevent famine and promote freedom from hunger. From observations of the intent of the projects and involvement of "nutritional component" responses, not one project directly addressed the issue of famine prevention and

freedom from hunger.

There is increased recognition of factors other than nutrient deficiencies leading to hunger and famine. These factors including social, political, and economic factors, as well as the physical environment and transportation, must be kept in perspective when OSU aids developing countries through international projects. These factors plus four tasks which are essential for freedom from hunger (increasing the food supply, decreasing poverty, improving food stability and lowering population growth) are presented in a model (Figure 4) which future University projects could follow to concentrate on famine prevention and freedom from hunger. What must not be overlooked, however, is that linkages must be formed between each area of expertise to promote increasing the food supply, decreasing poverty, improving food stability and lowering population growth. An incorporation and usage of women must occur also, as they are often a vital link to food for the families and communities.

#### Recommendations

A follow-up study on the status of women's inclusion into international projects needs to be conducted periodically. This information would give OSU a record of the progress it has made towards the inclusion of women in development projects. Faculty's ideas based on current research and experiences may change on how best to relieve

hunger and prevent famine. A comparison or contrast over time on these ideas and what factors may have affected or changed these ideas could be analyzed.

Implementation of the model to prevent hunger (Figure 4) should be promoted. After such promotion, its impact would need to be evaluated and compared to previously less integrated models of faculty involvement in development. Furthermore, it is hoped that access to information regarding international projects will be easily accessible in the future to all interested faculty and students. This would allow for project feedback and further involvement of a wide variety of disciplines.

To become integrated, the university first needs the desire to become involved as a whole and give strong support to faculty interested in international projects. Annual seminars on projects conducted in developing countries by OSU faculty need to be encouraged and supported by the University Administration as well as the Office of International Programs. A committee or organization (such as OSU's Women in International Development Organization) should be involved in reviewing projects in developing countries to assure that the needs of women in developing countries are included and to assure that each project from OSU is directed towards development in an integrated way to prevent hunger and famine.

### Implications

The information obtained from this report can be used as a faculty or student resource in areas of women in development, Title XII projects, international projects, or famine and hunger prevention. International program offices at Oklahoma State University and other internationally involved university departments nationwide would benefit from viewing this study. Applying the model presented (Figure 4) and viewing the outcomes of these projects will allow for more effective design of future projects in developing countries. It is hoped that perspectives on women in development and freedom from hunger are visualized and imprinted into people's minds so that worthwhile world decisions can be made.

## BIBLIOGRAPHY

- Act for International Development - Title IV (PL 64). The United States Code, 1950, 204-209.
- Agency for International Development (AID). An Introduction to the Office of Women in Development. Washington, DC., 1983.
- Agricultural Trade Development and Assistance Act of 1954 (PL 480). The United States Code., 1954, 506-510.
- American Home Economics Association. International Update. Washington, DC. Spring, 1984.
- Association for Women in Development. Women in Development: A Decade of Experience. Washington, DC., October 13-15, 1983.
- Association for Women in Development (AWID). Association for Women in Development Conference: Women Creating Wealth; Transforming Economic Development, April 25-26, 1985. Washington, DC, 1985.
- Beghin, I. "Some personal views on nutrition in rural development." Food and Nutrition. 9:2, 1983, 39-43.
- Blair, P. Programming for Women and Health. Washington, DC, Equity Policy Center, 1980, 1-50.
- Board for International Food and Agricultural Development (BIFAD). Agency for International Development. A Guide to Title XII and BIFAD. Washington, DC., November, 1983.
- Bourguignon, E. and Francille M. Firebaugh. "Women in Development." Seminar Proceedings, Spring, 1982.
- Bureau for Program and Policy Corporation, U.S. Agency for International Development (Bureau-WID). AID Policy Paper - Women in Development. Washington, DC, October, 1982.

- Carpenter, Barbara. Internal Evaluation of the Nutrition Component of Adaptive Crop Research and Extension (ACRE). Baton Rouge, LA, 1984a.
- Carpenter, Barbara. Personal Communicaton. Baton Rouge, LA, October 25, 1984b.
- Carter, D. H. "An Inventory of Projects and Proposals from 1979 to 1984 Concerning International Issues." (Unpublished report, Food, Nutrition and Institution Administration, Oklahoma State University, September 28, 1984).
- Cavusgil, S. T., L. S. Amine and E. Vitale. "Marketing Supplementary Food Products in LDC's." Food Policy. Vol. 8:2, 1983, pp. 111-120.
- China Educational Exchange. China Educational Exchange. Akron, PA, February, 1983.
- College of Home Economics, University of Minnesota. Technical Assistance for Jamaica. St. Paul, MN, 1984a.
- College of Home Economics, University of Minnesota. The International Development Collateral. St. Paul, MN, 1984b.
- Cooperative Program - Government of Pakistan, Ford Foundation and Oklahoma State University. Development of Home Economics in Pakistan. Oklahoma State University, Stillwater, Oklahoma, 1972.
- Dando, William A. The Geography of Famine. New York: Wiley, 1980.
- Dexter, Lewis Anthony. Elite and Specialized Interviewing. Evanston: Northwestern University Press, 1970.
- Eckhard, F., Ed. Decade for Women, World Plan of Action. Washington, DC: Women's Equity Action League Educational and Legal Defense Fund, 1977.
- Famine Prevention and Freedom from Hunger - Title XII (PL 94-161). The United States Code, 1975, 861-869.
- Foreign Assistance Act of 1973 (PL 93-189). The United States Code, 1973, 781-784.
- Gill, Jerry L. "Oklahoma State University and the Great Adventure in International Education, 1951-1976." (Doctoral Dissertation, Oklahoma State University, 1976.)

- Gill, Jerry L. The Great Adventure: Oklahoma State University and International Education. Stillwater, OK: Oklahoma State University Press, 1978.
- Glanville, Mary J. The College of Home Economics Newsletter. April, 1984.
- Goshen College. 1984 Transcultural Seminar. Goshen, Indiana, 1984.
- Granovsky, N. The International Experiences, Interests and Professional Competencies of Home Economics Staff Members of the Texas Agricultural Extension Service. Texas Agricultural Extension Service, The Texas A & M University System, College Station, Texas, April, 1982.
- Horner, M. "Nutritional Analysis of a Program in Eastern Nicaragua." Food and Nutrition. 8:2, 1982.
- The International Agricultural Development Service (IADS). Agricultural Development Indicators. New York, 1981.
- International Section, American Home Economics Association. International Update. Washington, DC., Winter, 1985.
- The Iowa State University Press. Proceedings of the World Food Conference of 1976. Iowa: The Iowa State University Press, 1976.
- Joseph, Marjory L. and W. D. Joseph. Research Fundamentals in Home Economics. Redondo Beach, California: Plycon Press, 1979.
- Kolasa, Kathryn. Personal Communication. Greenville, North Carolina, November 1, 1984.
- Longhurst, R. "Agricultural Production and Food Consumption: Some Neglected Linkages." Food and Nutrition. 9:2, 1983, pp. 2-5, and 44.
- Lunven, Paul. "The Nutritional Consequences of Agricultural and Rural Development Projects." Food and Nutrition Bulletin, 4:3 (1982), 17-22.
- Mayer, Jean. "Famine: the agony and the cure." Tufts University Diet and Nutrition Letter, 2:12 (February, 1985).

- McCulloch E. and M. Futrell. "The Effect of Cropping Systems on the Health of Women and Children in Southern Honduras." (Abstract) Mississippi State University, Mississippi, 1983.
- Mid-America International Agricultural Consortium (MIAC). Mid-America International Agricultural Consortium. Manhattan, KS, 1982.
- Minnesota Studies in International Development (MSID), Office of International Programs, University of Minnesota. Jamaica and the Eastern Caribbean. Minneapolis, Minnesota, 1984.
- Mississippi State University. INTSORMIL Report, 1980 - 1983. Project No. XII - MSU - 3, Home Economics 1983.
- Mumaw, Catherine R. Personal Communication. Goshen, Indiana, November 7, 1984.
- Office of the Federal Register, National Archives and Records Service, General Services Administration. The U.S. Government Manual. Washington, DC, U.S. Government Printing Office, July, 1983.
- Office of Women in International Development, Michigan State University (OWID-MSU). Michigan State University Women in International Development Newsletter, January, 1985.
- Oklahoma State University. Terminal Report - OSU in Ethiopia 1952 - 1958. Stillwater, OK, January, 1969.
- Pellett, Peter L. "Commentary: Changing Concepts on World Malnutrition." Ecology of Food and Nutrition, 13 (1983), 115-125.
- Roodkowsky, Mary L. FAO Information Note on Women in Agriculture. Rome, Italy: Information Division of the Food and Agriculture Organization, (1984), 1 - 29.
- Rojas, Mary Hill. Personal Communication. Blacksburg, VA, October 24, 1984.
- Sabry, Z. I. "Issues in the Evaluation of Nutrition Interventions." Food and Nutrition. 8:2, 1982.
- Seltzer, Miriam. Personal Communication. St. Paul, Minnesota, October 22, 1984.
- Shipman, J., ed. "Home Economics and Women in Development." Proceedings of AHEA Pre-AWID Conference Seminar, Washington, DC, October 13, 1983.



- Smith, Meridith F. Title XII and Women in Development. International Update, AHEA International Section, Washington, DC., Spring, 1984, p. 2.
- Sobel, Lester A., ed. Maps on File. New York: Facts on File, Inc., 1981, p. 0.000.
- Southern University. The Sierra Leone Adaptive Crop and Extension Project (ACRE). Baton Rouge, Louisiana, 1984.
- Stadler, J., and J. Shipman. OSU Women in International Development Newsletter, 1:1, April, 1983, 1-4.
- Stewart, C., and F. W. Cash. Interviewing Principles and Practices. Iowa: William C. Brown, Co., 1982.
- Technical Cooperation Administration (TCA). Facts About Point 4. Washington, D.C., April, 1952.
- United Nations Conference on Trade and Development Secretariat (UNCTAD). Basic Data on the Least Developed Countries. UN Conference on Trade and Development, Sixth Session. Belgrade, Yugoslavia, June 6, 1983.
- United Nations Relief and Rehabilitation Administration (UNRRA). UNRRA in Outline and Up-to-Date. UN Relief and Rehabilitation Administration, Washington, D.C., February 1, 1946.
- University of Minnesota, College of Home Economics. Technical Assistance for Jamaica, Minnesota, October 22, 1984.
- Virginia Polytechnic Institute and State University (VPI). International Agriculture at Virginia Tech., Blacksburg, VA, 1984.
- vonTroil, Margaretha, Ed. "Women in Development - Nordic Seminar, Part 1. Summary of Seminar Proceedings." Finland: Council for Equality of the Office of the Prime Minister of Finland, 1984.
- The World Bank. The World Bank. Washington, DC., December, 1977, p. 2.
- The World Bank. Women in Development. Washington, DC., August, 1980, p. 7-8.
- World Food Program. Food Aid and the Role of Women in Development. Rome, 1976.

Wortman, S. and R. Cummings. To Feed This World - The Challenge and the Strategy. Maryland: John Hopkins University Press, 1978.

Younathan, Margaret T. Adaptive Crop Research and Extension Acre Project - MANR/US - AID Nutrition Component. Southern University and Louisiana State University, Baton Rouge, LA, October 31, 1984a.

Younathan, Margaret T. Personal Communication. Baton Rouge, LA, October 31, 1984b.

York, E. T., Letter written to President Lawrence L. Boger, Oklahoma State University. Stillwater, OK, October 26, 1983.

## APPENDIXES

**APPENDIX A**

**LEAST DEVELOPED COUNTRIES**

## LEAST DEVELOPED COUNTRIES

---

AFGHANISTAN	LAO PEOPLE'S REPUBLIC
BANGLADESH	LESOTHO
BENIN	MALAWI
BHUTAN	MALDIVES
BOTSWANA	MALI
BURUNDI	NEPAL
CAPE VERDE	NIGER
CENTRAL AFRICAN REPUBLIC	RWANDA
CHAD	SAMOA
COMOROS	SAO TOME AND PRINCIPE
DEMOCRATIC YEMEN	SIERRA LEONE
DJIBOUTI	SOMALIA
EQUATORIAL GUINEA	SUDAN
ETHIOPIA	TOGO
GAMBIA	UGANDA
GUINEA	UNITED REPUBLIC OF TANZANIA
GUINEA-BISSAU	UPPER VOLTA
HAITI	YEMEN

---

Source: Page v, United Nations Conference on Trade and Development Secretariat. Basic Data on the Least Developed Countries. UN Conference on Trade and Development. June 6, 1983.

**APPENDIX B**

**DOCUMENTS REVIEWED FOR THE PROJECT  
PROPOSAL INVENTORY**

## DOCUMENTS REVIEWED FOR THE PROJECT PROPOSAL INVENTORY

Document	Obtained From	Years
Registry of Institutional Resources, Institutional Accomplishment Report, (Part D), OMB No. 0412-0027, Expiration December 31, 1982, Agency for International Development, Washington, D.C. 20523	Hugh Rouk, International Programs, USDA, Room 225, Oklahoma State University	1979-1984
Quarterly research report, Oklahoma University	Contracts and Grants Office, Room 321 Home Economics West, College of Home Economics Oklahoma State University	1979-1983
National Science Foundation, Grants and Awards, Fiscal Year 19__.	Contracts and Grants Office, Room 321 Home Economics West, College of Home Economics Oklahoma State University	1979-1982
W. K. Kellogg Foundation Annual Report 19__.	Contracts and Grants Office, Room 321 Home Economics West, College of Home Economics Oklahoma State University	1979-1982
Faculty Publications and Other Activities. Nos. 6 (1977-1979) and 7 (1979-1981) Vol. 1 & 2, Oklahoma State University	FNIA Department, Oklahoma State University	1977-1980
Research Annual Report 19__, Oklahoma State University	Office of Research Unit Assistant, 109 Home Economics West, College of Home Economics, Oklahoma State University	1979-1983
19__ Agricultural Experiment Station Annual Report, Division of Agriculture, Oklahoma State University	Office of Research Unit Assistant, 109 Home Economics West, College of Home Economics, Oklahoma State University	1979-1982

APPENDIX C

FORMAT FOR INFORMATION RECORDED INTO PROJECT  
PROPOSAL INVENTORY



FORMAT FOR INFORMATION RECORDED INTO  
PROJECT/PROPOSAL INVENTORY

-----  
Name & Dept. Title Cos. Info. Type Fund. Amt. FTE WT  
-----

KEY:

Cos.- countries involved

Info.- source where information was found

Type- type of project (research, contract, project, book,  
etc.)

Fund.- funding source

Amt.- Amount of funding

FTE- Full Time Equivalents

WT- Work Type (research, extension, instruction,  
administration)

APPENDIX D

LETTERS FOR REQUEST OF INTERVIEW

Letter 1 - OSU Campus Mail

Letter 2 - Overseas Mail

## Letter 1

**OKLAHOMA STATE UNIVERSITY**

December 10, 1984

DEPT OF FOOD, NUTRITION AND INST. ADMIN. • COLLEGE OF HOME ECONOMICS STILLWATER, OK 74078 • 405/624-5039

You have been identified as an Oklahoma State University faculty member who has had projects in developing countries. As a part of the OSU strengthening grant program, I have recently compiled a report of all faculty involved in research, teaching, extension, consulting or administrative functions in developing countries from 1979 to 1984. This effort was undertaken to explore the extent to which the areas of "freedom from hunger" and "women in development" have been addressed by OSU faculty in their international involvement. Additional information based on your actual experiences within the developing countries and/or experiences with graduate students from developing countries is needed to complete this research project.

I would like to request an appointment to meet with you for an interview which will require approximately 30 minutes. I will be contacting you within the next few weeks to arrange for a time that is convenient for you. Enclosed is a copy of the interview schedule. You may wish to review and begin locating information prior to our meeting.

Your participation is vital to the success of this research endeavor and will be greatly appreciated.

Sincerely,

Debra H. Carter, R.D.  
Graduate Student

Approved by:

Lea L. Ebro, Ph.D.  
Professor and Advisor

DHC:LLE:sdb

Letter 2



*Oklahoma State University*

Department of Food, Nutrition and Institution Administration

425 HOME ECONOMICS WEST  
STILLWATER, OKLAHOMA 74078  
(405) 624-5039

January 8, 1985

You have been identified as an Oklahoma State University faculty member who has had projects in developing countries. As a part of the OSU strengthening grant program, I have recently compiled a report of all faculty involved in research, teaching, extension, consulting or administrative functions in developing countries from 1979 to 1984. This effort was undertaken to explore the extent to which the areas of "freedom from hunger" and "women in development" have been addressed by OSU faculty in their international involvement. Additional information based on your actual experiences within the developing countries and/or experiences with graduate students from developing countries is needed to complete this research project.

Your secretary has notified me that you have gone overseas. Since I will be unable to conduct a personal interview with you, I am requesting that you complete the interview following the format on the green interview schedule. Additional paper is provided for you to write on.

Your participation is vital to the success of this research endeavor. As I expect to have my interviews completed by the end of February 1985, your expedient response will be greatly appreciated.

Sincerely,

*Debra H. Carter, R.D.*

Debra H. Carter, R.D.  
Graduate Student

Approved by:

*Lea L. Ebro*  
Lea L. Ebro, Ph.D.  
Professor and Advisor

DHC:LLE:sdb



**APPENDIX E**

**INTERVIEW SCHEDULE**

## INTERVIEW SCHEDULE

## I. PERSONAL DATA

Name: \_\_\_\_\_ Department: \_\_\_\_\_

No. of years involved internationally? \_\_\_\_\_

Portion of appointment paid for by International Programs \_\_\_\_\_

What percent of your time are you now spending on international projects? \_\_\_\_\_

What percent of your time was spent on your most recently completed international project? \_\_\_\_\_ percent \_\_\_\_\_ time period

## II. PROJECT INVOLVEMENT (most recent)

Title of Project: \_\_\_\_\_

Dates: From \_\_\_\_\_ To: \_\_\_\_\_

How many people from OSU were involved in the project:  
Professional \_\_\_\_\_ Technical \_\_\_\_\_ Clerical \_\_\_\_\_ Grad. Assts. \_\_\_\_\_

No. of FTE's of each person known? \_\_\_\_\_

Were graduate students from the countries you worked with involved? \_\_\_\_\_

Project Director: \_\_\_\_\_ From: \_\_\_\_\_

Countries Focused On: \_\_\_\_\_

## Questions:

- 1) How did you first get involved in work with this particular country?
- 2) If your work was supported by a grant or contract, what initial preparation for the grant or contract was made? (e.g. learning language, etc.)
- 3) Prior to going to this particular country, were you briefed and by whom? EXPLAIN.

## III. PROJECTS GOALS AND OUTCOMES:

Goals/Purpose:

Outcomes/Product:

Beneficiaries:

## IV. FUNDING:

Source: \_\_\_\_\_ Amount: \_\_\_\_\_

V. DEVELOPMENT OR STRENGTHENING PROJECT:

Was your project development or strengthening or both?

Development Project: Directly contributes to development in a developing country.

Strengthening Project: Contributes to strengths of the university for potential work in developing countries.

Development                       Strengthening                       Both

VI. INVOLVEMENT WITH WOMEN IN INTERNATIONAL DEVELOPMENT:

1) Were you aware of any "involvement of women" component in your project?

2) Were women included in decision making or project planning? \_\_\_\_\_  
If so, was it by choice of the researcher? \_\_\_\_\_  
Choice of AID? \_\_\_\_\_  
Other Choice: \_\_\_\_\_

3) If women were not included, why?

In retrospect, could they have been included?

4) How would you perceive the role of women as related to your project?

5) In your project, what activities were the following groups involved in:

Men only? \_\_\_\_\_

Women only? \_\_\_\_\_

Children only? \_\_\_\_\_

Combinations? \_\_\_\_\_

6) In what capacity were women involved in this project?

Attending classes \_\_\_\_\_

Hands-on experience with new ideas/technology \_\_\_\_\_

Project planning \_\_\_\_\_

Decision making \_\_\_\_\_

Other, please specify \_\_\_\_\_

7) If the project involved people's attending classes, who in the community was allowed to attend? (Please check all that apply)

Men only \_\_\_\_\_                      Women Separately \_\_\_\_\_

Women and men \_\_\_\_\_                      Children \_\_\_\_\_

## VII. FAMINE PREVENTION AND FREEDOM FROM HUNGER:

- 1) What steps do you believe are important for the U.S. government to take to relieve hunger in developing countries?
  
- 2) What steps could Oklahoma State University take in contributing its expertise to solve world food problems?
  
- 3) How do you perceive your role or your department's role in famine prevention in developing countries?

## VIII. COORDINATED RESEARCH EFFORTS:

- 1) Was there a nutritional component in your most recent project? \_\_\_\_\_
- 2) If so, what type of personnel conducted this component? \_\_\_\_\_  
Were the personnel from the U.S. or another country? \_\_\_\_\_
- 3) What other personnel or expertise do you think would be helpful to your projects in developing countries?



APPENDIX F

TITLES OF PROJECTS

## TITLES OF PROJECTS

- 1). Evaluation of Natural Resource Management Project.
- 2). Agricultural Policy Analysis Project.
- 3). Oklahoma Agricultural Leadership Program.
- 4). Morocco Applied Research Program for Dryland Farming Project - Cereal Root Disease Problems.
- 5). Aridoculture Project. Morocco Applied Research Project for Dryland Farming.
- 6). Assessment of the Weed Situation in the Dryland Farming Area of Morocco. Morocco Dryland Agricultural Applied Research Project.
- 7). Management of Soil Management Practices of Dryland Farming - MIAC Dryland Farming Project, Morocco.
- 8). Review of Western Agricultural Research Project.
- 9). Columbian Scientific Linkage Program.
- 10). a). Film: The Working Process of the Potters of India: Bindapur - a Colony of 700 Potters; b). Massive Terra Cotta House Construction.
- 11). World Tour to Explore Further Cooperation With Training Institutions in Selected Countries.
- 12). Fer de Lance Venom in Central America: Cooperative Research With the University of Costa Rica.
- 13). Introduction of Micro-Computers to Zimbabwe Universities and Industry.
- 14). Fulbright Lectureship - Teaching and Research.
- 15). Income Generation for Rural Women; Training Workshop - Jamaica; Participation in the WID Conference Meeting, Oslo, Norway.
- 16). The Ismaili Tradition.
- 17). Jordanian Education Project.
- 18). President Reagans Agricultural Task Force to Honduras.

- 19). US-AID Participant Training.
- 20). Technology Transfer to the Philippines, Korea, and Japan.
- 21). Isolation of a Myotoxin From Fer-de-Lance Venom.

VITA 2

Debra Hope Suroviac Carter

Candidate for the Degree of

Master of Science

Title: RESEARCH ACTIVITIES FROM 1979 TO 1984 AT OKLAHOMA STATE UNIVERSITY ADDRESSING THE NEEDS OF WOMEN IN DEVELOPING COUNTRIES WITH AN EMPHASIS ON FAMINE PREVENTION AND FREEDOM FROM HUNGER

Major Field: Food, Nutrition and Institution Administration

Biographical:

Personal Data: Born in Erie, Pennsylvania, April 5, 1956, the daughter of Mr. and Mrs. John M. Suroviac. Married in Erie, Pennsylvania, May 26, 1979 to Brian John Carter.

Education: Graduated from the Pennsylvania State University, University Park, Pennsylvania, in 1978 with a Bachelor of Science degree in Nutrition; completed the requirements for the Clinical Dietetics Internship, Emory University, Atlanta, Georgia, in 1980; completed requirements for the Master of Science degree at Oklahoma State University in May, 1985.

Professional Experience: Teaching and Research Assistant, Food, Nutrition and Institution Administration Department, Oklahoma State University, Stillwater, Oklahoma, 1984-1985; Clinical Dietitian, Lewistown Hospital, Lewistown, Pennsylvania, 1980-1982.

Professional Organizations: American Dietetic Association, Oklahoma Dietetic Association, and student member of Oklahoma State University Women in International Development Organization.