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SMALL FARMER TECHNOLOGY AND MARKETING ANALYSIS  
FOR RURAL DEVELOPMENT

211(d)

FINAL REPORT

SUBMITTED TO  
U. S. AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D. C.

September 1, 1977 - May 31, 1984

North Carolina A & T State University  
Greensboro, North Carolina

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## 211(d) Final Report

## TITLE PAGE

Grant Title: Small Farmer Technology and  
Marketing Analysis for Rural  
Development

Grantee: North Carolina A & T State Uni  
versity, Greensboro, NC

Grant Program Director: Richard D. Robbins, Director  
Rural Development Project

AID Sponsoring Technical  
Office: S&T/AGR

Statistical Summary

Period of Grant: August 31, 1977 to May 31, 1984

Amount of Grant: Original: \$750,000  
Amended: 52,060  
TOTAL \$802,060

Accumulated Expenditures \$790,941.18

## B. NARRATIVE SUMMARY

On September 22, 1977 North Carolina Agricultural and Technical State University received a 211(d) Grant from USAID/Washington. The initial amount of this Grant was \$750,000 over a five year period. This Grant was subsequently extended until May 1984 and the total amount awarded was raised to over \$802,000 including add ons from missions in the Caribbean and in Tanzania. The major purpose of the Grant was to enhance the capability of A & T State University in the area of Economics, Agricultural Economics and Rural Sociology. An important part of that purpose was assistance in developing a graduate program in Agricultural Economics.

We are pleased to report that the objectives of the grant were accomplished. The capability in the stated areas have been developed and have been put in practice in projects across Africa and the Caribbean. Furthermore, the graduate program is firmly entrenched and many students have already graduated, including students from the developing countries.

Five major areas were identified on which the strengthening activities would be focused; first, development of linkages -- both domestic and foreign. These linkages were, in fact, developed. For many years we operated in Tanzania with the Economics Research Bureau involved in research. Our linkage there continues and even though the Grant has expired we still have students on our campus as a result of contacts made and linkage in Tanzania.

Domestically linkages were developed with TVA, SECID, MUCIA, and Michigan State University. Further, for consortia were established with Tufts University and New Mexico State University.

These linkages have resulted in both short term and long term overseas projects. The second area was research with several research projects completed. They were funded through our 211d grant, mission add-ons, and private consortia sources. A summary of these studies is reported later.

The third area was establishment of the Library. In access of 600 volumes were purchased, most of which were volumes related to economic development, marketing, and rural sociology. The purchases included books, journals, and other reports.

The fourth area was advisory and consultation. This is an area that we had hoped would have been developed more than actually happened. In most instances we had to rely upon requests from Mission and others for our services. Nevertheless, many faculty members did in fact participate in advisory services in the Caribbeans including St. Lucia, St. Vincent and Antigua, projects in Africa including Zambia, Tanzania, Upper Volta, as well as an IPA arrangement in Washington, D.C.

The education and training component was the final component of the grant we are extremely pleased at the total results of that effort. We fully developed the Agricultural Economics Program, we had extensive seminars throughout the grant, and we have trained many students, some have gone on to work with USAID, the Foreign Agricultural Service, and others were foreign students who have returned home and are working in positions of authority in their government.

## C. DETAILED REPORT

### 1. General Background and Description of Problem

The rural poor are found across the world but are concentrated in Asia, Africa, and Latin America. They make up a large segment of the population of the developing countries, and many depend upon agriculture for existence. The rural poor have limited resources, limited access to technology and services, and a high birth rate. Poor climatic conditions, low wage structures, low productivity and limited educational opportunities characterize the rural poor.

Rural development will have to focus on increasing productivity and incomes of the rural poor. Rural development strategies must consider the occupational migration of people; population growth and the limitations imposed on resources, technology, and institutions; and, the available production factors that can be mobilized to reduce poverty and improve the quality of life. Rural development will have to be concerned not only with increases in productivity, but also with improved food supplies and diet for a rapidly growing population, health and educational services, construction of adequate infrastructure, adequate housing, and employment opportunities. Not only must rural development be concerned about feeding the present population of the world, it must be concerned about feeding the population of the future. Many estimates have been as to what the future population is likely to be. Although these estimates have been varied, there is a consensus that by the year 2000 there will be around 6 to 7 billion people inhabiting the world, representing a 50% increase in the present world population.

The increase in population means that not only must we feed the present 4 billion people by 2000, we must also produce enough additional food to feed 2 billion additional people.

For the LDC's to achieve the increases in agricultural productivity, the green revolution that begun in the 50's and 60's with wheat and rice will have to continue and expand in other crops and livestock. New varieties, new breeds, and new technologies will be required. Management practices that accompany the new technologies will have to be introduced. Economic incentives through prices will have to be sufficient to encourage the adoption of the practices.

As the increases in output are attained, other problems will have to be addressed; transportation and storage will have to be attended; problems in credit prior to and after harvest will have to be solved; price stability for agricultural products will be important; handling and grading of commodities will be necessary; and adequate and accurate market information will have to be disseminated. Even these problems do not exhaust the list. Increases in agricultural productivity will depend heavily upon the willingness of the producers to adopt the new varieties, breeds, and management practices. Therefore, an understanding of the social customs, the organization and decision making process of the rural community will be necessary. Methods and channels of systems that transmit information will need to be improved, and in some cases, developed.

North Carolina A & T has attempted to assist in the problems of rural development. The mission of the college, as stated in the initial legislation, was the following.:

"That the leading object of the institution shall be to teach practical Agriculture and the Mechanic Arts and such branches of learning as related thereto, not excluding academic and classical instruction.

North Carolina A & T State University was established, therefore, as one of the Sixteen Land Grant Colleges of 1890. It has traditionally had the responsibility of teaching agriculture and other technical educational thrusts and to solve the need of blacks in the state. By our very nature then, our activities have been directed to problems of the rural poor and limited resource farmers.

Our past experience in both foreign and domestic rural development activities have been rich in priority to the economically, socially, and culturally deprived peoples of our nation and the world. The main thrust of domestic activities has been in our programs of Agricultural Education, Agricultural Extension and the Department of Economics and Agricultural Economics.

## 2. Purpose of Grant

The purpose of this grant was to develop North Carolina A & T's response capability and multidisciplinary capacity to assist LDC's in the areas of Small Farmer Technology and Marketing Analysis for Rural Development. The ultimate goal of this project was to assist LDC's through AID and other donors, to develop their capacity to analyze problems in their agricultural and rural sectors, thus leading to better program choices for enhancing the quality of life of the rural poor.

As a result of, the University developed and strengthened its capacity, its services are available to contract with AID, other donors, and LDC's for utilization. Services are and will be provided in the areas of Small Farm Technology, Marketing and

Distribution and will focus on project design, implementation, and evaluation. Grant funds were used to develop the institution's response capability using a multidisciplinary approach involving economics, agricultural economics, rural sociology and, to a lesser extent, anthropology, agricultural and extension education, technical agriculture and related fields as appropriate, to analyze problems in such areas as Small Farmer Technology and Marketing.

There have been no modifications of the grant's purpose since the grant was awarded.

### 3. Objectives of the Grant

#### A. Objectives Restated

In general, grant funds are being used to finance the following objective:

1. Research. The research program at North Carolina A & T State University emphasized problems of the small scale producer and the rural poor in the LDC's. The major areas of focus were small farmer technology, marketing, and distribution. Research focused on analysis of traditional technology, methods of disseminating improved technology and barriers to adoption and diffusion of technology. Some attention was given to problems in marketing and distribution systems, including marketing channels, storage facilities, transportation, price analysis and information flows. Multidisciplinary research teams and individuals were used in forming research projects.
  
2. Education and Training. Education and training activities form a major component of the 211(d) Grant. The activities under this grant were divided in four parts: curriculum, student support, faculty development, and seminars. The curriculum portion centered on changes and revisions in courses and the development of new courses to reflect various aspects of economic and rural development. The grant supported student activities at the graduate and undergraduate level. Graduate students worked towards a masters degree in Agricultural Economics, and undergraduates completed a B. S. in economics, agricultural economics, or a related area. Funds for scholarships and assistantships were awarded.

Faculty development was accomplished by training present faculty and hiring new faculty. Emphasis for hiring new faculty was placed on rural sociology and agricultural economics. Seminars and workshops were very useful learning tools. A series was held each year, open to faculty, students, and others in the university community. Faculty also travelled to attend workshops, seminars, and other related conferences.

3. Advisory and Consultation. The ultimate goal of this grant was to develop a response capability to assist LDC's in developing their capacity to analyze their problems in agricultural and rural development. To achieve this goal, North Carolina A & T made faculty available for advisory and consultation services to AID/Washington, AID missions, LDC's and other donor countries and organizations, in such areas as was the focus of this grant.
4. Information Capacity. North Carolina A & T State University recognized the important role that a good library plays in the development of faculty and students. The University utilized some grant funds towards the expansion of its library in economic and rural development. Funds were expanded to purchase books and to subscribe to journals and periodicals. In addition, funds were available to publish and disseminate the research results of faculty and graduate students supported by this grant.
5. Linkages and Networks. North Carolina A & T State University planned to establish and expand its domestic and foreign linkages and ties with those institutions which share a common interest in rural development in LDC's. A special effort was made to develop ties with other minority institutions interested in economic development.

Additional ties were also sought with other colleges and universities with training programs and interest in attacking the problems of LDC's.

The University also developed linkages with AID/Washington and other donors. Linkages with the various bureaus permitted maximum utilization of capabilities developed under the grant. It would also permit exposure to similar problems in the various parts of the world.

The development of linkages with LDC's was important to our research component. Such linkages provided a place for giving experience on research in the developing countries.

## B. Review of Objectives (in terms of output)

1. Research. Faculty members were actively engaged in research under the 211(d) Grant. Research has focused on marketing, management, technology, and income distribution problems. On site research was done in St. Lucia and Tanzania. No modification in this objective occurred.
2. Education and Training. Education and training activities received great emphasis during the grant. The master's degree programs in Agricultural Economics became a reality, course additions and revisions were made in the curriculum, and many seminars were held. In addition, several faculty members have attended AID seminars, professional meetings and workshops. We felt that funds for graduate assistantships were too low to attract quality students for our master's program. Therefore, changes were made. We began providing \$6,000 for master's assistantships. This change allowed North Carolina A & T State University to be more competitive in recruiting top quality graduate students. No further modifications were made of this objective.
3. Advisory and Consultation. The University's response capability will continue to expand as a result of utilization by AID, development agencies, and other donors. Experience gained in research, travel, and training programs provide our faculty with the expertise to assist in solving problems faced by the LDC's. No modification was made in this objective.
4. Information Capacity. The development of an excellent information system was crucial to improving response capability. Information directly supported research, educational training, advisory, and linkage capability. We increased our holding of books, journals, and reference materials. The newsletter provided an excellent method to disseminate information. No modifications were made in this objective.
5. Linkages and Networks. The development of linkages are especially important to support overseas research activities. Several linkages were developed in Tanzania and appropriate domestic agencies. Linkages with TVA and SECID resulted in placing students in intern positions during the summer. No modifications were made in this objective.

## C. Review of Critical Assumptions

Certain events are beyond the control of the University. It was necessary, therefore, that certain assumptions be made relative

to the achievement of stated outputs. These critical assumptions are listed and reviewed below:

1. There exists a pool of professionals, economists, agricultural economists, and/or other social scientists who would consider employment at North Carolina A & T and would pursue teaching and research on problems in the developing countries.
2. Graduate and undergraduate students can be recruited who are interested in studies in international economic development.
3. AID will assist North Carolina A & T in developing linkages with LDC institutions, and in identifying opportunities for utilization of faculty members in advisory consulting activities.
4. Professionals interested in presenting lectures and seminars on topics relevant to the focus of this grant will be available to North Carolina A & T State University.
5. Data are available or can be obtained on critical research problems in the LDC's and problem areas selected.
6. Domestic and international institutions are interested in developing linkages with North Carolina A & T State University.

Review Assumption 1. Previous efforts to recruit positions in the appropriate disciplines have proven to be successful. Many inquiries were made in response to announcements for vacancies. Qualified faculty have been hired. There was an adequate pool of professionals to draw upon in meeting our staff needs.

Review Assumption 2. Many inquiries were made about our undergraduate and our graduate program in agricultural economics. Other students have inquired about our international development library and our rural development program. Enrollment increases continued in all programs.

Review Assumptions 3. The S & T Bureau of AID supported our desires to become known with the missions and kept us informed of conferences, seminars, and meetings. The regional bureaus and desk officers were not as helpful as the S & T Bureau, and as envisioned. Although several meetings and conferences was held with these people, very little utilization was made of our talents and skills for short term requests. On the other hand, several long term projects were initiated in Kenya, Tanzania, Niger, and Guinea as a result of our submission of proposals. Further eight students from Zaire were placed with North Carolina A & T for study toward their M.S. degree in Agricultural Economics. Four have received their degree and four are still enrolled in courses.

Review Assumption 4. We were successful in inviting experts to present seminars. We did not have any problems in obtaining qualified seminars speakers.

Review Assumption 5. Few problems were found in obtaining data on the research beyond the usual problem faced in collecting data in LDC's. Requests have been honored and persons interviewed in the on-site research were usually very cooperative.

Review Assumption 6. Few difficulties arose on developing domestic linkages; SECID, TVA, and others were supportive of our efforts. On the international side, the Caribbean Development Bank has been cooperative. We also established a linkage with the Economic Research Bureau of the University of Dar es Salaam in Tanzania.

## V. ACCOMPLISHMENTS

All objectives were accomplished during the life of the grant. However, some modifications occurred where we felt it would be beneficial to the program. We believe that the best way of measuring the accomplishments are by the results. Because of the development of capability in agricultural economics and rural sociology, we have now received contracts in which we play a participant role or lead role in projects in several countries. These contracts include, the development of an animal program for the government of Niger; (Niger Intergrated Livestock Project) we are a part of the consortium with New Mexico State University and Tuft's University. North Carolina A & T is supplying the rural sociology component of this particular project, while Tufts is providing veterenarian medicine and New Mexico is providing range management. The role that North Carolina A & T provides is to assist in bringing together people and having them work cooperatively for the mutual benefit of the area in the project. It is possible that slight modifcaions of this project will be made because of the drought conditions in Niger. We do believe however, that our impact will be substantial.

The second area where we have received a contract is in Guinea. Although SECID is the prime contractor we are the lead institution in this project. We are providing inputs to help design and develop a project in agricultural production. During the first two years, the project will be formally developed and three experiment stations will be brought into operation as a part of our work in Guinea.

We have also provided some assistance on short term in Upper Volta. We participated in the evaluation process of a SECID project as a result of our capabilities that were developed. We also received a contract known as the technical assistance to the mission in the Caribbean. MUCIA and Michigan State are lead in this contract and we provide services in a subcontract role.

In the area of training and education we have received, through OICD of USDA, eight students to provide master of science degrees work in agricultural economics with concentration in marketing rural development and production economics. These students were a part of agricultural production and manpower project in Zaire. We also have received students in agricultural economics from Namibia funded through the United Nations (Phelps Stokes Fund) and from Tanzania funded through the Food and Agricultural Organization (FAO) of the UN. We believe that the involvement of North Carolina A & T in the training of these students comes directly as a result of our capabilities that were enhanced as a part of our 211(d) Grant. With that background then we will look at each objective that we had set individually.

A. Objective/Output: Research

The research component of the 211(d) Grant focused upon small farmer technology, marketing and distribution, the effects upon the rural poor. Research projects provided the faculty of the University with increased capability and understanding of the problems in the developing countries. Research was conducted in the developing countries and at the University. Grant funds were used to provide funds for data collection and travel costs where on site research was relevant.

The total number of research projects initiated during the first three years of the grant were ten, with seven receiving support from the 211(d) grant. These research projects have been focused on both domestic and international issues. Rather than summarize each study, a list of titles are given below. Copies of the papers are being forwarded under separate cover.

RESEARCH BOOK LIST

<u>Researchers</u>	<u>Year</u>	<u>Research Report</u>
Hari P. Marhatte Anwar S. Khan Richard D. Robbins Robert Mable Lucien Msambichak	1982	"Farmanagement Research in Central Zone of Tanzania - Village Profile"
Hari P. Marhatta	Dec. 1978	"Agricultural Marketing System in St. Lucia" "Agency for International Development/Barbados" "Small Farmer Technology and Marketing Analysis for Rural Development"
Robin A. Henning	1982	"Small Farm Production Systems in the Space Age"

Hari P. Manhatta Richard D. Robbins Anwar S. Khan Robert Mable Lucian Msambichaka	Nov. 1981	"Profile of Farmers in the Central Zone, Tanzania - Descriptive Analysis"
Dong K. Jeong		"A Study On Impact of Economic growth on Rural-Urban Income Distribution In Korea"
Hari P. Manhatta Richard D. Robbins Anwar S. Khan Robert Mabele Lucia Msambichaka	Oct. 1982	"Farm Management Research In Central Zone of Tanzania Village Profile"
Lucian A. Msambichaka Joseph Semboya	Sept. 1983	"Why Food Grain Short Falls in Tanzania"
Melaku Teshome Albert O. Yeboah	Sep. 1984	"An Estimate of Supply Function for Bernanas in St. Lucia"
Anwar S. Khan	1983	"The Future of Farms in North Carolina as Perceived by County Extension Chairmen"
Anwar S. Khan	1980	"The Future of Small Farms In North Carolina Perception of County Extension Chairman"
Basil Coley	1981-82	"The Feasibility of Establishing Market Cooperatives Among Farmers in Six Carolina Counties" (A series of four publications 1-4)

#### B. Objective/Output: Education and Training

The University recognized the need to assist in increasing the number of minorities with expertise in economics and rural development. The program for graduates and undergraduates must be responsive to concerns of the developing countries. The development of our faculty, additions to and changes in our curricula, the support for students and the participation in seminars were central

to this objective. These activities enabled faculty and students to become familiar with and to develop skills for use in solving the problems of LDC's. We are extremely pleased with the programs in the area of education and training. We have been able to support many students, both U. S. Citizens as well as Foreign students. We've revised our classes, added new courses and have held seminars. Our faculty have actively participated in professional meetings and seminars, the graduate program that was approved and implemented during the fall semester 1979 has now matured. Many of our M.S. degree students were fully or partially supported as a direct result of the 211(d) Grant. During the grant a major accomplishment was the development of the rural development tract. Students received a masters of science degree upon completion of the rural development tract. In addition to taking the four core courses in micro, macro-, research methods and statistics students were required to take courses in rural development, social organization of agricultural, economic development and agriculture policy. Upon successfully completing of the course, passing the comprehensive exam, and writing the thesis, they were awarded the degree in rural development.

Grant funds were instrumental in the development and revision of courses in the departments undergraduate and graduate program. The 211(d) Grant supported teaching by providing release time for a existing and hiring visiting professors for our campus. Dr. Bernard Yankey taught courses in agricultural marketing with an international flavor. Dr. Robin Henning taught courses in rural development and Randy White taught courses in statistics and

research methods. Dr. Daniel Godfrey also taught classes in social organization of agriculture. The complete agricultural economics degree program is included in the appendix.

Throughout the life of the grant many seminars were held. The attendance at these seminars were extremely good averaging 19-20 people per seminar. The largest attendance was 40 students when a visitor from West Virginia University came to speak about our program that we jointly administered (Manpower Development in Tanzania Project). A list of seminars that were held over the years is also enclosed in the appendix.

The support of students and the receiving of masters degree for students was also a major accomplishment under the grant. Throughout the life of the grant we supported nearly 15 students at the graduate level, and about 10 students at the undergraduate level. Many of these students have gone on to other graduate programs either the Ph.D. or Masters level. Several of our Masters students have returned to their country and are now working in prominent positions in their government. To illustrate, some of the students are listed below with their accomplishments.

(1) Jonathan Massaquai is a student in the Ph.D. program at Cornell University with a concentration in Economic Development. He has completed all of the required course work and exams for his degree and had just recently returned from Sierra Leone where he was collecting data for his dissertation. (2) Romanus Ngeneigwe, a student in rural development at North Carolina A & T State University went to Iowa State University to work on his doctorate degree. It is our understanding that he has completed all of the

class course requirements and is in the process of taking exams and writing his dissertation. (3) Abdul Mu Min has completed all of the course requirements at Michigan State University for his Ph.D. degree. He is presently writing his thesis, on problems involving new technology in agriculture. He hopes to complete by early fall. (4) Patrick Walson completed his program requirements and entered VPI for his Ph.D. degree. However, he was unable to obtain funds for his support and is transferring to the University of Illinois. He is in the first year of his academic program (5) Benjamin Terry, received his masters degree in rural development and is now pursuing his Ph.D. at North Carolina State University at Raleigh. He is in his second year of his program. (6) Williette Crawford received her master of science degree, writing a dissertation on Corn Production in Tanzania. A copy of her thesis is enclosed with the research report. She is currently working for the Minister of Agriculture in Rural Development in Liberia, her native home.

These are just some of the examples of the students that we have supported and have made substantial contributions directly as a result of the 211(d) Grant. Other students include Barbara Ellington who has been admitted to and participating in the IDI program sponsored by USAID/Washington. She has completed course requirements and is nearing completion of her thesis for her masters degree. Quentin Gray has completed his masters degree in rural development and is now employed by foreign agricultural service of USDA. These two students typify some of those who have completed the requirements and have chosen to go to work rather than graduate program. Again the benefits are spilling over to

USAID through their participation in international development activities beyond North Carolina A & T State University.

C. Objective/Output: Advisory and Consultation

The University enhanced the competences of its faculty by participation in AID conferences, workshops, and responded to the requests of AID and other agencies for assistance. Services that were provided was done on a negotiated basis and subject to scheduling considerations.

Faculty members have actively participated in professional meetings, attended seminars and workshops, and participated in the AID seminar on Program Design and Evaluation. A total of ten faculty have been through the AID seminar; however, two of the faculty are no longer with the university, thus eight faculty who completed the seminar are still at North Carolina A & T State University.

Some utilization has been made. Drs. Evans, Henning, Yeboah, Marhatta, and Robbins were involved in such activities by AID, SECID and other agencies. Other request for assistance have also been honored. A partial listings is enclosed in the appendix.

D. Objective/Output: Linkages

The establishment of ties with domestic and international organizations was extremely important to the success of this grant. These ties assisted in providing necessary research and training experiences needed to aid the developing countries. Such linkages provided the means whereby on site collection of data was accomplished, mutual intellectual exchanges occurred, opportunities existed for student involvement in work study programs, and

increased exposure by North Carolina A & T State University.

During the grant, linkages were established domestically and foreign. We have established linkages in the Caribbean with the Caribbean Development Bank and the USAID mission to Barbados. On the domestic side, linkages have been established with SECID and TVA. In Africa, linkages were established with the Economics Research Bureau of the University of Dar es-Salaam.

Several milestones were achieved: (1) the strengthening of ties with the Caribbean Development Bank (CDB) and (2) development of linkages with the Economic Research Bureau/Tanzania.

Dr. Bernard Yankey spent May and June 1980 at North Carolina A & T State University in teaching and research activities. Dr. Yankey developed and taught a course in Agricultural Marketing, presented a seminar and wrote an article for our newsletter. During his time here, we discussed the possibility of assisting the CDB with some of their projects.

During the visit to Tanzania in February 1980, linkages were developed with the Economic Research Bureau (ERB) of the University of Dar es Salaam. The Bureau's main activity is research on important problems in Tanzania. Thus, the Bureau was an very important collaborators on research development problems in Tanzania. The ERB agreed to provide two senior researchers, assist in recruiting, training and supervising of enumerators for the survey, and assist in analyzing the data. The senior professor assisted in our research in Tanzania and visited our University for six (6) weeks.

#### E. Objective/Output: Information

North Carolina A & T State University increased its library holdings of books, periodicals, journals, and other pertinent literature pertaining to economic development, marketing and small farmer technology. Grant funds was used to publish and disseminate research findings.

A total of 800 books were purchased, seven journal subscriptions have been placed and are being received. In addition twelve newsletters and notes were published. Further, many pamphlets and reports have been received, without cost, from other institutions.

#### VI. IMPACT OF GRANT SUPPORTED ACTIVITIES IN ACHIEVING GRANT PURPOSE

The purpose of our grant was to develop a response capability in the area of small farmer technology, marketing, and distribution. The progress made during the grant has had a significant impact upon achieving that purpose. Much awareness of the role that institutions such as North Carolina A & T State University will play in assisting LDC's has been generated. This awareness is evidenced by the numerous requests for information and cooperation with many faculty and students throughout this University. Faculty members from Sociology, the Transportation Institute, and School of Agriculture have inquired of programs under the grant and where they could possibly participate. Off-campus inquires about possible projects or serving on contracts have been directed to the grant director for distribution to the University faculty. The grant director also serves on the International Programs Committee of the University.

The participation of faculty in the various seminars, serving on the advisory committee, assisting in the research, and serving on teams as requested by AID demonstrate their support of the program. Further, the revision of course offerings in economics and the University's support of a position in rural sociology, has been very encouraging.

Students have also been involved. Annually, around 20 inquiries have been made by undergraduate students as a result of publicity surrounding the program. Many classes have used reference materials received under the auspices of the grant. These classes include economic development, senior seminar, food distribution, and international economics extension and adult education, and many of the graduate students use the references to assist in developing thesis topics.

#### VII. OTHER RESOURCES FOR GRANT RELATED ACTIVITIES

Additional support for grant related activities have come from several sources. The AID mission in Tanzania pledged \$50,000 to support our research activities in Tanzania, \$30,000 in cash and \$20,000 for vehicles. Twenty thousand five hundred sixty dollars (\$20,560) was obtained from AID/Washington to support the Farm Management Survey in Tanzania.

The 211(d) staff participated in writing the Title XII Minority Strengthening Grant proposal in 1978. The proposal was funded for \$500,000 for five years. Language training, participation in seminars and workshops and other activities under Title XII will assist in the development of our capability.

The University also contributed in the form of indirect costs. Overhead was not charged to the grant. The value of overhead is estimated at 45-50% of grant costs. Other funds were made available for salary support for faculty hired for teaching courses in agricultural economics and rural sociology.

Other activities which strengthened the University were two projects in Tanzania; one in Kenya and one in Zaire. Although the 211(d) Grant was not involved directly in these activities, these activities were supported by faculty strengthen by the 211(d) Grant. The Tanzania Agricultural Manpower Development project continued in the training of the Bachelor of Science students. The total value of the North Carolina A & T State University budget was over \$500,000.

The University has also received a six year contract (in a consortium with West Virginia) for a Tanzanian Farmer Training project. This project is designed to train paraprofessionals in agriculture. The six year budget is approximately \$4.4 million.

The University has also received contracts with the mission in Barbados (TSM), Niger (Niger Intergrated Livestock Project), Kenya (Development of Edgerton College), and Guinea (Small holder Production Project). The total value of the A & T portion of these projects exceeds \$2,000,000 over the project life.

#### VIII. UTILIZATION OF INSTITUTIONAL RESPONSE CAPABILITIES IN DEVELOPMENT PROGRAMS

##### A. Requests for Assistance

The University and its faculty received numerous requests for assistance during the grant period. All were honored examples

are listed in Table 3.

SECID had contract with AID to provide assistance to institutions who were applying for Title XII. Two requests were made to Richard Robbins to assist Florida A&M University and South Carolina State College in preparation of the proposal. Request were also made by FAO (Zambia) SECID (Upper Volta), and USAID/ Barbados (St. Vincent and Antigua).

B. (a) Number of Foreign Students

The enrollment of international students has grown substantially. These students were from 45 countries of the Middle East, Africa, Latin America, and South East Asia regions. The enrollment for 1984-85 is as follows:

<u>Geographic Areas</u>	<u>1978-79</u>	<u>1979-80</u>	<u>1984-85</u>
Africa	110	120	197
Europe	3	2	3
Latin America	28	35	24
Middle East	82	161	319
South East Asia	20	20	27
	<u>243</u>	<u>338</u>	<u>570</u>

The foreign student enrollment in the graduate program of the Department of Agricultural Economics and Rural Sociology was during the 1979-80 academic year. The countries represented were: Nigeria, Zaire, Ethiopia, Ghana, and Sierra Leone. These figures has grown to 25 by 1984-85.

B. (b) Use of Teaching Materials Developed Under this Grant

All courses developed under this grant have been offered. The response has been good. Enrollment in these classes is increasing, a few of the student are coming from outside the department. The students felt that the classes have been useful, informative and stimulative.

The response to the library has also been excellent. Students from general agriculture, sociology, history and economics as well as agricultural economics and rural sociology utilize the library. Ten to fifteen faculty and students use the library per day.

B. (c) Other Personnel Working on Development Program

Several additional faculty members of the University are working on developmental programs. Certainly the experience gained under the 211(d) Grant will compliment and supplement each other. We have cooperated with other Departments in the School of Agriculture, as well as other schools. For example, we assisted the School of Engineering develop a proposal to link with a university in Egypt. This proposal was funded for \$50,000.

We also assisted in the development of a committee for Women in Development. This committee assisted in reviewing proposals and advising on issues concerning women in project development and implementation.

C. Plan For Utilization of Institution Response Capabilities

It is expected that AID, LDC's and other agencies will call upon the North Carolina A & T State University to provide assistance in the LDC's. The University, in cooperation with the AID project monitor has discussed the grant with the Regional Bureaus, selected project officers, and other AID/Washington officials. Copies of faculty vitae have been distributed for possible consideration on visiting teams. Information has been forwarded to many of the missions describing the University, its programs, and its faculty.

An increased effort was made to increase the participation on teams. More personal contact will be made with desk officers, evaluation officers, and regional officers to expand opportunities for further investigation.

To further increase the utilization of the University, we have obtained copies of the congressional presentation. Registered with BIFAD, and remained in touch with the regional Bureaus. These contacts will enable us to bid on projects as one is advertised for bid. North Carolina A & T State University fully intends to continue its efforts to assist in development activities around the world.

TABLES  
and  
APPENDICES

TABLE 1

DISTRIBUTION OF 211(d) GRANT FUNDS AND CONTRIBUTIONS FROM OTHER SOURCES OF FUNDING  
 Reporting Period September 1, 1977 to May 31, 1984

Original Award	\$750,000
Amendment 1	20,000
Work Order for St. Lucia	4,000
Amendment IV (Tanzania)	<u>50,000</u>
	\$824,000

NOTES:

1. The funds were reimbursed to the Grant, thus the total award did not reflect a change
2. \$20,000 were retained by the mission to purchase a land rower for use by the A&T Team.

TABLE 2

211(d) Expenditure Report

Actual and Projected Summary  
 Under Institutional Grant #AID/ta-G-1453  
 Project #931-1302  
 Reporting Period September 1, 1977 to May 31, 1984

LINE ITEM	EXPENDITURES	
	Projected	Actual
Salaries <sup>1</sup>	\$539,500.00	\$497,012
Travel	89,560.00	136,256
Student Support	101,500.00	110,216
Supplies, Materials, Communication	11,500.00	18,967
Library	12,500.00	8,879
Publications	3,500.00	7,260
Workshops and Seminars <sup>2</sup>	<u>12,500.00</u>	<u>12,351</u>
TOTAL	\$770,560.00	\$790,941

<sup>1</sup>Includes salary paid to Bernard Yankey as consultant

<sup>2</sup>Expenditures for honorarium only, travel included above

## APPENDIX A

## RURAL DEVELOPMENT ADVISORY COMMITTEE

1. Dr. A.P. Bell, Chairman, Agricultural Education Department
2. Dr. Basil Coley, Chairman, Economics Department
3. Dr. Arthur Coutu, Economics and Business Department,  
North Carolina State University
4. Dr. Sidney H. Evans, Chairman, Agricultural Economics and  
Rural Sociology Department
5. Dr. Willie T. Ellis, Assistant Vice Chancellor for  
Academic Affairs
6. Dr. Daniel Godfrey, Director, Agricultural Extension Service
7. Dr. Benjamin W. Harris, Chairman, Adult Education and  
Community Service Department
8. Dr. Frances Logan, Chairperson, Sociology and Social Service  
Department
9. Dr. William E. Reed, Associate Dean for Research and Special  
Projects
10. Dr. Howard Robinson, Director, Research Administration
11. Dr. Leonard Robinson, Vice Chancellor for Academic Affairs,  
North Carolina Central University
12. Dr. Burleigh C. Webb, Dean, School of Agriculture

## ADMINISTRATIVE COMMITTEE

1. Dr. Burleigh C. Webb, Dean, School of Agriculture
2. Dr. Sidney H. Evans, Chairman, Agricultural Economics and  
Rural Sociology Department
3. Dr. Daniel Godfrey, Director, Agricultural Extension Service
4. Dr. William E. Reed, Associate Dean for Research and Special  
Projects
5. Dr. Howard R. Robinson, Director, Research Administration

## APPENDIX B

MEMBERS OF THE INTERNATIONAL PROGRAM COMMITTEE  
AND SUBCOMMITTEE ASSIGNMENTSInternational Programs Committee

Dr. Dorothy Prince-Barnett	Dr. Theodore Partrick
Dr. Amar Datta	Dr. William E. Reed, Chairman
Dr. Willie T. Ellis	Dr. Richard D. Robbins
Dr. Sidney E. Evans	Dr. Howard R. Robinson
Lt. Col. Monroe J. Fuller	Dr. Ethel Taylor
Dr. Daniel Godfrey	Dr. Burleigh C. Webb
Mrs. Anne C. Graves-Kornegay	Dr. Frank H. White
Dr. B.W. Harris	Mr. Leo Williams
Lt. Col. John Jones	Dr. Tommie Young
Dr. Dorothy Mason	Dr. Glenn F. Rankin, Ex-officio
Dr. Harold Mazyck	
Mr. Richard E. Moore	

International Education and Research

Tommie Young, Director of Instructional Services  
 Willie T. Ellis, Assistant Vice Chancellor for Academic Affairs  
 Dorothy Prince-Barnett, Head, Department of Secondary Education  
 and Curriculum  
 Howard F. Robinson, Director of Research Administration  
 Frank H. White, Dean, School of Arts and Sciences  
 Ethel Taylor, English Department  
 Harold Mazyck, Home Economics Department

Student and Faculty Intercultural Activities

Anne C. Graves-Kornegay, Associate Professor of Education  
 Amar Datta, Professor of Mechanical Engineering  
 Lt. Col. John Jones, Head, Army ROTC  
 Dorothy Mason, Professor of Geography  
 Theodore Partrick, Professor of History

Public Relations and Extramural

Richard Moore, Director of Information, Chairman  
 B.W. Harris, Director of Continuing Education Center  
 Lt. Col. Monroe J. Fuller, Head, Air Force, ROTC

Foreign Assistance, Faculty and Student Exchanges

B.C. Webb, Dean, School of Agriculture, Chairman  
 Sidney H. Evans, Head, Department of Agricultural Economics and  
 Rural Sociology  
 Daniel Godfrey, Head, Agricultural Extension Service  
 Richard Robbins, Associate Professor of Agricultural Economics  
 and Director of 211(d) (AID) Program  
 Leo Williams, Professor of Electrical Engineering

## APPENDIC C

Rural Development Seminars - 211(d)

Rural Development Seminars, 1978-1979

Dr. E. Walter Coward, Chairman, Department of Rural Sociology, Cornell University

Topic: "Research Priorities in Rural Development in Less Developed Countries"

Mr. Fred Berndt, Vice President, Wachovia International, Winston-Salem, North Carolina

Topic: "Foreign Trade: The Impact of Eurodollar on American Dollar"

Dr. Young Rhee, Senior Research Staff of World Bank, Washington, D. C.

Topic: "A Firm-Level Study of Korean Exports: Marketing Exports"

Dr. Hrisikakesk D. Vinod, Supervisor, Economics Studies of the American Telephone and Telegraph Company, Piscata, N.J.

Topic: "Ridge Regression"

Dr. Barry Bluestone, Director of the Social Welfare Regional Research Institute, Boston College

Topic: "Unemployment Compensation in North Carolina"

Rural Development Seminars, 1979-1980

- October 8, 1979. Dr. Adeodu B. Jones, Visiting Professor of Rural Sociology from the U.N.: Consultant to the Rural Development Task Force of Liberia
- TOPIC: "Research Priorities in Developing Countries"
- October 22, 1979. Professor Dallas L. Brown, Professor of Anthropology, University of Illinois
- TOPIC: "Ujamaa Experiment in Villagization: The Case of Tanzania"
- November 16, 1979. Dr. William C. Thiesenhusen, Professor of Agricultural Economics, University of Wisconsin-Madison. Land Tenure Center.
- TOPIC: "Income Distribution and the Impact of Technology in the Lessor Developed Countries"
- March 11, 1980. Mr. Ralph Christy, Department of Agricultural Economics, Michigan State University.
- TOPIC: "Data and Information Systems for Agricultural Markets"
- March 14, 1980. Dr. G. Howard Phillips, Professor of Rural Sociology and Director of the National Rural Crime Prevention Center, Department of Agricultural Economics and Rural Sociology. The Ohio State University, Columbus.
- TOPIC: "Dimensions of Rural Crime"
- March 25, 1985. Dr. Frank Cancian, Professor of Anthropology, School of Social Sciences, University of California, Irvine.
- TOPIC: "The Innovator's Situation: New Technology and Class Conservation in Agriculture Communities"
- April 8, 1980. Dr. Ivery Clifton, Assistant Professor of Agricultural Economics, University of Georgia, Athens.
- TOPIC: "Small Farm Technology and Marketing in Less Developed Countries"

Rural Development Seminars, 1979-1980  
-continued-

April 28, 1980. Dr. Earl Heady, Director and Distinguished Professor at the Center for Agricultural and Rural Development, Iowa State University, Ames.

TOPIC: "World Food Production Potentials and Constraints with Some Equity Considerations"

June 26, 1980. Dr. J. Bernard Yankey, Deputy Director, Agricultural Caribbean Development Bank, Barbados.

TOPIC: "Some Key Issues and Problems in the Development of the Small Island Caribbean States, with Particular Reference to the Agricultural Sector"

1980-81 Seminars Sponsored by 211(d) Grant Program

General area of focus: Adoption and Diffusion of  
Technology

October 23, 1980. Dr. Arthur Coutu, N.C. State University,  
Raleigh, N.C.

"Social Experimentation and Technological Adoption"

December 4, 1980. Dr. Roger Woodworth, T.V.A., Agricultural  
Resource Development Branch, Muscle Shoals,  
Alabama

"Programs and Methods of Increasing Incomes for  
Limited Resource Farmers"

February 5, 1981. Dr. Harold Riley, Michigan State University,  
East Lansing, Michigan

"Food Systems Organization and Management Problems in  
Developing Countries"

March 5, 1981. Alfred Harding, A.I.D., Washington, D.C.

"Project Design and Programming in International  
Development Activities"

April 3, 1981. Dr. Jim Bell, Virginia Technical Institute  
and State University, Blacksburg, Virginia.

"The Role of Cooperatives in Economic Development"

April 22-24, 1981. Symposium on Small Farm Food Production  
Systems and Nutrition in Rural Development.

(A two-day Symposium in which the following persons  
participated as a speaker or source person).

Dr. Frederick S. Humphries, President, Tennessee State  
University, Keynote speaker.

Dr. Chuck Hassebrook, Center for Rural Affairs, Walthill,  
Nebraska, "Land Use Controls and Taxation"

Mr. Joe Brooks, Emergency Land Fund, Atlanta, Georgia,  
"National Agricultural Programs and Small Farms"

RURAL DEVELOPMENT AND  
DEPARTMENT OF AGRICULTURAL ECONOMICS  
AND RURAL SOCIOLOGY

1980-81 Seminar Program

General Focus: Adoption and Diffusion of Development  
Technology

Subject Areas

I. Development and/or adaptation of Appropriate Technology

Research Centers: National, International  
Problem identification/assessment  
Information transfer and feedback mechanisms  
Expatriate assistance, financing, involvement in implemen-  
tation  
Scientific community: financing, "brain drain" training

II. Alternative Choices of Technology

Choosing a crop or enterprise for improvement--priorities  
and/or criteria  
Technology packages vs. single practice: development,  
implementation, cost, limitations  
Energy considerations: cost, availability, sources

III. Role/Constraints of Infrastructure

Marketing--facilities, practices, channels  
Pricing system--inputs and products; price and market  
information  
Transport, storage: cost, capacity, roads  
Agro-industry: input, supply, service  
Education, training--upgrading human capacity for new  
technology

IV. Role of Women

Production, marketing, agro-industry, family living,  
nutrition and health  
Farm and family decision-making

V. National Policies

Purpose and impact of production increases  
Domestic consumption and nutrition  
Export earnings (and import substitution)  
Price and income distribution policies  
Small farm production vs. large farm production: land  
reform

Mr. Massey Pullen, Regional Coordinator, U.S.D.A., Small Farm Working Group, Washington, D.C., "U.S.D.A. Efforts to Assist Small Farmers"

Dr. Melvin Walker, Director of Research, Fort Valley State College, Georgia.

Workshop leader: "Appropriate Technology for Small Farm Food Production Systems"

Dr. Charlotte George, Agricultural Extension Nutritionist, Jefferson City, Missouri.

Workshop Leader: "Small Farm Food Production Systems and Family Food Consumption"

Dr. Roger Beck, Professor of Agricultural Economics, Rutgers University, New Brunswick, New Jersey.

Workshop Leader: "Impact of Small Farm Food Production Systems on Rural Households"

Dr. Arthur Coutu, Professor of Agricultural Economics, N.C. State University, Raleigh, N.C.

Workshop Leader: "Community and Market Infrastructure for Small Farm Food Production Systems"

Mr. Larry Cohick, Executive Director, Greensboro Chamber of Commerce, Greensboro, N.C.

Symposium Luncheon Speaker

RURAL DEVELOPMENT AND THE  
DEPARTMENT OF AGRICULTURAL ECONOMICS AND  
RURAL SOCIOLOGY

1981-82 Seminar Program - 211(d)

General focus: Economic and Social Infrastructure  
for Rural Development

Subject Areas:

- . Marketing Infrastructure for Small Farm Production Systems.
  - Appropriate orientation of institutions, market structure.
  - Marketing services: grade standards, containers, weights, market and price information, financing for small volume producers.
  - Marketing facilities: farmers' markets, cooperative packing/grading sheds.
  - Information on products, technology, etc.
  - Coordination of small farm production and marketing systems.
  
- . Public Policies for Small Farm Production Systems.
  - Price policy appropriate for small volume marketing.
  - Public programs/activities to assist small farmers.
  - Income tax rules for farming - help or hindrance for small farms?
  
- . Community Infrastructure for Rural Development.
  - Employment opportunities for off-farm; rural industries?
  - Health and medical services and facilities; availability and cost.
  - Service industries; oriented toward farm/rural living.
  - Community food processing facilities.
  
- . Social infrastructure: Rural Living with Urban Services.
  - Impact of changing life-styles, goals and aspirations.
  - Rural family nutrition, availability, quality and cost of food; consumption patterns.
  - Coordination/conflict of farming activities with family living.
  - Income levels and sources; what is adequate?
  
- . Research for Small Farm Production Systems.
  - Data base--needs.
  - Methodology; linkages/commonality of U.S. and developing countries.
  - Orientation; goals.
  - Institutions, funding levels and sources.

1981-82 Rural Development Seminar Program - 211(d)

General Focus: Economic and Social Infrastructure for  
Rural Development

October 15, 1981. Dr. Jerry G. West, Professor of Agricultural  
Economics, University of Missouri

Topic: "Characteristics and Problems of Small Farms--  
Some Public Programs to Alleviate their Situation."

November 19, 1981. Dr. Reed Hertford, Professor of Agricultural  
Economics, Rutgers University, and Visiting Fellow,  
Woodrow Wilson School, Princeton University. (Pre-  
viously Agric. Program Officer, Ford Foundation).

Topic: "Is the Deck Stacked Against Small Farms in the U.S.  
and Overseas?"

December 10, 1981. Dr. Robin G. Henning, Department of Agric.  
Economics

Panel:  
N.C. A&T  
State University

Dr. Howard Robinson, Director, Research  
Administration  
Dr. Dalton McAfee, Agric. Extension Service  
Dr. Randall P. White, Dept. of Agric.  
Economics

Topic: "Research Priorities for Small Farm Production  
Systems."

February 11, 1982. Dr. Horst von Oppenfeld, Visiting Professor,  
Cornell University and Consultant, World Bank

Topic: "Place and Pitfalls of Agricultural Credit at the  
Early Stages of Rural Development."

March 18, 1982. Dr. Peter E. Hildebrand, Professor, Department  
of Food and Resource Economics, University of  
Florida, Gainesville

Topic: "Research for Small Farm Production Systems."

April 2, 1982. Dr. Lee M. Day, Director, Northeast Regional  
Center for Rural Development, Cornell University.

Topic: "Public Policies for Small Farm Production Systems."

1982-83 Rural Development Seminars - 211(d)

November 23, 1982. Dr. Richard D. Robbins, Professor of  
Agricultural Economics, N.C. A&T State  
University

Topic: Characteristics of Farmers and Agricultural  
Production in Central Tanzania

February 1, 1983. Dr. Elmer C. Hunter, Economist, Agricultural  
Division, CIBA-GIEGY Corporation, Greensboro,  
N.C.

Topic: United States Agricultural Policy

April 8, 1983. Mr. Eric B. Shearer, Senior Agricultural  
Economist, Center for Population and Urban-  
Rural Studies, Research Triangle Institute

Topic: Agrarian Reform and Rural Development

1983-84 Rural Development Seminars

September 21, 1983. Dr. Robin G. Henning, Assistant Professor  
of Agricultural Economist, N.C. A&T State  
University

Topic: Designing an Agricultural Development Program  
for a Small Developing Country: St. Vincent  
and the Grenadines

December 1984. Dr. Richard D. Robbins

Topic: Farming Systems in East Africa

April 1984. Dr. Richard D. Robbins

Topic: People and Resources in Forestry in Zambia

SYMPOSIUM ON "SMALL FARM FOOD PRODUCTION SYSTEMS  
AND NUTRITION IN RURAL DEVELOPMENT"

Keynote Speaker: Dr. Frederick S. Humphries, President  
Tennessee State University

I. Opening Plenary Session (Panel)

A. Policy Issues Relevant to Small Farm Food Production  
Systems

1. Characteristics of Small Farm Food Production  
Systems and their Role in Feeding the Growing  
Populations of Developing Countries  
Dr. T.T. Williams  
Tuskegee Institute, Alabama
2. National Agricultural Programs and Small Farms:  
How Can They Work Together?  
Dr. Chuck Hassebrook  
Center for Rural Affairs, Walthill, Nebraska
3. Urban Expansion, Land Use Controls and Taxation,  
Environmental Pollution, and Small Farm Food Pro-  
duction  
Mr. Joe Brooks  
Emergency Land Fund, Atlanta, Georgia
4. U.S. Department of Agriculture Efforts to Assist  
Small Farmers  
Mr. Massey Pullen, Executive Secretary  
U.S.L.A. Small Farm Working Group

B. Workshop Assignments

II. Workshops (Individual Workshop Meetings)

- A. Appropriate Technology for Small Farm Food Production  
Systems  
Dr. Melvin Walker, Director of Research, Fort Valley  
State College, Georgia

Suggested Areas of Discussion:

1. Are there improved, high-return practices enter-  
prises, or technology packages available for small  
farmers?
2. Are there useful methodologies available for looking  
at small farm production systems? Do these differ  
for developing countries?

3. What kind of delivery systems are needed for implementing improvement in small farm production systems? Are there special requirements for LDCs?

- B. Small Farm Production Systems and Family Food Consumption  
Dr. Charlotte George, Agricultural Ext. Nutritionist,  
Jefferson City, Missouri

Suggested Areas of Discussion

1. Is nutrition of rural households adequate? Are there regional or seasonal fluctuations/distortions?
2. How is food consumption of rural households related to what they produce and how they produce it?
3. How can we incorporate food consumption and nutrition in farming systems and rural development research?

- C. Impact of Small Farm Food Production Systems on Rural Households  
Dr. Roger Beck, Professor of Agricultural Economics,  
Rutgers University, New Brunswick, New Jersey

Suggested Areas of Discussion:

1. What are the goals and aspirations of the small farmer household? Total, or supplement to income? How food supply? Land value appreciation? Prestige/social status? Country living/quality of life?
  2. What is the importance of off-farm employment for the small farmer household? What alternative opportunities for employment in rural or community enterprises are available or feasible?
  3. What is the workload requirement of small farmer household members for the Small Farm Production Systems?
- D. Community and Market Infrastructure for Small Farm Food Production Systems. (Dr. Arthur Coutu, Professor of Agricultural Economics, North Carolina State University, Raleigh, N.C.)

Suggested Areas of Discussion:

1. What modifications in the rural community and/or market infrastructure are needed to provide the appropriate services and facilities? Marketing/Service cooperatives? Product packing/processing firms? Private traders/dealers/service agencies?
2. What facilities and services are needed for Small Farm Food Production Systems? Marketing information and services? Farmers' markets? Packing/transportation/storage facilities?
3. What government intervention/assistance is appropriate? Loan/price support programs? Subsidies? Tax incentives and zoning for agricultural use of land, and to control urban expansion?

III. Ending Plenary Session

- A. Reports of Workshops (Panel)
- B. Summary and Conclusions