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PRAIRIE VIEW A&M UNIVERSITY

211(d) ANNUAL REPORT

FOR THE PERIOD

JULY 1, 1976 TO JUNE 30, 1977

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A.

PRAIRIE VIEW A&M UNIVERSITY
211(d) ANNUAL REPORT
FOR THE PERIOD
JULY 1, 1976 TO JUNE 30, 1977

TITLE: DEVELOPMENT OF AN AGRICULTURAL DELIVERY SYSTEM FOR
SMALL FARMERS IN LDCs

GRANTEE: PRAIRIE VIEW A&M UNIVERSITY

DIRECTORS: DRS. F. L. RICHARDS AND J. B. COLLINS

STATISTICAL SUMMARY:

1. Period of Grant: July 1, 1976 to June 30, 1978
2. Amount of Grant: \$300,000
3. Expenditures:
 - 3.1 For report period: \$65,331
 - 3.2 Accumulated: \$65,331
 - 3.3 Anticipated for next year: \$234,669

B. NARRATIVE SUMMARY

Prairie View A&M University has continued to mobilize its institutional capability to develop a delivery system through which modern soil management technology and practices can be transferred and adapted by small farmers in the tropics for increased food production.

The Intensified Farm Planning Program (IFPP) of the Prairie View Cooperative Extension Program has been used successfully to delivery assistance designed to improve the quality of life of small farmers in Texas. This model has been modified and a preliminary model for small farmers in LDCs has be constructed. In order to test the model in the tropics, the College of Agriculture at Prairie View A&M University has entered into an agreement with the Soil Research Institute of the Council for Scientific and Industrial Research of Ghana. Three villages near Kumasi, Ghana are involved in the test and the test is being conducted by Prairie View A&M University staff in cooperation with a Ghanaian counterpart.

In conducting a state-of-the-art-study of delivery systems, Prairie View A&M University has conducted and participated in seminars and conferences, utilized consultants and correspondence, visited international centers and other U.S. and foreign organizations and universities. Thirty five bound volumes, eighteen taped cassettes and one hundred and forty five miscellaneous papers have been compiled and this material and information is housed in a reference room designed and equipped for analysis and synthesis. Also housed in this room is information and materials used in designing a training program for para-professionals and professionals interested in delivery

systems for small farmers in LDCs.

Two M.S. theis, three professional papers, and two reports and working papers dealing with delivery, technology transfer, and training of change agents have resulted from the grant during this report period. The staff is committed to serving the needs of small farmers in the tropics through a systems that would deliver modern soil management technology in the form of adaptive packages.

C. GENERAL BACKGROUND, PURPOSE AND OBJECTIVES OF THE GRANT

1. General Background

In LDCs modern agricultural technology which deals with the entire infrastructure of the agricultural sector has benefited primarily the large farms and productivity on these farms has risen steadily during the past decade. However, there are millions of small farmers who have not benefited from this technology and as a result agricultural productivity on these farms has remained unchanged and continues to be at a very low level and their per capita production has not materially increased since 1960.

One of the world's greatest potential resources for food production is the small farmer who in most LDCs make up 60% of the food production sector. The small farmer is in need of appropriate technology and one major constraint to increased food production by him has been ineffective and inefficient systems for delivery of technology to him. The small farmer is particularly vulnerable to any deterioration of his soil resources for

the quality of his life depends on his land. It is important, therefore to develop and test a model delivery system that will bring modern soil management technology and practices to the small farmer.

While other groups are working on problems of soil fertility, soil survey and classification, nitrogen fixation, etc., Prairie View has focussed on delivery systems which others can use to bring technological innovations to the small farmer. The ultimate purpose of the grant would be served when food production is sufficient for the increasing world population. A basic strategy to accomplish this has been to develop a U.S. competence in soils of the tropics via U.S. institutions. The Consortium on Soils of the Tropics is an association of six educational institutions that have coordinate their competencies and resources for increasing food and fiber production on soils in the tropics. The joint program has been designed to enhance the capacity of the United States to provide technical assistance to LDCs.

The 211(d) portion of the Foreign Assistance Act of 1961 as amended in 1966 provides the guidelines and the funds to build and mobilize the institutional capability to serve LDCs and help solve the problems of food and fiber production.

2. Purpose of the Grant

In a collaborative effort with the University of Puerto Rico, North Carolina State University, University of Hawaii, Cornell University and the University of Minnesota, this grant will allow Prairie View A&M University to mobilize its institutional capability to develop and design a delivery system through which modern agricultural technology can be

transferred, adapted and utilized by the small farmer in LDCs for increased food production, with special emphasis on Central West Africa. A large portion of the increased capability generated by the grant will be devoted to helping the small farmer improve his situation. Envisioned here is an innovative system which will affect the acceptance of improved soil management practices by the small farmer and remove the constraints to higher food production. This will necessitate development of educational materials, training of professionals and para-professionals, synthesizing and adapting the new technology to local conditions and developing appropriate working relationships in LDCs. This grant will be used to:

- a. Provide support for the present staff and to provide additional staff strength as required.
- b. Provide visiting professorships and consultants through which Prairie View can bring to it's campus additional expertise and experience from cooperating institutions and other sources to reinforce it's program.
- c. Provide student assistantships for research and work related to the grant.
- d. Modify and develop new graduate courses in Extension which will strengthen the capability to prepare personnel for technology transfer in LDCs.
- e. Strengthen library and other informational services and provide support for the preparation of teaching and training materials and for preparation of a state-of-the-art study of delivery system.
- f. Provide support testing a model of a delivery system for small farmers in the tropics.

The end-of-project status indicator is the effective response capability of the staff to answer the need for a delivery system that will transfer modern soil management technology to small farmer in the tropics for increased food production.

3. Objectives

Under the above purpose the five major objectives or expected outputs of the grant are:

- a. Expanded knowledge base
- b. Education and training
- c. Advisory capacity
- d. Information capacity
- e. Linkages

A description of each objective and accomplishments under each objective is elucidated in the next section of this report.

D. ACCOMPLISHMENTS

1. Expanded Knowledge base - Under this objective, Prairie View A&M University is conducting a state-of-the-art (SOTA) study of delivery systems and it is developing and testing a model of a delivery system for small farmers in LDCs. The staff has expanded its knowledge base through seminars, literature reviews, consultants, professional meetings and international work-study tours and conferences (Table 1 & 2). Publications, working papers, M.S. thesis, reports and presentations resulting from the 211(d) grant are shown in Table 3.

- a. SOTA

Information and materials for SOTA are housed in a special reference room. This room has been air-conditioned, fitted with library shelves, lights, computer terminal, typewriters and library furniture. One undergraduate has been employed as a part-time librarian and typist. To date the reference room contains 35 bound volumes, 18 taped cassettes and 145 miscellaneous papers that deal directly or indirectly with delivery systems world-wide.

The components of the delivery system have been defined and described in sufficient detail to serve as guidelines in developing and testing the model in Ghana:

Linkages —
 Education and Training —
 Institution - building at the grassroots —
 Action - choices of the target population —
 Feedback and Evaluation —

The staff will continue to analyze and synthesize knowledge

TABLE 1. CONSULTANTS UTILIZED BY PRAIRIE VIEW
A&M UNIVERSITY DURING THE REPORT PERIOD

<u>NAME & TITLE</u>	<u>PLACE</u>	<u>SUBJECT</u>
Dr. Henry Obeng, Director Soil Research Institute	Kumasi, Ghana	"Major Soils of Ghana and their Potential for Agricultural Development"
Dr. Nana Niketsa Paramount Chief and Professor, African Studies	Ghana, West Africa & University of Massachusetts, Amherst	"African Traditions Linked to Agricultural Development"
Dr. Charles Loomis Professor, Sociology	University of Houston Houston, Texas	"The Social Matrix in the Village"
Dr. Lionell Williamson Agricultural Economist	University of Missouri Columbia, Missouri	"Small Farm Cooperatives"
Dr. E. E. Burns Professor, Food Technology	Texas A&M University College Station, Texas	"Food Technology and Human Nutrition"
Dr. Louis Kestenberg Professor Emeritus, History	United Nations Houston, Texas	"Food in the World of Politics"
Mr. Sam Opoku Extension Specialist & counterpart for the Prairie View Project in Ghana	Kumasi, Ghana	"The Agricultural Extension Set-Up in Ghana"
Mr. H. G. Hogand Director, USAID Livestock Project	Upper Volta, West Africa	"Soil Management for Forage Production in a Livestock Program"

TABLE 2. A SUMMARY OF TRAVEL UNDER THE 211(d)
GRANT DURING THE REPORT PERIOD

<u>NAME</u>	<u>PLACE</u>	<u>INVOLVEMENT</u>
Dr. F. L. Richards Mr. G. McIlveen	IITA Ibadan, Nigeria	Conference, Tour Information Exchange
Dr. E. Brams	University of Guelph University of Massachusetts Michigan State University	Conference, Information Exchange, Tour
Dr. F. L. Richards Mr. G. McIlveen Dr. J. B. Collins	Soil Research Institute of Ghana Njala University of Sierra Leone	Conference, Tour, Information Exchange
Mr. G. McIlveen Dr. F. L. Richards	Soil Research Institute of Ghana	Memorandum of Agreement and Arrangements for the Project in Ghana
Dr. E. McKenzie	Soil Research Institute of Ghana	Arrangements and Initiate the Project in Ghana
Dr. H. Obeng	Prairie View A&M University of Texas	Seminar, Conference, Tour, Memorandum of Agreement and Arrangements for Project in Ghana
Mr. S. Opoku	Prairie View A&M University of Texas	Workshop, Seminar, Conference, Tour, and Training as Counter- part for the Project in Ghana
Dr. J. B. Collins	Cornell University Ithaca, New York	Presentation of Paper at Soil Resource Inventory Workshop
Dr. J. B. Collins	Orlando, Florida	Executive Meeting of Consortium on Soils of the Tropics
Dr. E. Brams Dr. A. Mangaroo Dr. E. McKenzie Dr. F. Richards Dr. J. Collins	Houston, Texas	Executive Meetings of Consortium on Soils of the Tropics
Mr. E. Harrison Mr. N. Baines	Gainesville, Florida	Workshop on Communication and Small Farms
Dr. J. Collins	Texas A&M University	Conferences, Library Collections

<u>NAME</u>	<u>PLACE</u>	<u>INVOLVEMENT</u>
Dr. E. Brams	East-West Center Honolulu, Hawaii	Presentation of Paper at Agricultural Research Skills Conference

TABLE 3. PUBLICATIONS, WORKING PAPERS, REPORTS, M.S. THESIS AND PRESENTATION RESULTING FROM THE 211(d) GRANT DURING THE REPORT PERIOD

- Collins, J.B., 1977. Soil Resource Inventory for the Small Farmer. Soil Resource Inventory Workshop. New York State College of Agriculture and Life Science, Cornell University, Ithaca, New York.
- Richards, F. L., J.B. Collins and G. McIlveen. 1977. Report of Work-Study Tour of Ghana and Sierra Leone. College of Agriculture, Prairie View A&M University, Prairie View, Texas.
- Mulzac, J.I., 1977. A Proposed Mechanism to Transfer Agricultural Technology to Small Farmers in Ghana. M.S. Thesis. College of Agriculture, Prairie View A&M University, Prairie View, Texas.
- Brams, E.A., 1977. The Education and Training of Sub-Baccalaureate Field Research in Developing Countries. Conference on Agricultural Research Skills. East-West Food Institute, Honolulu, Hawaii.
- McIlveen, G., E.A. Brams, and J.B. Collins., 1977. Transferring Technology to Small Farmers-Worldwide. Texas Agricultural Extension Press Day. College Station, Texas.
- Brams, E.A. and P. Brams, 1977. Competency-Based Systems for Training Field Researchers in Developing Countries. Conference on Agricultural Research Skills. East-West Food Institute, Honolulu, Hawaii.
- Boateng, M.Y., 1977. Economic Development: Role of Agriculture in the Ghanaian Economy. M.S. Thesis. College of Agriculture, Prairie View A&M University, Prairie View, Texas.

accumulated from agricultural development projects as it is collected and systematically arranged in the reference room. A tentative outline of the SOTA document has been prepared and submitted to AID for review. SOTA will be a guide on how to diagnose and solve problems in delivery with emphasis on simplicity and economy. SOTA will not ignore the traditions, cultural and value systems of the people, especially the role which women and children can play in agricultural development in LDCs.

b. DELIVERY SYSTEM

To develop a model of a delivery system through which modern soil management technology can be transferred, adapted and utilized by small farmers, Prairie View has modified the Intensified Farm Planning Program (IFPP) model used in Texas and constructed a preliminary model for use in the tropics. To test and evaluate the model in the tropics, the College of Agriculture has entered into an agreement with the Soil Research Institute of the Council for Scientific and Industrial Research of Ghana. The Soil Research Institute is serving as headquarters for the project in Ghana. An advisory committee consisting representatives from USAID, research institutes, universities, the ministry of agriculture, and villages in Ghana has been established.

Mr. Sam Opoku has been selected as the Ghanaian counterpart and he has visited Prairie View for a one-month training program. Mr. Opoku along with Prairie View A&M University staff are testing the model during the minor season and they will test and evaluate it

again during the major growing season.

Three villages (Atwima, Hwidiem, and Ashanti) all within one day's travel of Kumasi, are involved in the project. Approximately 15-20 farmers from each of the tree villages are participating in the program. Food crops grown by most of the farmers include corn, cocoyams, cassava and plantains. The average farm is approximately three acres in size.

Corn was selected as the food crop to be used in this study. The innovation includes new varieties (Laposta, Composite 4, and a Local); fertilization according to soil test results (a 60-40-20 blend instead of 15-15-15 which is currently being used) and a program to control the corn borer. Consideration has also been given to storage. Result demonstrations are established on the farmer's field using the resources at his command. Prairie View A&M University staff and the Ghanaian counterpart are conducting one result demonstration in each village comparing traditional practices with the innovation.

The key element in the delivery system is the village farm leader or master farmer who serves as the link between the professional and the traditional farmers. This person has not been identified but he should emerge early in this project. The staff is developing criteria for the selection of this individual as well as a program to educate and train him for technology transfer.

Dr. Henry Obeng, Director of the Soil Research Institute in Ghana, has visited Prairie View to finalize the details of the memorandum of agreement, and the Soil Research Institute is providing the support, supplies and materials needed to conduct the test during

the minor growing season. Before the major growing season starts, Prairie View will have shipped all of the supplies, equipment and materials needed to conduct the test.

The staff is developing an instrument to evaluate the effectiveness of the delivery system in 1) fostering the process by which farmers adopt an innovation, 2) increasing the decision making skill and abilities of the small farmer, and 3) increasing yields.

2. EDUCATION AND TRAINING

The staff is developing an educational and training program specifically addressed to problems in LDCs and focused on techniques of delivery and the selection and training of change agents in the delivery system. The grant has provided for:

- a. A two-weeks and a one-semester certificate, non-degree training program for para-professionals and professionals interested in delivery systems for small farmers in the tropics.
- b. Modification of the graduate curriculum in Extension Education to include two graduate courses in the concepts, philosophy, and implementation of delivery systems for small farmers in the tropics.

The staff has acquired information and materials for these training and education packages as part of the information center and they are housed in the reference room. These training packages are being designed in terms of objectives, format, contents and faciliators. While these training and education packages have not been completed, Prairie View has already responded to requests for assistance in the education and training of change agents in the delivery system for small farmers in LDCs.(Table:4)

3. INFORMATION CAPACITY

The grant has provided for the establishment and maintenance of an up-to-date information center in the College of Agriculture that consists of a depository of information, an inventory of talent and a mechanism to disseminate information relative to the delivery of agricultural technology to small farmers in the tropics. The information and materials collected have been systematically arranged in a reference room. The center included more than 500 books, photographic illustration, newsletters, progress reports, taped cassettes and miscellaneous papers that deal directly or indirectly with delivery systems world-wide. More than 60 additional entries have been added to the mailing list.

Through the CST Newsletter and others, Prairie View has linked its information system with those of CID, AID, FAO and others. By linking with other information systems, Prairie View has greatly increased the dissemination of its information and has gained greater access to pertinent information useful to LDCs, donor agencies and other interested in delivery of agricultural technology to small farmers in LDCs.

4. ADVISORY CAPACITY

The grant has generated a capability at Prairie View to respond to requests of AID, national governments, educational institutions, research institutions and private organizations for the education and training of change agents and to design and implement delivery systems that will transfer soil management technology to small farmers in LDCs for increased food production. One additional part-time staff member has been employed to provide release time for the current staff to carry out the objectives of the grant. With sufficient availability notice and an appropriate arrangement, member of the staff have been made available for short-term consulting assignments. Advisory activities during this report period are shown in Table 4.

5. LINKAGES

Communication and functional linkages with a network of domestic, international and LDC organizations have been established, strengthened and maintained for the purpose of carrying out the objectives of the grant and for the purpose of utilizing the institutional capability generated by the grant. Important domestic linkages include CST (University of Puerto Rico, University of Minnesota, University of Hawaii, North Carolina State University, Cornell University and Prairie View A&M University) and CID (Colorado State University, University of California, Texas Tech. University, Oregon State University and Utah State University). Linkages have also been established with TVA (International Fertilizer Development Center) and other institutions and organizations in the United States.

The staff has also established linkages with scientists, institutions and organizations in developing countries (Table 2). Important linkages in Ghana where the delivery system model is being tested include:

- USAID Mission
- University of Ghana
- University of Science and Technology
- Soil Research Institute
- Crop Research Institute
- Grain and Legume Development Board
- Ministry of Agriculture
- Paramount Chiefs
- Village Farm Leaders
- Traditional Farmers
- Food and Agricultural Organization
- Other AID Grantees
- Council for Scientific and Industrial Research

E. IMPACT OF GRANT-SUPPORTED ACTIVITIES IN DEVELOPING INSTITUTIONAL CAPABILITIES

Activities under the grant have greatly enhanced the experience and knowledge of the staff involved. Activities of students and staff participating in the program have provided a base upon which other agencies have channeled funds. The grant provided for the appointment of one new part-time staff member, Dr. T. Harris, who is contributing to the development of the entire University.

The grant has increased the interest of our students in international work and they are becoming increasingly involved in state, regional and national meetings. An international atmosphere exists at Prairie View and the 211(d) staff and students receive many requests to present lectures and seminars throughout the university. The staff and facilities in the resource center are called upon frequently to contribute to university sponsored programs. Non-agricultural students and staff are participating in our seminars, discussion sessions and courses. In fact, other departments and colleges at the University have offered to provide assistance in achieving the objectives of this grant.

Other T.V. and Radio stations in the Houston area not cited in this report heard of our 211(d) program and have requested us to make a presentation on their stations. Other farmers not included in three villages selected in Ghana heard of our project and enthusiastically requested us to include them in the project. We visited Sierra Leone and explained the program to the agricultural staff at Njala University College and they also enthusiastically invited us to conduct the test in Sierra Leone with Njala and headquarters.

The enthusiasm generated by the grant has been of great value in developing the institutional capability. Other more subtle spin offs from the grant are evident from dialogue with students, visitors and local residents.

F. OTHER RESOURCES FOR GRANT-RELATED ACTIVITIES

Under Cooperative State Research Service (CSRS) Funding, Prairie View is a partner (USDA and others) in conducting research focused on the rural poor in Texas. This research program has five major thrusts:

1. Human nutrition and low-income rural families
2. Economic opportunities for rural-families
3. Factors affecting patterns of living disadvantaged families
4. Environmental quality in rural areas close to urban centers
5. Critical life chances, social conditions, and economic resources of disadvantaged minority populations and communities

The Prairie View A&M University Cooperative Extension Program of the Texas Agricultural Extension Service is designed to improve the quality of life of limited resource families in Texas. This program has three major thrust: Intensified Farm Planning, Family Resource Development, and Community Recreation and Outdoor Education. This program has impacted thousands of families in Texas.

Although serving the rural poor in Texas many of the problems under consideration are also common in LDCs. This historical and unique experience of working with the rural poor provide Prairie View with empathy for small farmer in the tropics.

The University has assumed all indirect costs of the program. It has assumed the expenses of classrooms, library, laboratories, maintenance, greenhouses and field plots, office space, administrative cost, and part or all of the salaries involved in the grant activities.

G. UTILIZATION OF INSTITUTIONAL RESOURCES IN DEVELOPMENT

The capability generated by this utilization grant will help AID and other donors, LDCs and others in their efforts to improve the quality of life of small farmers in the tropics through increased food production. Requests for assistance during this report period are shown in Table 4. The University is mobilizing its resources with anticipation of increased requests for assistance.

H. NEXT YEAR'S PLAN OF WORK

For the next year, Prairie View A&M University will continue to test the model of the delivery system for small farmers in Ghana during the major growing season. As the model is being tested it will be evaluated and modified where appropriate. After the model has been evaluated it will be documented and distributed for review.

The staff will continue to compile and synthesize information for the state-of-the-art study of delivery systems. A small workshop involving the consortium, AID and others will be conducted in order to facilitate the preparation of a draft of the SOTA document for review and distribution.

The University will continue to recruit and train both American and international graduate and undergraduate students in tropical soils and in the techniques of delivering soil management technology to small farmers in the tropics. The staff will respond to request for assistance on a priority basis, and it will continue to exchange information in the international network.

Prairie View has received requests for assistance from other LDCs and it will continue to develop appropriate relationships with LDCs, AID and other with the hopes of extending the activities of this grant to other countries in the tropics. The staff will identify existing technology and formulate plans for

TABLE 4. REQUESTS FOR ASSISTANCE RECEIVED DURING REPORT PERIOD

A. REQUESTS ATTENDED

DESCRIPTION OF REQUEST	WHOM DID YOU ASSIST	WHO REQUESTED ASSISTANCE	WHO FUNDED ASSISTANCE	SIZE OF EFFORT DOLLARS, MAN DAYS	RESULTS OF ASSISTANCE
Training in soil management for forage production.	Mr. Noel Sembuli from Tanzania	Dr. W.E. Reed North Carolina A&T State University	-	-	One-month workshop with field tours
Agricultural production and training in Togo	Opportunities Industrialization Center International	Dr. G. Robinson	-	-	A two-weeks workshop for two people with field tours
Training of researchers in LDCs.	East-West Center Hawaii	Same as above	-	-	Position paper
Soil resource inventory for small farmers	Cornell University 211(d) Program	Same as above	-	-	Position paper
Soil problems of the tropics	Geog. Dept. Texas A&M	Dr. C. Kemper	-	-	Lecture Position paper
Range management in live-stock production	USAID Upper Volta	Mr. H.G. Hogand	-	-	Recommendations and List of available Personnel
Data on land use and management of savanna soils	International Training Center for Post-Graduate Soil Scientist, Ghent Belgium	Dr. R. Langohr	-	-	Information Exchange

DESCRIPTION OF REQUEST	WHOM DID YOU ASSIST	WHO REQUESTED ASSISTANCE	WHO FUNDED ASSISTANCE	SIZE OF EFFORT DOLLARS, MAN DAYS	RESULTS OF ASSISTANCE
Information on development problems	The Institute of Development Studies, Sussex, England	Mr. M.H. Rogers	-	-	Position Paper
Training program in international agriculture	International Affairs Office, Ohio State University	Mr. T. C. Quick	-	-	Information Exchange
Information on Grass Roots Institution Building	Ms. S. Kinderratter Washington, D.C.	Ms. S. Kinderratter	-	-	Position Paper
Training of field researchers in LDCs	Agricultural University Department of Soils, Punjab, India	Dr. R.S. Narang	-	-	Information Exchange
Technology transfer to small farmers in the tropics	T.V. Channel 13 Houston, Texas	Ms. L. Brown	-	-	A fifteen minutes show
Copies of proceedings of tropical soils workshop	International Programs, University of Kentucky	Ms. N. Stroup	-	-	Information Exchange
Transferring technology to small farmers worldwide	Texas Agricultural Extension Service	Dr. J.I. Mallett	-	-	A fifteen minutes presentation at press day
Tropical soils workshop	African-American	Dr. H. J. Walter	-	-	

DESCRIPTION OF REQUEST	WHOM DID YOU ASSIST	WHO REQUESTED ASSISTANCE	WHO FUNDED ASSISTANCE	SIZE OF EFFORT DOLLARS, MAN DAYS	RESULTS OF ASSISTANCE
Tropical soils management for livestock production	African-American Scholars Council, Inc. Washington, D.C.	Dr. E.P. Skinner	-	-	Information Exchange
Technology transfer in the Sahel	AFRICARE Washington, D.C.	Dr. J. Kennedy	-	-	Information Exchange
Preparing scientists for international development	Colorado State University	Dr. R. L. Zimdahl	-	-	Position Paper
Information on delivery systems for small farmers	Development Communication Washington, D.C.	Dr. J.D. Greeley	-	-	Information Exchange
Transfer of Technology to Small Farmers in Peru	State Department/AID Washington, D.C.	Mr. M. Chatman	-	-	Information Exchange

adaptive tropical soils research that will have a direct and immediate impact on the small farmers via the delivery system.

I. INVOLVEMENT OF MINORITY PERSONNEL AND WOMEN

Ethnic groups and women involved in the 211(d) grant at Prairie View A&M University are as follows:

<u>Ethnic Groups</u>	<u>Number</u>
West Indian	1 -
Caucasian	1 -
Black	12 -
<u>Sex</u>	
Female	4
Male	10

TABLE 5
211(d) EXPENDITURE REPORT
JULY 1, 1976 TO JUNE 30, 1977

I. SALARIES		
A. Academic	J. B. Collins (75%)	\$ 16,200.00
	E. A. Brans (50%)	10,800.00
	E. McKenzie (25%)	5,250.00
B. Other	Clerical	4,000.00
	Bi-weekly	1,100.00
	Student Asst.	1,200.00
C. Fringe Benefits		2,839.56
II. Graduate Student Support		4,800.00
III. Consultants		700.00
IV. Travel (Foreign - 10, Domestic - 10)		14,697.05
V. Equipment		1,300.16
VI. Library Acquisitions		1,280.55
VII. Other (telephone, postage, supplies)		<u>1,164.46</u>
	TOTAL	\$ 65,331.78