Proposal for Continuing Support under the Agency for International Development Institutional Grants Program

Applicant:	Prairie View A & M University
Date:	August 1975
Grant Title:	Adaptation and Delivery of Soil Management Technology for the Small Farm
Amount and Term of Original Grant plus Amendments:	June 30, 1970 to Nov. 1, 1975 $500,000
Amount and Term of Proposal:	$400,000 extended to Nov. 1, 1977
AID Sponsoring Technical Office:	Office of Agriculture, Bureau for Technical Assistance

Grant Project Statement

211(d) Institutional Grant

Prairie View A & M University

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INSTITUTIONAL GRANT PROJECT STATEMENT
Extension/Revision
Prairie View A & M University
AID/csd-2836
Adaptation and Delivery of Soil Management
Technology for the Small Farms

I. RELEVANCE OF PROBLEM AREA AND NEED FOR EXPERTISE

In most LDCs modern agricultural technology has been focused on the large farms and productivity on these farms has risen steadily during the past decade. However, there are countless millions of small farmers who have not benefitted from this technology and their agricultural productivity as a result has remained unchanged through the years and continues to be at a very low level. As population pressures (numbers and aspirations) in LDCs increase their arable land will require greater input of technology to increase food production lest mass starvation and unrest ensue.

One of the world's greatest resources is the small farmer and the most challenging frontier of technology is the intensification of the productivity of land owned and occupied by these farmers. If the small farmer is to understand and utilize the new technology at all, the technology must be repackaged and delivered in a form that is acceptable to him. It is naive to think that technology in the present form can improve the lot of the poor. The new focus must be on the farmer in facilitating his decision making capability for the management of his available resources rather than making the decision for him as are presently being done. This capability forms one of the most stable and important bases in the development process in any nation. Develop-

ment is, essentially, the farmer's problems and his endeavor, and will only be successful if he is its central actor and his environment is the site of the change process. The farmers have rights, pride and tradition, unique behavior and aspiration. They are not an amorphous lot called "LDCs", "recipients", "villagers" or subsistence farmers. They are individuals.

Land is the basic national resource of all LDC people and its proper use is essential if it is to produce adequate food on a continuing basis. It is important, therefore first to develop and test the adaptability and delivery of modern soil management technology for the small farmer. A U.S. institution with background and experience in both the soil management field and of relating with small farmers is needed to study the system in one or more LDC countries. The test program will build U.S expertise for initiating knowledge transference activities in LDCs in other fields as well.

II. GRANTEE PERFORMANCE AND RESULTS TO DATE

Prairie View has taken full advantage of the past grant period in building institutional response capability base in the field of tropical soils. It has built a core staff, a graduate program, added new courses, improved the library and information system, and has acquired an overall dimension for international agriculture. Participation in soils workshops, seminars, synthesis of world literature, and on-site visits to savanna areas and experiment stations in the tropics have greatly enriched the staff's knowledge and experience in soils of the tropics. The University has, in a generalized way, increased its understanding

and familiarity of savanna prairie ecosystem and parameters that delineate savannas. They have classified the major constraints as follows: overgrazing, soil erosion, soil fertility, burning and water management.

Within the College of Agriculture there is a great deal of interdisciplinary cooperation. There is a close working relationship between the Department of Soils and the Extension Service at Prairie View. The Extension Service is very active in working at venues to system delivery and adaptive technology for the small farmer in Texas. They have observed that para-professionals are an efficient change agent and form a key element in any delivery system for small farmers in Texas. Prairie View is attempting to formulate a basic approach to agricultural development for the poor that may be called "Grass Root Institutional Development" (GRID) system and will be used as a guide to develop an efficient delivery system for LDCs. In that effort many faculty members from College of Agriculture, College of Home Economics, Department of Economics and Department of Biology are working together.

Prairie View has linked with other institutions in research, teaching and delivery. For example, Prairie View has conducted joint research projects in peanut culture, forage selection, vegetable culture, phosphorus fertilization of corn and competency-based instructional models with Texas A & M University and Branch Experiment Stations in Texas, University of Hawaii, the Asian Vegetable Center in Taiwan and the University of Houston. Prairie View has linked with other land grant institutions and the U.S agencies (TVA, USDA) that have a particular

interest in the rural poor. Major linkages have been established with other members of the Tropical Soils Consortium, and CID (the water consortium). During the past four years the 211'd) team visited two international centers (IITA, CIAT) and visited and corresponded with numerous scientists, institutions and organizations in LDCs. As a result of the expertise and confidence developed under the grant program, a number of organizations (both profit and non-profit) have shown interest in utilizing Prairie View's competence in the international sphere.

III. GRANTEE COMMITMENT TO LONG-TERM INVOLVEMENT

Prairie View has a history of working with small farmers in Texas. The grant revision and extension will in fact enlarge and exploit the basic and unique natural strength which Prairie View has in working with the poor for the development of the LDCs. Its history of involvement in the international work goes back mary years. In the 1950's the university conducted numerous AID workshops for participants interested in agricultural technology and development. These participants came from countries in Africa, Asia, South America and the Caribbean. Prairie View participated in the establishment, development and administration of Booker T. Washington Technical Institute at Harvel, Liberia in the 1950's. Dr. A. I. Thomas (current chief executive), Dr. E.B. Evans (past chief executive) and Dr. G.L. Smith (past Dean for Agriculture) were instrumental in establishing and implementing this international program. Dr. Evans served as a State Department Point-4 consultant in developing a program for improved health conditions, livestock disease control and increased food production in North Africa and the Middle

East. In addition, Dr. Evans received the 1953 Hoblitzelle Achievement award for the advancement of Texas Rural Life. The University has years of experience in organizing and developing practical programs of education. In its early history, Prairie View learnt to work with limited funds, with meager resources and facilities, with equipment procured from expediency and with people of limited education and means. Similar conditions exist in many LDC countries. The history of the university and the university's current involvement will enable Prairie View toward becoming the center of U.S. institutional competence in delivery of soil management technology to the small farmer in LDCs.

In projecting its mission for the future, Centennial Council of Texas in 1970 recommended that Prairie View A & M University continue to keep "PEOPLE" as its most important effort. Through its philosophy of providing assistance to developing people Prairie View has a long-term commitment to international development. The administration and staff are naturally committed to long-term involvement since the university has always focused on the rural poor. Prairie View is located in a rural area in the sub-tropical grasslands of southeast Texas, with a high density of small farmers surrounding the university campus.

Domestic programs at the university funded by agencies such as the USDA Cooperative Research Service, Texas Agricultural Experiment Station, USDA Extension Service, NASA and the Kellog Foundation are either focused on the rural poor or give support to efforts to help the rural poor. The University also contacts organizations, such as the World Bank, Ford Foundation and the Rockefeller Foundation, to obtain alternative sources

of financial support and possibly some shared-cost arrangement.

Prairie View has historically targeted on the poor and disadvantaged segment of society, particularly the rural poor. Since it has always focused on the rural poor, Prairie View's interest coincides with AID's interest in improving the quality of life of the poor, small farmer in LDCs.

Prairie View has a strong commitment to assist AID in its program needs. The administration is interested and supportive of the international program. The 211(d) staff is committed to international involvement and will respond readily to AID's request for expertise and technical assistance.

IV. RATIONALE FOR REVISION/EXTENSION

The base for national development in LDCs is an economically strong small farmer who makes up nearly 80% of the food production sector. Yet, the sad situation remains that his per capita agricultural production has barely improved during the past decade. At the same time the GNP of the LDCs has risen fairly satisfactorily compared to the developed countries. Hence, AID and LDCs have become increasingly concerned about improving the lot of the small farmer. Many LDCs also face a problem of unemployment. Small farm, labor-intensive agriculture is a feasible route to increasing production to an adequate level and keeping the people gainfully employed. However, a major constraint to development has been ineffective and inefficient systems for delivery of agricultural technology to the small farmer.

A delivery system for the small farmer has not been clearly de-

lineated and described. Individual projects have been reported on and evaluated, but little effort has been made to compare and examine alternative means for administering delivery, for choosing and educating change agents and farmers, for using media and interpersonal communication techniques, and for establishing linkages from the delivery system to supports in the social and economic system. There is no center of competence in the U.S. upon which AID can call for assistance in delivering agricultural technology to the poor, small farmer in LDCs. Hence, there is a need for a center of competency in delivery, and an interdisciplinary team familiar with the experiences of delivery in previous development projects, and interest in and empathy for the small farmer in LDCs. The ultimate goal of establishing competence in delivery would be to answer the need in LDCs for a mechanism to channel innovations to the small farmer.

Prairie View will always allocate a major portion of its resources to programs designed to help people of limited resources. The University had identified several unique and innovative plans for developing and utilizing its resources, commitment, capabilities and funds in the continuation and expansion of this type of program. For example, it will assume part or all of the salaries of personnel involved in grant activities. To give support to the proposed grant, Prairie View plans to increase the Soil Science Department by three new staff members whose salaries will be assumed by the university.

If and when the grant support ends, Prairie View plans to solicit the assistance of private funding agencies, philanthropic organizations and federal bodies for funding to continue the program. Funds for

development activities in LDCs are sometimes available from sources other than AID, but they are generally not sufficient to allow the University to develop and retain the competency needed by AID in international development work.

V. REVISED GRANT PROJECT DESIGN

The grant will allow Prairie View A & M University to develop and utilize its institutional capability with regards to delivery systems, thereby providing a mechanism by which agricultural technology and practices can be effectively adapted and utilized by small farmers in LDCs, with specials emphasis on the countries in Central West Africa. A large portion of the increased capability generated by the grant will be devoted to aiding the small farmer to improve his situation. Envisioned here is an innovative mechanism which will affect the acceptance of improved soil management practices by the farmer that remove constraints to higher food production. The mechanism will necessitate production of educational materials, training of professionals and para-professionals, synthesizing and adapting the new technology to local conditions and developing appropriate working relationships in the LDCs. The expected outputs generated by the grant extension can be grouped into the following catagories:

1) Expanded Knowledge Base: Research and study programs on procedures, techniques and policies for adaptation and delivery of soil management technology to optimize food production and economic development will be conducted but with emphasis on small farmers in LDCs, especially in Central West Africa. To identify areas where adapted tech-

nology and principles can be transferred and brought to bear on the land development and management, state-of-the-art of delivery systems will be initiated both in densely and sparsely populated areas. Migratory or tribal relationships will not be ignored in such a program. These studies will involve an analytical review of the people, problems of land management, past and present practices to produce food and setting forth key constraints and guidelines to affect improvement of the area under consideration.

These studies will be done by literature review by consultation with appropriate LDCs, AID field personnnel and international organizations, and in cooperation with sister tropical soils universities in a thorough review of all available sources of information and expertise. They will be published in a language understandable and useful to the non-technician and in sufficient quantities for extensive distribution to LDCs and the world-wide network of concerned institutions. These studies will effectively and usefully involve senior faculty and graduate students in work relevant to the grant purpose and, in the process produce products useful to the Institution, AID, other donors, and the LDCs.

2) Education and Training: A program specifically addressed to problems of LDCs will be developed with special emphasis on non-degree training for decision-makers and technicians. This will include short courses, workshops and seminars on campus and at specific sites in LDCs. The training will focus on techniques of delivery and the education of the change agent in the delivery system. A strategy for developing the total delivery system program will be formulated at

Prairie View in an interdisciplinary fashion; with complete cooperation of the Extension Service and in consultation with AID and the "Consortium on Soils of the Tropics" (COST). Prairie View will work with COST, CID (water consortium) and other U S. institutions to tap all relevant U.S. soil management technology developed over the years for possible processing through the Prairie View delivery system for LDC use. At appropriate times Prairie View will visit counterparts in a given LDC(s) to refine its delivery system prior to actual field testing and before needed training facilities are installed on the campus.

3). Advisory Capacity: To have the required flexibility to respond quickly and adequately to requests for technical assistance to LDCs, Prairie View will make available faculty members from the Department of Soils and its Extension Service. Additional staff members will be added to the present faculty to accomplish the output defined in this grant and to provide release time for other faculty. The grant will also fund a small amount, not to exceed $10,000 per year, for consultancy time to be provided in emergency situations where individuals are needed on very short notice and when other instruments cannot be used without causing unacceptable delay.

During the time when staff is not on a consulting assignment overseas, the staff will work on all such activities which pertain to improving the mechanics of the delivery system and its technology base. Prairie View will periodically review and appraise the implications of its delivery system on LDC development processes for AID and other donor Agencies.

4). Information Capacity: To develop an effective means for assistance in the transfer of knowledge, Prairie View will maintain an up-to-date information center in its special competence - delivery system(s) for agricultural technology (soil management) to reach the small farmers, especially in LDCs. The Center will collect, evaluate and disseminate information useful to LDCs in their effort to improve the quality of life of the small farmers. It will issue a quarterly newsletter and distribute it to an international audience to help inform them of the progress that is being made in the subject field in various parts of the world. Prairie View will take steps to integrate its information center with those of the COST and CID as well as of AID, FAO and other systems in order to gain wider access to the pertinent information.

Prairie View will make a special effort to obtain published and unpublished information from the LDCs on soil management practices that have been in use over an extended period and make an analysis of their significance to LDCs in light of the latest technology and options.

5). Linkages and Networks: Relationships with a network of domestic, international and LDC organizations will be strengthened and maintained for the purpose of collaborating in a joint problem-solving approach, developing cooperative programs, initiating faculty exchange and becoming involved in information exchange and dissemination. The important domestic linkages include COST and CID. The University will attempt to establish a close linkage with the University of California at Riverside. The latter, under AID grant, is developing its capability

'n the area of moistrue conservation for Sahelian region in Africa. Linkages with African institutions will be expanded as the pilot work is extended to evaluate the subject delivery system.

To maximize subject field utilization in LDCs the University will spend at least 2 man-months per year (2 people, a month each) with AID/ Washington to: a) sufficiently understand AID short term and long term goals, b) explain updated institutional response capabilities to the Bureaus, and c) establish smooth personal linkages with the Bureau personnel.

The proposed budget shown below by inputs and program categories is subject to detailed negotiation with the University, will fund the activities and outputs described above for a two-year period, i.e., until November 1977. At the mid-term, the utilization rate and need for additional grant support, if any, will be reviewed.

Total Estimated Cost, by Outputs and Inputs (November, 1975 to November, 1977)

Inputs		Outputs	
Salaries	$180,000	Knowledge base	$160,000
Supplies, Equipment and materials	55,000	Research capability	40,000
Student Assistants	30,000	Education and Training	100,000
Library holdings	20,000	Advisory capability	50,000
Travel	80,000	Linkages and Networks	50,000
Language capability	10,000		
Publication	25,000		
	$400,000		$400,000

While Prairie View A & M University strives to obtain additional sources of funding for programs designed to help people of limited resources, AID funding for the proposed grant is needed to utilize the institutional capability on the international level at the initial stages. However, the need for 211(d) funding in the subject matter area is expected to decrease as utilization of Prairie View's response capability increases. The university is expected to remain committed even after the grant expires, and its data bank advisory and consultant service, and the expanded graduate program will become an integral part of the university. During the extension period Prairie View will assume: 1) part or all of the salaries of personnel involved in the grant activities, 2) all indirect costs of the program, and 3) the expenses of classroom, library, laboratory, maintenance, greenhouse and field plots, office space, and administrative cost. In addition, Prairie View anticipates the addition of three new staff members to the Soil Science Department whose salaries will be assumed by the university. A research project ("Management of Texas Coastal Prairie Soils for Intensive Crop Production by the Small Farmer") proposed by the Soil Science Department has just recently been approved for funding by the Cooperative State Research Service of the USDA.

VI. COMPLEMENTARY ACTIONS AND MANAGEMENT CONSIDERATION

The proposed grant is a revision of the current 211(d) grant at Prairie View and is supportive of a large package of AID centrally funded activities in soil and water management in LDCs. In fact, the proposed grant provides a mechanism whereby worldwide scientific capability can be transformed into LDC farmers capability for increased food production.

Prairie View will confer with North Carolina relative to its extensive experience in soil fertility and soil testing in Latin America, Puerto Rico and Hawaii relative to the Benchmark Soils Project and tropical soil mineralogy; University of California and Oregon State relative to dry land farming; CID relative to water management; the Publa project relative to training programs; the international institutes relative to adaptive research and outreach programs; the World Bank relative to its efforts with the small farmer; the African Bureau relative to a site for testing the delivery system; Cornell relative to its work with management systems for tropical soils; TVA relative to producing fertilizers for the tropics; University of Massachusetts relative to non-formal educational programs in LDCs and Rice University relative to to income distribution in LDCs. Prairie View will also confer with both foreign and national organizations, institutes and scientists in LDCs. The information and recommendations obtained from the linkages can be synthesized and included in a delivery package.

Periodic meetings and frequent correspondence between Prairie View A & M University and AID officials are necessary to assess progress toward achieving the objectives of the program. This will allow both parties to make adjustments if necessary. Annual and special interim reporting will be an intergral part of the program.

The ultimate test of the effectiveness of the program will be Prairie View A & M University's institutional response capability in delivery of soil management technology to small farmers in LDCs with emphasis on savanna-prairie ecosystems.

The focal point within AID for technical, substantive, and managerial aspects of this grant will be the Soil and Water Management Division, Office of Agriculture, Technical Assistance Bureau (TA/AGR). Liaison with the University will be through the Grant Project Officer, Dr. Tejpal S. Gill. Contacts with AID Missions will be handled through TA/AGR and appropriate Bureaus, and the University will initiate and sustain contacts with other research and educational institutions, both within the U.S. and abroad, on a direct basis.

Demand imposed on AID offices, other than TA/AGR, by management of the grant should be quite limited. Regional Bureaus and field personnel will, however, be contacted for advice and consultation on research, state-of-the-art, and training aspects and invited to participate in grant-sponsored activities.

The grant should continue to be centrally funded and managed to take advantage of cooperative relationships with the related centrally funded and managed programs, to permit a global sphere of influence and study, to allow for interregional coordination and cooperation among agencies and international centers, and to facilitate management within AID.