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UNCLASSIFIED

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
Washington, D. C. 20523

PANAMA

PROJECT PAPER

EDUCATION FOR RURAL DEVELOPMENT

LAC/DR:81-8

Project Number:525-0219

UNCLASSIFIED

<b>AGENCY FOR INTERNATIONAL DEVELOPMENT</b> <b>PROJECT DATA SHEET</b>	<b>1. TRANSACTION CODE</b> <input type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number _____	<b>DOCUMENT CODE</b> 3
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<b>2. COUNTRY/ENTITY</b> PANAMA	<b>3. PROJECT NUMBER</b> 525-0219
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<b>4. BUREAU/OFFICE</b> LAC	<input type="checkbox"/> 05	<b>5. PROJECT TITLE (maximum 40 characters)</b> EDUCATION FOR RURAL DEVELOPMENT
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<b>5. PROJECT ASSISTANCE COMPLETION DATE (PACD)</b> MM DD YY 08 31 84	<b>7. ESTIMATED DATE OF OBLIGATION</b> (Under 'B.' below, enter 1, 2, 3, or 4) A. Initial FY <u>81</u> B. Quarter <u>4</u> C. Final FY <u>81</u>
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8. COSTS (\$000 OR EQUIVALENT \$1 = )						
A. FUNDING SOURCE	FIRST FY <u>81</u>			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
<b>AID Appropriated Total</b>						
(Grant)	( 444 )	( 46 )	( 490 )	( 444 )	( 46 )	( 490 )
(Loan)	( )	( )	( )	( )	( )	( )
<b>Other U.S.</b>						
1.						
2.						
Host Country		231	231		231	231
Other Donor(s)						
<b>TOTALS</b>	444	277	721	444	277	721

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FN	622-B	631				490		490	
(2)									
(3)									
(4)									
<b>TOTALS</b>						490		490	

<b>10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)</b> 968      620      963	<b>11. SECONDARY PURPOSE CODE</b>
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<b>2. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)</b>							
A. Code	BS	R/AG	R/ED				
B. Amount	280	241	200				

**3. PROJECT PURPOSE (maximum 480 characters)**

To improve the quality of technical training currently received by agricultural students of the University of Panama's Faculty of Agronomy.

<b>14. SCHEDULED EVALUATIONS</b> Interim MM YY <u>12 82</u> MM YY _____    Final MM YY <u>08 84</u>	<b>15. SOURCE/ORIGIN OF GOODS AND SERVICES</b> <input checked="" type="checkbox"/> 000 <input type="checkbox"/> 941 <input checked="" type="checkbox"/> Local <input type="checkbox"/> Other (Specify) _____
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**6. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a \_\_\_\_\_ page PP Amendment.)**

<b>17. APPROVED BY</b>	Signature	Date Signed MM DD YY <u>06/11/81</u>	<b>18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION</b> MM DD YY 
	Title Aldelmo Ruiz, Director, USAID		

## INSTRUCTIONS

The approved Project Data Sheet summarizes basic data on the project and must provide reliable data for entry into the Country Program Data Bank (CPDB). As a general rule blocks 1 thru 16 are to be completed by the originating office or bureau. It is the responsibility of the reviewing bureau to assume that whenever the original Project Data Sheet is revised, the Project Data Sheet conforms to the revision.

**Block 1** - Enter the appropriate letter code in the box, if a change, indicate the Amendment Number.

**Block 2** - Enter the name of the Country, Regional or other Entity.

**Block 3** - Enter the Project Number assigned by the field mission or an AID/W bureau.

**Block 4** - Enter the sponsoring Bureau/Office Symbol and Code. *(See Handbook 3, Appendix 5A, Table 1, Page 1 for guidance.)*

**Block 5** - Enter the Project Title *(stay within brackets; limit to 40 characters)*.

**Block 6** - Enter the Estimated Project Assistance Completion Date. *(See AIDTO Circular A-24 dated 1/26/78, paragraph C, Page 2.)*

**Block 7A.** - Enter the FY for the first obligation of AID funds for the project.

**Block 7B.** - Enter the quarter of FY for the first AID funds obligation.

**Block 7C.** - Enter the FY for the last AID funds obligations.

**Block 8** - Enter the amounts from the 'Summary Cost Estimates' and 'Financial Table' of the Project Data Sheet.

**NOTE:** The L/C column must show the estimated U.S. dollars to be used for the financing of local costs by AID on the lines corresponding to AID.

**Block 9** - Enter the amounts and details from the Project Data Sheet section reflecting the estimated rate of use of AID funds.

**Block 9A.** - Use the Alpha Code. *(See Handbook 3, Appendix 5A, Table 2, Page 2 for guidance.)*

**Blocks 9B., C1. & C2.** - See Handbook 3, Appendix 5B for guidance. The total of columns 1 and 2 of F must equal the AID appropriated funds total of 8G.

**Blocks 10 and 11** - See Handbook 3, Appendix 5B for guidance.

**Block 12** - Enter the codes and amounts attributable to each concern for Life of Project. *(See Handbook 3, Appendix 5B, Attachment C for coding.)*

**Block 13** - Enter the Project Purpose as it appears in the approved PID Facesheet, or as modified during the project development and reflected in the Project Data Sheet.

**Block 14** - Enter the evaluation(s) scheduled in this section.

**Block 15** - Enter the information related to the procurement taken from the appropriate section of the Project Data Sheet.

**Block 16** - This block is to be used with requests for the amendment of a project.

**Block 17** - This block is to be signed and dated by the Authorizing Official of the originating office. The Project Data Sheet will not be reviewed if this Data Sheet is not signed and dated. Do not initial.

**Block 18** - This date is to be provided by the office or bureau responsible for the processing of the document covered by this Data Sheet.

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON D C 20523

PROJECT AUTHORIZATION

Name of Country: Panama  
Name of Project: Education for Rural Development  
Number of Project: 525-0219

1. Pursuant to Section 105 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Education for Rural Development project for Panama (the "Cooperating Country"), involving planned obligations of not to exceed Four Hundred Ninety Thousand United States Dollars (\$490,000) in grant funds ("Grant") over a three (3) year period from the date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.
2. The project ("Project") consists of a pilot effort which will design, test and adapt an applied field practicum along with changes in the existing university curriculum in a program to relate undergraduate training more closely to the needs of Panama's agricultural sector.
3. The Project Agreement, which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

Source and Origin of Goods and Services

Goods and services, except for ocean shipping, financed by A.I.D. under the Project shall have their source and origin in the Cooperating Country or in the United States, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the Project shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States.

*Amos W. Brown*

Acting Assistant Administrator  
Bureau for Latin America  
and the Caribbean

*Aug 6, 1981*  
Date

**Clearances:**

GC/LAC:BVeret: *BV* date *8/2/81*  
LAC/CEN:WLuken: *WLu* date *7/2/81*  
LAC/DR:MBrown: *MB* date *7/2/81*  
LAC/DP:JP *JP* date *8/3/81*  
GC/LAC:DAAdams:ckg:7/29/81:23272

**EDUCATION FOR RURAL DEVELOPMENT PROJECT  
USAID/PANAMA**

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## ANNEXES

### **Annex I STANDARD ATTACHMENTS**

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Exhibit C	DAEC Cable with Mission Comments
Exhibit D	Draft Project Authorization
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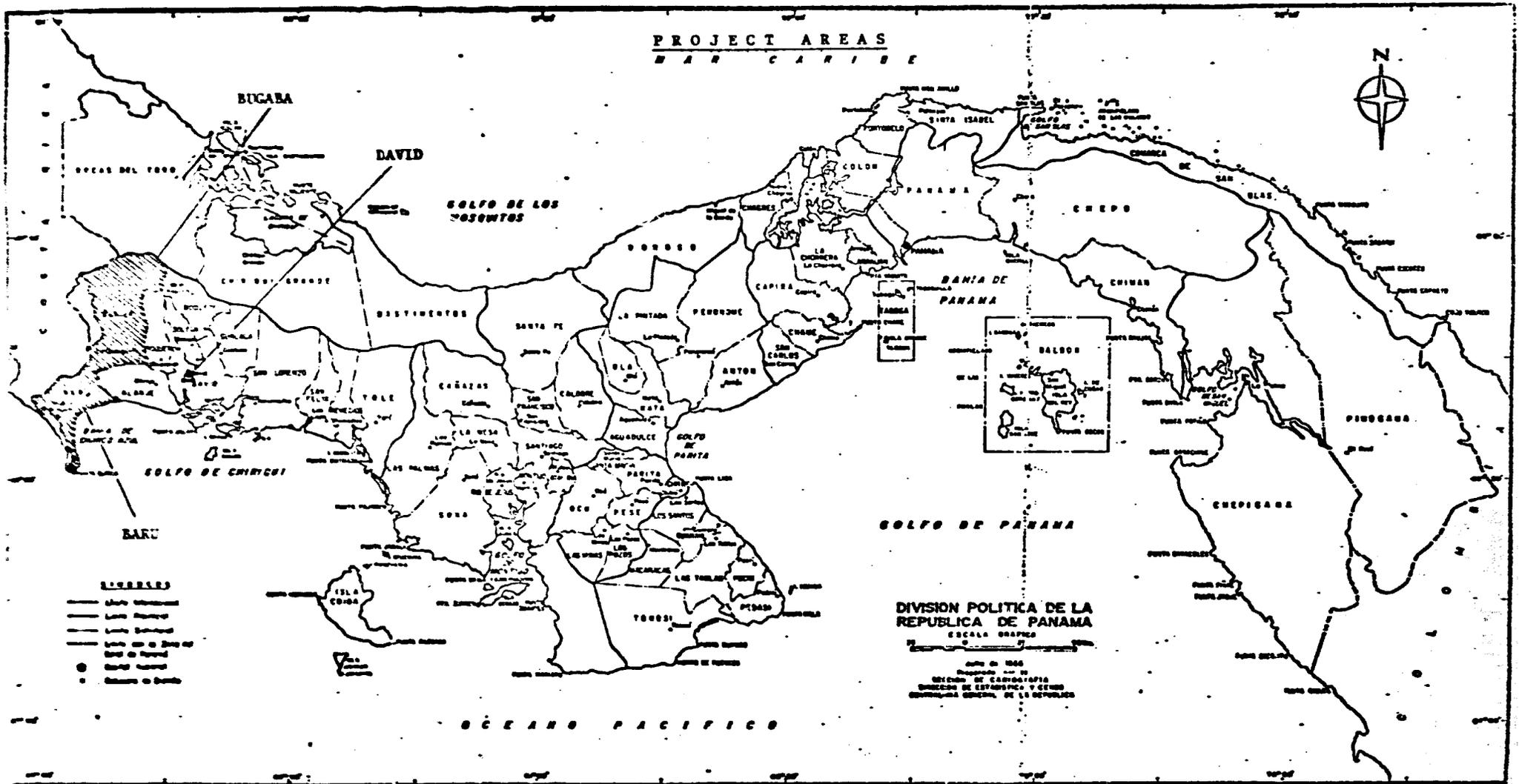
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### **Annex III DETAILED DESCRIPTION OF THE STUDENT BODY PRACTICUM**

### **Annex IV THE SOCIAL AND ECONOMIC CHARACTERISTICS OF BARU AND BUGABA DISTRICTS**

### **Annex V FINANCIAL ANALYSIS**

### **Annex VI TIME PHASED IMPLEMENTATION PLAN**



## SUMMARY PROJECT DESCRIPTION

### A. Recommendations

USAID/Panama recommends authorization of a Grant for \$490,000 to provide assistance to the Faculty of Agronomy, University of Panama. Due to planned contractual commitments the Grant is to be fully funded in FY 1981.

### B. Summary Goal and Purpose Statement

The goal of the Education for Rural Development project is to help strengthen the University of Panama's role and contribution to the country's agriculture sector development. The broader aim is to improve the income and welfare of the rural poor in Panama.

More specifically, the Education for Rural Development Project is intended to upgrade the quality of technical instruction currently furnished to agriculture students of the Faculty of Agronomy, University of Panama. This objective will be achieved through the design, testing and adaptation of new training approaches aimed at familiarizing agriculture students with the real-life problems and needs of farmers, especially small farmers in Panama.

### C. Grantee and Executing Agency

The Grantee will be the University of Panama. The Executing Agency will be the Faculty of Agronomy within the School of Agronomy and the Agricultural Investigation Center.

### D. Project Description and Rationale

This project will support the University of Panama's continuing efforts to improve the quality of trained agriculturalists and thereby, better meet the needs of Panama's agriculture sector. This will be achieved by developing, testing and adapting an improved training curriculum for fifth year agricultural students.

The Project will finance technical assistance, training, administrative support costs, and vehicles necessary to achieve the above-stated objectives. Total project funding is \$721,000 with AID contributing \$490,000 in grant funds.

The Education for Rural Development Project (ERD) is an integral part of the Mission's agriculture strategy as described in FY 1983-1987 Country Development Strategy Statement (CDSS). If successful, the project will serve to ease the shortage of trained agriculturalists to support various agricultural projects funded by AID. The types of new curriculum to be tested will involve direct contact with and support to small farmers over a period of five months. It is felt that after

gaining first hand knowledge of small farmer problems, and developing a greater sensitivity to usual conditions in general, agriculture graduates will be able to contribute more to programs concerned with raising small farmer productivity and income.

E. Summary Findings

The project responds to a critical need in Panama to upgrade the capabilities of agriculture students so as to improve their overall contribution to agriculture sector development. The Project has been found to be technically, economically and financially sound and ready for implementation. All relevant statutory criteria have been met.

F. Terms, Conditions and Covenants

The standard conditions and covenants associated with AID grants are proposed.

G. Project Development Team

This project was developed through the close collaboration of USAID/Panama, the Faculty of Agronomy and consultants from the University of Delaware. Contributions to the design of the project were made by the following individuals:

USAID/Panama

Dwight Walker, ABD - Project Manager  
 Douglas Arnold, CONT  
 L. Harlan Davis, ABD  
 John Champagne, ABD  
 Robert Hechtman, ODP  
 Steve Ryner, ODR

ODP/Faculty of Agronomy

Dr. Rodolfo Alemán  
 Dean Gilberto Ocaña  
 Dean Ezequiel Espinoza

Consultants

Dean Donald Crossan, University of Delaware  
 Dr. Charles Curtis, University of Delaware  
 Dr. Harry Brautigan, University of Delaware

**II. BACKGROUND**

A. Overview of Panama's Agriculture Sector

Although Panama is best known for its international trade and

commerce, agricultural production accounts for almost one-fifth of the gross national product, employs about 30 percent of the labor force and generates nearly one-half of the country's merchandise export total. The agricultural sector is characterized by two distinct production and marketing systems; 1) a commercial system which employs modern methods and is oriented to both national and international markets, and 2) a subsistence sector which employs basic and, largely, outmoded technologies, and is limited to local markets or farm family consumption. Many of the country's most important industries and commercial operations depend heavily on the processing and marketing of farm products, making food and fiber production one of Panama's most important economic activities. The significant role played by commercial agriculture in Panama's economy is expected to continue at near current levels for the foreseeable future.

Throughout most of the decade of the 1960's, the agricultural sector grew at an average annual rate of approximately 5 percent. Export crops, particularly bananas accounted for much of this growth. On the other hand, the production of basic foodstuffs for domestic consumption grew at less than half the annual rate and, overall, the level of agricultural production fell far short of meeting the country's food needs. Panama's declining agricultural production in the face of strengthened international competition and falling prices for traditional export commodities, coupled with the rising cost of food imports, has contributed to inflationary pressures within the economy as a whole, and forced increased expenditure of foreign exchange to obtain needed amounts of essential foodstuffs to feed an expanding population. Therefore, unless steps are taken to reverse local production trends, Panama will continue to depend on costly imports to meet an increasing percentage of its basic food needs. Given these conditions and the less than encouraging projections for the immediate future, efforts to improve agriculture sector performance are now receiving considerable attention throughout the Government, the private sector and academic circles.

Various reasons account for Panama's poor agricultural performance in recent decades. These include such factors as physical limitations of the land (i.e., poor soil), the lack of a well-conceived and financed national agricultural strategy, poor organization, coordination and management among agricultural sector institutions, an agricultural pricing policy which favors the consumer at the expense of the producer, outdated farming practices, inadequate research for on-farm use, and the near total absence of extension services to transmit improved farming techniques to the country's food producers.

In addition, to the aforementioned, there is widespread agreement among Panamanians and within the donor community, that the acute shortage of qualified, experienced agricultural specialists at all levels and in the various disciplines constitutes one of the most critical deficiencies inhibiting agriculture sector growth.

In the past, AID has attempted to overcome the professional manpower gap in the agriculture sector through individual projects and, more recently, with funding from the \$1.8 million dollar Training for Development grant. While these efforts have been useful in developing technical and administrative skills of project-connected personnel, they have relied heavily on costly, extended and, at times, overly-sophisticated training abroad. Relatedly, the emphasis on overseas training has tended to discourage attempts to upgrade local institutions training programs. Given the ever rising costs of foreign training and the reluctance of many institutions to make key staff members available for two or more years certain advantages are now seen in helping develop local university training programs.

#### B. The University of Panama and the Faculty of Agronomy

For a variety of historical, geographic and political reasons, most of the development that occurred in Panama until fairly recently was limited to the Canal corridor. Due to the isolated nature of the country's interior before 1960, and the disproportionate share of political, commercial, economic and cultural power directed towards the Canal area, it was not until 1959 that the Faculty of Agronomy, as currently organized, was established at the University of Panama within the Faculty of Natural Sciences and Pharmacy. In reality, the Faculty was established in response to pressures from commercial producers and certain elements of the Panamanian bureaucracy. Because of the influence of these groups, the curriculum that was developed became highly theoretical and academic rather than oriented to the practical needs of medium and small producers.

In its preoccupation with the theoretical and academic aspects of the educational process, the faculty's curriculum generally reflected the educational value system inherited from the Spanish. It was not until the mid-1970's, well after the "Revolutionary Government" came into power, that the traditional focus of Panama's educational system came under intensive review by the Government. As a result of this review and with assistance from AID, a \$13.5 million Education Sector loan (043) was established to help reform the primary and secondary educational system, in an effort to make it more relevant to current and future Panamanian development needs. This same reform process was not extended to University level training, however, and while some changes have occurred in the faculty's program since 1968, the curriculum is still largely theoretical and classroom-oriented. Despite the difficulties in altering the traditional approach to higher level education, there have been continued efforts by the Faculty, the University and the Government to explore ways in which the University's agriculture curriculum can be made more responsive to sector needs.

Thus, it has become evident that most of those who receive the "Ingeniero Agronomo" degree are not adequately prepared to deal with the practical, day-to-day problems associated with improving farming methods

and raising agricultural productivity. Given their largely theoretical education, followed by the time-consuming process of on-the-job training, there is a prolonged and costly delay before most agriculture graduates are able to make a meaningful contribution to the sector. Therefore, it is felt that a modest investment directed toward improving the current agricultural curriculum can be most beneficial by strengthening the qualifications of university graduates and, ultimately, contribute to improved agriculture sector performance.

In addition to the generally agreed upon need to more closely relate academic instruction to agricultural needs and problems at the source, the University of Panama has recently begun the process of moving the Faculty of Agronomy to David, the capital of Chiriqui province, and the center of Panama's most productive agricultural area. This move represents a major decision and a significant break with past university policy which has seen the selection of the majority of Panama's agriculturalists from the capital (Panama City) area, far distant from the country's principal agricultural zones. The Faculty's transfer to Chiriqui however, follows the Government's own program of decentralization which began several years ago with the transfer of the Ministry of Agriculture from Panama City to Santiago, some 200 miles away.

Considering the timing of the Faculty of Agronomy's relocation to David, USAID Panama and the Faculty have agreed that this is an appropriate time for reviewing and revising the undergraduate program of instruction, and for designing and testing various new approaches with a stronger emphasis on field work. The objective will be to produce a new generation of agricultural specialists who are more familiar with agriculture and are especially capable of dealing more effectively with the problems of small subsistence producers, who constitute the majority of farmers in Panama.

### C. The Response

The Education for Rural Development project provides the funds (\$490,000) to develop and test a curriculum aimed at improving the capability of the University of Panama's Faculty of Agronomy to better train agricultural sector professionals. Since, on the average, more than 95 percent of the Faculty's graduates go on to assume positions in the public sector, a relatively small investment in curriculum improvement is expected to strengthen the Government's ability to deal with the entire range of agriculture policy, organizational production, marketing and other issues which arise.

The project concept for Education for Rural Development originated in late 1979, after lengthy discussions between USAID and representatives of the Faculty of Agronomy. A Project Identification Document was drafted, reviewed and approved by the Latin America Bureau in AID Washington on March 11, 1980. Since then further analysis and review have led to the conclusion that the most appropriate way for the university to deal with the issue of scarce, professionally trained and

sensitized agriculture technicians, is to promote the training of interested youth in agriculture-related disciplines, and to test various new approaches for upgrading agriculture instruction. As stated above, an important decision has already been made to move the Faculty of Agronomy's from the nation's capital to a location closer to the country's primary agricultural area. The second requirement, to improve the training of agricultural specialists, will be addressed through Education for Rural Development.

In the FY 1983-1987 (CDSS), the Mission has identified the shortage of adequately trained manpower and the absence of mechanisms to develop and transmit modern agriculture technology as major constraints to expanding agriculture productivity in Panama. To address this problem, USAID is presently implementing a \$7.0 million Loan/Grant project with the Panamanian Agriculture Research Institute (IDIAP). The project seeks to strengthen the Institutes capabilities to provide the agriculture sector with needed technology (tested research) and other production services. While the IDIAP project addresses the technical and institutional problems associated with increased productivity through improved technology (field-tested research), it does not focus on the deficiencies noted in the numbers of adequately trained agriculture sector professionals, who in past, will be responsible for transferring improved agricultural techniques and other services to the farmer population.

Given the sector's present personnel inadequacies and unless better qualified agronomy graduates enter the workforce, it is unlikely that the GOP can achieve its goal of expanding public outreach mechanisms for dealing with the problems of productivity and income especially among Panama's small farmers.

### III. DETAILED PROJECT DESCRIPTION

#### A. Goal and Purpose

The immediate goal towards which the project is directed is to help strengthen the University of Panama's role and contribution to the country's agriculture sector development. At a higher level, the project seeks to improve the income and welfare of the rural poor in Panama. The purpose of the Education for Rural Development Project is to improve the quality of technical training currently provided to agriculture students of the Faculty of Agronomy.

This pilot effort will design, test and adapt an applied field practicum together with other changes in existing curriculum, in an attempt to relate undergraduate training more closely to the needs of the nation's agriculture sector. To achieve these project objectives grant funds will be used to provide the Faculty of Agronomy with technical assistance and staff training. One approach to be tested and evaluated consists of a "field practicum" which will be introduced during the student's fifth and final academic year. The practicum will involve

students in a program of supervised field research and extension oriented toward small farmers. To assist the Faculty of Agronomy identify, test, evaluate and eventually institutionalize curriculum changes technical assistance will be sought from American and/or Latin American university sources. Since the Faculty of Agronomy is interested in establishing a long-term relationship with a U.S. University on agriculture matters, consideration will be given to obtaining the required technical services from a Title XII institution in the United States.

Technical assistance will focus principally on curriculum modification in the areas of research, extension and agricultural communications. The project's training component is designed to provide at least four faculty members with the skills needed to teach research, extension and agricultural communications within the context of the proposed curriculum changes. Additional short-term, problem-oriented training will be furnished to three staff members.

#### B. Training Methodologies to be Tested

It is anticipated that three training approaches will be tested under this project, to evaluate which approach or combination is most practical, beneficial and cost-effective in providing students the type of training that will contribute to achieving the project objectives. These include a practicum, a work/study program with various Panamanian agriculture institutions, or an assignment with the faculty's research program. A summary description of each approach follows:

1. The Field Practicum: As currently envisioned, the practicum will consist of approximately five months of field experience at a training site located in the small farmer area of Chiriqui province, where students can become familiar with on-farm agricultural problems as well as with the values and lifestyle of the small producer. It is anticipated that during their field training the students will have an opportunity for meaningful interaction with farmers and other community inhabitants of the area. A more detailed description and analysis of this proposed approach may be found in Annex III (Detailed Description of the Student Practicum).

2. Work/Study Program: The second approach to be tested and evaluated consists of a cooperative work/study program with either the Ministry of Agriculture or one of the autonomous institutions that work in the agriculture sector. The latter include the Applied Agriculture Research Institute (IDIAP), the Institute of Renewable Natural Resources (RENARE), the Panamanian Marketing Institute (IMA), the National Agriculture Institute (INA), or one of several institutions active in the cooperative movement. IDIAP has tentatively agreed to accept four students beginning in April 1982 for a period of four months. Discussions with RENARE for this same purpose are currently underway.

3. Faculty Research Program: Another new approach which will provide students with more practical field experience, involves their

association with the Faculty's research station located just outside of Panama City. Four students are programmed for specific research projects with a small farmer orientation, starting in April 1982.

Since each of the above approaches has inherent advantages and disadvantages, the final approach adopted may well involve some combination of all three, or others developed during actual project implementation. USAID Panama and the Faculty of Agronomy fully appreciate that improving the curriculum used to train undergraduate students is by no means the final solution to supplying Panama with the level technical specialists (i.e., plant/soil scientists, livestock experts and extension personnel, etc.) and administrators (i.e., public and private sector planners and managers) to ensure long-term agricultural sector development. Nevertheless, the Education for Rural Development Project does represent an important and worthwhile pilot effort; which, hopefully, will lead to further improvements, and program expansion on the part of the Faculty of Agronomy to provide more specialized training, including at the advanced degree level.

The association with a U.S. Title XII University under this initial activity should help set the stage for future expansion of the Faculty's academic program. To aid in this effort, a portion of the technical assistance funds will be used to develop the preliminary outline for a long-range (10-20 year) plan for the Faculty, including the progressive establishment of courses of instruction leading to advanced degrees in priority agricultural disciplines. Strengthening the country's local institutional training capability is considered the best hope for Panama to meet its long-term agricultural manpower requirements.

### C. PROJECT COMPONENTS

This project consists of six components: 1) technical assistance and training which will be financed entirely through AID grant funds, 2) a field support fund and a fund for vehicle acquisition to which AID and the GOP will participate jointly, 3) a fund for purchase of equipment and materials and project operations funding both of which will be funded in their entirety by the GOP. These six components are described in detail below.

#### 1. Technical Assistance (IG \$202,000)

To assist the Faculty of Agronomy with a review of its current curriculum and to evaluate possible approaches for dealing with the question of an appropriate, practical field experience for Faculty students, 18 person months of technical assistance from a qualified university or firm will be provided. Twelve person months of long-term technical assistance will be utilized for curriculum review and revision. The additional six months of short-term technical assistance will be utilized to strengthen the faculty's capacity in such disciplines as agricultural education, extension and communication, and to prepare an

outline for a multi-year plan to expand the Faculty of Agronomy's overall program to include advanced degree training in various specialty fields.

2. Training (\$DG 212,000)

Training activities will focus principally on upgrading faculty capabilities in such areas as applied agriculture research, technology transfers, agriculture education and communication. This component will provide 102 person-months of specialized training at selected U.S. universities. Four faculty members who are expected to participate in the program when AID support has ended, will receive Masters of Science degrees in agriculture and three other professors connected with the program will each receive two months of specialized training prior to the start of the second year's practicum.

3. Field Support Fund (DG \$46,000, GOP \$35,000)

All three of the alternatives discussed above under the methodologies section, for providing agriculture students with an appropriate training experience, will require considerable time in the field at designated training sites. The field support fund will be utilized to provide 30 students, selected during each of the three years, with a modest stipend of \$6.00 per day to help defray the costs of room, board, public transportation and other expenses associated with living and working in a rural environment away from the Faculty's principal campus. The stipend, which covers only a portion of the students' expenses, will be paid by the University of Panama and later reimbursed by AID. Over the life of the project AID's contribution to the field support fund will diminish while the university's contribution increases as follows:

	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>
AID	80%	60%	30%
GOP	20%	40%	70%

4. Vehicles (DG \$30,000, GOP \$15,000)

Transportation and ready access to field training sites for faculty professors and university contractors are seen as essential for achieving the project objectives. Another critical element is the timely delivery of project-related agricultural inputs and other equipment. To ensure that the project will not be hindered in this area AID and the GOP will supply the project with three vehicles. AID will provide \$30,000 for two vehicles (one 1/2 ton 4 wheel drive pickup, and one van) and the GOP will supply one 4 wheel drive jeep type vehicle. Vehicles provided with AID funds will be of U.S. manufacture and will be purchased "off the shelf" by the GOP in accordance with AID regulations. AID will pay for the vehicles on a cost-reimbursable basis.

5. Equipment and Materials (GOP \$73,000)

To review the faculty's present curriculum and to experiment with various field training options will require a modest assortment of agricultural equipment such as a small hand tractor, tools, implements, sprayers, and irrigation equipment as well as audiovisual equipment and agricultural inputs such as seed, fertilizer, seedlings, insecticides, pesticides and other agricultural chemicals. The specific equipment list and input needs will be developed as the various field approaches are tested and training sites are established.

6. Operations (GOP \$108,000)

To bring about the successful execution of this project the GOP will provide the funds necessary to pay for project staff salaries, per diem and transportation costs of faculty members, fuel and maintenance of vehicles and miscellaneous office supplies. The value of these goods and services is estimated to be \$108,000.

D. Summary Allocation of Financial Resources

A complete summary of the allocation of financial resources under the project is shown in the Budget section of the overall Financial Plan on page 20.

IV. PROJECT ANALYSES

A. Institutional Analysis

1. The Faculty of Agronomy

The Faculty of Agronomy was established in 1959 as a school in the Faculty of Natural Sciences and Pharmacy. In 1965, it was upgraded to full Faculty status. The first program offered by the Faculty of Agronomy consisted of a four year course leading to a Bachelor of Science Degree (equivalent) in plant or animal science. The program was lengthened in 1971 to include one additional year of required subjects. During the 1970's the Faculty attempted to adapt its program to the changing agricultural circumstances in Panama. In 1980, University authorities decided to move the Faculty of Agronomy out of Panama city to a rural environment. David, the capital of Chiriqui, was selected as the new site. Both the move to David and the institutionalization of proposed curriculum changes are expected to be completed by 1984.

Over the years, enrollment in the Faculty has risen dramatically. In 1970, there were only 125 students enrolled in agriculture programs. This number increased more than five-fold by 1980 when 821 students were working toward degrees. Of this total, 70 or more are expected to graduate in 1981. Most of these students are expected to

seek positions with one of several public sector agricultural institutions.

The Faculty which consists of 45 members (8 Ph.D., 14 M.S., 23 BS) is considered professionally capable of administrating the project. Within the Faculty a project implementation team will be established to provide project monitoring and to maintain liaison with contractors (i.e., Title XII university) and USAID. This project will support the ongoing efforts of the Faculty to improve its curriculum and provide an opportunity to establish a long-term relationship with a U.S. academic institution for purposes of technology transfer and program expansion.

## 2. The Students of Agronomy

Most agronomy students currently enrolled in the university come from urban backgrounds and have little first-hand experience either with agriculture or the Panamanian countryside. Over the years the number of students in agronomy has increased significantly overall and relative to the number of students enrolled in other faculties. In 1970 there were 125 students in the faculty and by 1981 student enrollment increased to 852. The number of graduating students in 1970 was 11 and in 1981 there will be over 70, bringing the total number of graduates to approximately 300.

A recent survey which examined the backgrounds of 135 freshmen in the class of 1983, provides some interesting insights into the composition of the student body. According to the survey, the typical student is young (20 years or less), male, comes from the lower-middle class and has lived in an urban environment most of his life. Generally speaking, he has no agriculture background nor has he had much meaningful exposure to rural life and its problems. During secondary school his studies well concentrated primarily on science and related academic disciplines.

Almost 90 percent of the Faculty's student body attended public high schools which as a rule cater to students from poorer areas of the capital city and other urban areas. Quite surprisingly, only 12 percent graduated from agricultural schools in the interior. Students from high schools in Panama City represent the largest single group pursuing academic degrees. Once the years since it was established, the Faculty of Agronomy has served Capital area students more than those from any other region of the country.

In addition, despite the fact that 13 percent of the student body comes from agricultural backgrounds, only one percent indicated they had any experience with actual farming operations. Significantly, most students indicated a preference to work as salaried technicians for the Government upon completion of their studies. Seventy three percent said they would like to work for either the Ministry of Agriculture (MIDA), the Institute for Renewable Natural Resources (RENARE), the Applied Agriculture Research Institute (IDIAP) or the

Panamanian Marketing Institute (IMA), which collectively represent the principal agricultural outreach mechanisms of the Government. Only one percent indicated a preference for field work. These attitudes, which reflect the aspirations of an urban-oriented student body, are indicative of the problems which this project will attempt to overcome. For further details on characteristics of the Faculty of Agronomy Student Body see Annex II.

Although the university does not maintain thorough records as to the employment and placement of its graduates, a Mission survey of MIDA showed over 26% of its junior staff (some 28 persons) had graduated within the past three years from the UOP. Of the 68 1980 graduates some 60% are employed with MIDA and its associated agencies such as IDIAP, IMA AND RENARE. Fifty-five percent of these 1980 graduates are working in administration, some 38% in research related activities and 7% in field work (or unknown) related to farm production.

#### B. Economic Analysis

The proposed approach for achieving the project purpose consists of strengthening the technical curriculum and improving inter-institutional coordination. Key to the attainment of both objectives will be the revised curriculum. It is important because it will provide the student with the occasion to do on-farm field work in a real-life situation, as well as create opportunities for expanding cooperation between the Faculty of Agronomy and other governmental institutions such as IDIAP and IMA.

The successful implementation of the new curriculum could lead to major cooperative efforts between institutions thereby fostering greater economy by avoiding unnecessary and costly duplication of effort. These economies could include utilization of IDIAP staff for teaching, utilization of faculty members in Government research projects, and formalization of a student internship program for research and extension.

The advantages and cost-efficiency of the new curriculum will be assessed following the first year of operation. Any further curriculum changes will be based on the results of this evaluation. One aspect to be taken into account is the possibility of the Faculty's assuming recurrent cost obligations. The Faculty of Agronomy in recent years has attempted to overcome student deficiencies by establishing alternatives to the thesis requirement. At one time or another students were allowed to perform substitute-thesis work in the private or public sector, do additional coursework, or assist Faculty staff in various research activities. Alternatives to the thesis requirement represented no additional cost to the Faculty but, nonetheless, were still generally unsuccessful in providing students with first-hand knowledge concerning agriculture in Panama. In addition, for the few that were able to work

with the private or public sector, an effective supervisory mechanism did not exist. The Faculty will evaluate the cost which a revised curriculum will represent over the life of the project. However, at this point, there appear to be few other alternatives worthy of consideration.

C. Social Soundness Analyses

1. Description of the Project Beneficiaries

The principal beneficiaries of the Education for Rural

Development Project will be students of the Faculty of Agronomy. The benefits will be immediately manifested in their improved technical agricultural skills and, later, in overall work performance as they assume positions in the public, private and academic fields, or as professional farmers themselves. Other direct benefits will accrue to the University of Panama and especially the Faculty of Agronomy. These benefits will be in terms of having an improved agricultural curriculum firmly established and operating as well as longer-term benefits which may be derived from its close relationship with a U.S. Title XII University.

Indirect beneficiaries of the Project will be various GOP agricultural agencies, the private sector and farmers in the Chiriqui area. GOP agricultural agencies will benefit by having access to more highly trained agriculture graduates as potential employees. It is anticipated that future graduates will possess both the theory and practical knowledge of agriculture, and have a better understanding than their predecessors of the social, political and economic forces operating in the rural sector. Overall, the new generation of "Ingeniero Agronomo" will be better trained to carry out their duties and responsibilities. Graduates employed in the private sector are likely to be involved in farm-management. Thus, familiarization with agriculture from the farmer's perspective, should better prepare them to handle the full range of farm management problems. Small farmers, especially those in the Chiriqui area where the field practicum will be established, will be other indirect beneficiaries of the project. This will occur as soon as the practicum is implemented, and will continue for as long as it is maintained. There is considerable potential for a worthwhile and sustained interchange between area farmers, faculty and students which could lead to still further training program modifications beyond the life of the project. The Mission views any such changes which result from close farmer/faculty/student collaboration to be a positive benefit and consistent with the basic objectives of the project.

## 2. Socio-cultural Feasibility of Working with Small Farmers

Chiriqui is Panama's most advanced agricultural province. Chiriqui area farmers have consistently proven to be technological pioneers in accepting new farming techniques and practices. An indication of how Chiricano farmers readily adapt to new agricultural technology can be seen in the following statistics: According to the national agricultural census of 1971 Chiriqui had 75 percent of all farm tractors in Panama, 59 percent of all combines and 46 percent of all agricultural land then being cultivated under modern fertilization methods. The preliminary assessment is that area farmers have a positive attitude regarding the field practicum and the prospect of help the students and faculty.

It is easier to cite examples of the favorable predisposition of Chiricano farmers towards agricultural change and innovation than to pinpoint the causes for their receptiveness. One reason could be the intense immigration into western Chiriqui by European

and Northamerican farmers during the latter part of 19th century and early 20th century. These foreign agriculturalists introduced many new technological changes into Chiricano agriculture. Another likely influence has been the presence of the United Fruit Company in the sector of Barú. For two generations or more the Company has exposed thousands of farmers, both large and small, to modern agricultural technology and systems. Whatever the causes, one can safely assume that the Chiricano farmer is likely to be receptive to innovation and change.

However, the relationship between farmer and student will be conditioned by the manner in which the latter approaches and relates to the former. It should be kept in mind that in this relationship it is the students who will be seeking initial support and cooperation. To prepare them for their field practicum the fifth-year students will receive a through orientation in cultural anthropology and rural sociology to sensitize them to local customs, values and attitudes. This same orientation will be given to faculty members.

It is impossible to predict how much understanding the students will absorb about the problems of small farmers during their four and half month field training. This will vary from individual to individual. However, it is difficult to conceive how any student could complete the practicum without having undergone some change in attitude and perception. In this respect, the experience of most U.S. Peace Corps volunteers may be relevant. After arriving in a new and unfamiliar area their daily contact with local people and their problems produces a marked, mostly positive change in attitude as well as increased understanding by the local culture. Similar experiences are likely for the agriculture students. Thus, the field practicum should prove to be not only challenging but a personally rewarding experience as well.

There is the remote chance that sites selected for the practicum may become unusable after two or three years because of farmer apathy towards the program. This could occur as a result of too infrequent contact between students and farmer. It is noted that while the total number of students that will participate in the program is only ninety, the population size of the districts where the practicums will be established, is: Baru district with 46,000 inhabitants and Bugaba district with 45,000.\* Every effort will be made during project implementation to keep the size and location of the operational areas in balance with the training/service capacity of the students. For further details regarding the agriculture setting in Baru and Bugaba districts of Chiriqui, see Annex IV.

\*Source: National Census of 1980

#### D. Technical and Administrative Feasibility

As previously stated, the project will be implemented by the Faculty of Agronomy of the University of Panama. During the project identification stage a number of issues pertaining to the administrative feasibility of project implementation by the Faculty of Agronomy were raised. These included (a) whether the Faculty had the competency to provide the necessary technical backstopping for the project; (b) whether the Faculty would be able to support the program when AID financial assistance was no longer available; (c) whether other GOP agricultural institutions would assist the Faculty in the implementation of the project, and (d) the possible role of a U.S. Title XII University.

These issues were addressed during the course of subsequent project design with the following results:

##### 1. Institutional Capacity

a. Technical Competency: presently the Faculty has the most highly trained body of agricultural professionals in Panama. No other Panamanian institution has the number of M.S. and Ph.D. holders among its staff as does the Faculty. Most of these agricultural professionals will assist in developing the new curriculum as well as help in supervising the student practicum. However, in areas outside the Faculty's range of expertise alternate technical assistance will be provided.

Technical assistance will be provided to the Faculty during the development, start-up and initial implementation phases of the field program, since there is relatively little experience among faculty staff in organizing a program of this type. In addition, some younger faculty members will receive training in project/practicum administration during the initial stages which will prepare them for more direct supervisory responsibility as the project progresses and beyond its completion. For these reasons, the Mission has concluded that the technical competence of the Faculty of Agronomy is adequate to successfully carry out the project as formulated.

b. Administrative capacity: the Mission believes that the initial reservations regarding administration of the project were removed once the project site was changed from Rio Indio to Chiriqui. (See Annex I, Exhibit C, DAEC PID Review Cable with Mission comments) The new site is more accessible than Rio Indio and it has the advantage of being in the midst of an important agriculture production area. It is also the location of the Faculty's future headquarters. For the above reasons, no major problems are foreseen in the Faculty's administrating of the project.

##### 2. Inter-Institutional Linkages

Another concern which arose during initial project

development was how the proposed project activities would relate to other on-going GOP research and extension activities. Subsequently, the University of Panama and IDIAP reached an agreement to cooperate in areas of teaching, research and extension. More recently, a formal cooperation agreement was signed by representatives of each institution. Basically, the institutions have agreed to share their technical economic and physical resources in the furtherance of program objectives. The first activity in which these institutions will cooperate will be in the student field practicum and, later, in the exchange of staff members for teaching and research.

### 3. Role of The Title XII University

Due to the nature of the project, both the Faculty of Agronomy and the Mission have agreed that the required external technical assistance and training should be provided by a Title XII university. The Faculty is interested in establishing a long-term relationship with a U.S. university; a relationship which USAID fully supports for the obvious benefits to be gained in technical agricultural cooperation and interchange.

#### E. Environmental Concerns

The Mission considers the project to be categorically excluded from Regulation 16 regarding Environmental Procedures.

The principle purpose of the Education for Rural Development Project is to improve the quality of technical instruction furnished by the Faculty of Agronomy, so as to provide agriculture students with practical training involving substantive exposure to small farm/farmer operations. This objective will be realized, in part, by sending fifth-year agriculture students to live and work with farmers in a rural community to advise and directly assist in various aspects of agricultural production. The students will work under the direction and supervision of the staff of the Faculty of Agronomy while carrying out applied research and extension of basic agricultural practices.

Only the most rudimentary changes are contemplated under the Education for Rural Development project. These involve such things as increasing plant density, introducing improved varieties and crop rotation, and improving pruning and other practices. None of these new practices should have any negative impact on the environment or the local population. In fact, an overall positive impact on the environment (i.e., in the form of reduced soil erosion) can be expected as a result of the introduction of contour planting in hilly areas where the present practice is to plant vertical rows. Introduction and use of pesticides will be done on a very limited basis and under closely-controlled conditions, in connection with research experiments on small plots. Application of pesticides will be carried out by trained staff from the Faculty of Agronomy and emphasis will be placed on integrated pest management. Although there is some possible negative impact on the

environment and man with the use of pesticides, this will be minimized through farmer education and close supervision by trained Faculty personnel.

#### V. FINANCIAL PLAN

This three year grant project which totals \$490,000 will be fully funded in FY1981. The overall financial plan which summarizes the allocation of project funds is shown below. A more detailed explanation of each line item is contained in Annex 1, Financial Analysis. This section also presents the GOP's counterpart contribution, assesses the GOP's ability to meet recurring cost requirements, describes the method to be used for disbursement, and concludes with a statement regarding the appropriateness of the project for AID financing.

##### A. Project Budget

The financial breakout for the Education for Rural Development project is as follows:

(US \$000)

<u>Component</u>	<u>AID</u>	<u>GOP</u>	<u>TOTAL</u>
a. Technical Assistance	202	--	202
b. Training	212	--	212
c. Field Support Fund	46	35	81
d. Transportation (vehicles)	30	15	45
e. Equipment and Material	--	73	73
f. Operations			
1) Project staff salaries		50	50
2) Faculty per diem, travel etc.		22	22
3) Fuel and maintenance		21	21
4) Office expenditures		15	15
	<u>490</u>	<u>231</u>	<u>721</u>

##### B. GOP Counterpart Contribution (Section 110FMA)

During the life of this project the GOP will provide \$231,000 as its counterpart contribution. The Projected Expenditures Table found in Annex V has been prepared to show the proposed timing of GOP (and AID) resources by fiscal year. These requirements have been discussed in detail with a responsible university official and we envision that the GOP will have no difficulty in meeting these obligations.

In addition to financing traditional host country costs such as staff salaries in-country travel, and fuel and maintenance of vehicles, the university will also contribute to the field support fund, the university will begin contributing to the fund from the start of activities, and will increase the percentage of its share each year. The university has also agreed to supply one of the three vehicles necessary to implement the project and to purchase all the agricultural inputs needed for use in the field exercises.

C. Recurring Costs

The recurring costs for this project are shown in the following table:

1. Student Support Fund	\$27,000
2. Equipment and Materials	25,000
3. Transportation (vehicles)	15,000
4. Project Staff Salaries	17,000
5. Faculty Travel	7,000
6. Fuel	7,000
7. Office Expenditures	5,000
TOTAL:	<u>\$103,000</u>

USAID believes these costs are reasonable and that in view of the potential long range benefits from the project, the COP will continue the activity when AID support has terminated. The COP's Agricultural Research Institute (IDIAP), an autonomous government agency, has already expressed interest to the Mission in continuing with the project when AID assistance has terminated.

D. Contracting Procedures

The University of Panama will be responsible for all contracting arrangements in connection with obtaining technical services from a Title XII University.

E. Disbursement Method

In keeping with AID's objective of encouraging the host government or local institutions to assume a leading role in project implementation, AID will use the direct reimbursement method to compensate the university for all eligible project expenditures made. To facilitate the process AID will provide the university with an advance to establish a revolving fund in non-interest bearing account. The advance will be in an amount not to exceed the estimated cash requirements for 90 days of operation. (Note: Ninety days is the estimated length of time needed to process reimbursement requests and to allow for mailing or other delays).

F. Conclusions and Recommendation

Education for Rural Development is a human resources

institution-building project of the non-revenue-producing type. Its objective is to upgrade the quality and depth of agricultural education and thereby improve the University of Panama's contribution to agriculture sector development. Although Faculty of Agronomy graduates may ultimately contribute to increased farmer production USAID has not attempted to quantify this result. For this reason, it has not been possible to perform an analysis of the net present value or internal rate of return.

As pointed out in the Project Description, AID's \$490,000 will provide an estimated 450 person-months of practical, on-farm experiences for agriculture students who will help shape the future of Panama's agriculture sector, and it will also provide 102 person-months of training in the U.S. for university professors who, upon return to Panama, will share their knowledge with countless future students and other faculty. In addition, it is expected that the relationship established between the Faculty of Agronomy and a U.S. Title XII University will yield positive benefits, in terms of close collaboration and interchange on agricultural education, far beyond the three year time frame of this project.

#### VI IMPLEMENTATION PLAN

A detailed time-phased implementation plan is included in Annex VI. The plan has been prepared giving special attention to the needs of students and faculty as well as to the timing of Panama's principal growing season.

#### VII. EVALUATION PLAN

Mission will develop an evaluation plan for the Education for Rural Development project in collaboration with the Faculty of Agronomy. Two general evaluations will be conducted by AID and the Faculty of Agronomy. External technical assistance will be used if it is deemed necessary. The first evaluation will be initiated one year from the project's inception (December 1982), to evaluate progress in curriculum development, to estimate its likely impact and to recommend changes for future development. (See discussion on this subject, page 15.) The second and final evaluation is planned for December 1984, to assess the impact of the project and to analyze its acceptability as an ongoing fully funded activity within the Faculty of Agronomy's program.

Day to day monitoring of project activities will be carried out by the joint project team (i.e. Faculty of Agronomy and USAID staff.) Project review meetings will be held on a quarterly basis between Faculty officials, USAID and, as appropriate, U.S. university contractors to discuss overall progress, problems in implementation and corrective actions for problems which arise.

ANNEX I, Exhibit A

AID 1020-28 (7-71)  
SUPPLEMENT 1

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

(INSTRUCTION: THIS IS AN OPTIONAL  
FORM WHICH CAN BE USED AS AN AID  
TO ORGANIZING DATA FOR THE PAR  
REPORT. IT NEED NOT BE RETAINED  
OR SUBMITTED.)

Life of Project:  
From FY1981 to FY1984  
Total U.S. Funding \$490,000  
Date Prepared: June 9, 1981

Project Title & Number: Education for Rural Development (525-(219)

PAGE 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>To strengthen the University of Panama's role and contribution to Panama's Agriculture development.</p> <p>Higher Level Goal:</p> <p>The higher level goal towards which this project will contribute is to raise the income and welfare of the rural poor.</p>	<p>Measures of Goal Achievement:</p> <p>The University (Faculty of Agronomy) has increased participation in collaborative work with IDIAP, RENARE and other agricultural institutions.</p> <p>Graduates of the Faculty will have increased impact on policies and relationships with the small farmer.</p> <p>Small farmers throughout Baru and Bugaba districts of Chiriqui Province have raised production and incomes by 8% as a result of improved farming practices learned from students and faculty of the Faculty of Agronomy.</p>	<p>Review of project documents discussions with GOP, Donor and University officials.</p> <p>Discussions with and surveys of small farmers and Faculty graduates.</p> <p>Project evaluations and audits</p>	<p>Assumptions for achieving goal targets:</p> <p>The University of Panama is committed to playing an active role in the country's agriculture sector.</p> <p>The University will meet the financial obligations necessary to ensure continuation of field practicum and other curriculum improvements planned</p> <p>The agriculture techniques and improved farming methods transferred by agronomy students will be useful in raising agriculture production and thus farmer incomes.</p>

20

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

Life of Project: \_\_\_\_\_  
From FY 1981 to FY 1984  
Total U.S. Funding \$490,000  
Date Prepared: June 2, 1981

Project Title & Number: Education for Rural Development (525-0219)

PAGE 2

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Purpose:</p> <p>To improve the quality of technical training provided to agriculture students of the Faculty of Agronomy.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <p>The Faculty of Agronomy is producing a significantly better trained agronomy graduate.</p> <p>The field practicum and other curriculum improvements will be developed and tested in the Faculty of Agronomy's training program.</p> <p>Increased number of agronomy students continuing-on for advanced degrees.</p> <p>Attitudes of and relationships between the faculty, students, graduates and small farmers will be modified to more effectively respond to each others' needs.</p>	<p>Student Academic Records.</p> <p>Check of public and private sector institutions employing agronomy graduates.</p> <p>Review of Faculty of Agronomy academic program.</p> <p>Surveys of students, graduates, faculty and small farmers.</p>	<p>Assumptions for achieving purpose:</p> <p>The Faculty of Agronomy will continue to stress the importance of relevant field experience to complement the academic training of agronomy students.</p> <p>The Faculty of Agronomy is able to attract students who are interested in the practical as well as theoretical aspects of agriculture.</p> <p>The Faculty of Agronomy will assign staff who have completed U.S. degree and short-term training to the practicum and other programs as planned.</p>

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

Life of Project:  
From FY 1981 to FY 1984  
Total U.S. Funding \$490,000  
Date Prepared: June 9, 1981

Project Title & Number: Education for Rural Development (525-0219)

PAGE 3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS				MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Outputs:	Magnitude of Outputs:					Assumptions for achieving outputs:
-Agronomy students trained in field practicum and other aspects of improved curriculum	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>total</u>	University records. Project disbursement records. Project evaluations. Audit reports.	The Faculty of Agronomy will select the needed qualified staff for training as scheduled.
-Faculty of Agronomy instructors complete M.S. degree training in U.S.	—	2	2	4		
-Other staff complete short-term, specialized training in U.S.	—	3	—	3		
-Faculty of Agronomy will have tested and refined a revised curriculum	—	—	X	X		

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

Life of Project:  
From FY 1981 to FY 1984  
Total U.S. Funding \$490,000  
Date Prepared: June 9, 1981

Project Title & Number: Education for Rural Development (525-0219)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<b>Inputs:</b>	<b>Implementation Target (Type and Quantity)</b>		<b>Assumptions for providing inputs:</b>
	(\$000)		
1. AID Grant Funds	Eighteen (18) pm for practicum curriculum design, evaluation implementation and planning 202	Project disbursement records.	The planned inputs to the project will produce results leading to fulfillment of the stated objectives (purpose).
a. Technical Assistance			
b. Training	Ninety-six (96) pm long-term U.S., nine (9) pm short-term U.S. 212	Project evaluations.	
		Audit report.	
c. Field Support Fund	AID financing= 80% (1 year), 60% (year 2), 30% (year 3) 46		
d. Vehicles	One (1) four wheel drive pick-up and van 30		
<b>TOTAL AID:</b>	<b>490</b>		
2. University of Panama Contribution			
a. Field Support Fund	University financing = 20% (year 1), 40% (year 2), 70% (year 3) 35		
b. Vehicles	One (1) four-wheel drive pick-up 15		
c. Equipment and Materials	Field Training implements to include land tractors, sprayers, small irrigation equipment, pesticides/insecticide/herbicides, visual aids etc. 73		
d. Operational Costs	Faculty salaries and per-diem (project related), vehicle, fuel and maintenance and miscellaneous office supplies 108		
<b>TOTAL University of Panama:</b>	<b>231</b>		
<b>TOTAL PROJECT:</b>	<b>721</b>		

ANNEX: I, Exhibit B

5C(2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable generally to projects with FAA funds and project criteria applicable to individual fund sources: Development Assistance (with a subcategory for criteria applicable only to loans); and Economic Support Fund.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? Yes  
HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PRODUCT? Yes

A. GENERAL CRITERIA FOR PROJECT

- |  |   |
|--|---|
| <p>1. <u>FY 79 App. Act Unnumbered; FAA Sec. 653 (b); Sec. 634A.</u> (a) Describe how Committees on Appropriations of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that figure)?</p> | <p>1. A Congressional Notification will be transmitted by A.I.D. to Congress indicating funding requirements for this assistance program.</p> |
| <p>2. <u>FAA Sec. 611(a)(1).</u> Prior to obligation in excess of \$100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?</p>   | <p>2. Yes.</p>  |
| <p>3. <u>FAA Sec. 611(a)(2).</u> If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?</p>  | <p>3. No legislative action will be required within recipient country.</p>  |
| <p>4. <u>FAA Sec. 611(b); FY 79 App. Act Sec. 101.</u> If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?</p>  | <p>4. Not applicable.</p>   |
| <p>5. <u>FAA Sec. 611(e).</u> If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?</p>  | <p>5. N.A.</p>  |
| <p>6. <u>FAA Sec. 209.</u> Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.</p>  | <p>6. Not considered appropriate for a regional project but the results of the project may have application in other AID projects.</p>        |

NO. 5C(?) -2	EFFECTIVE DATE June 7, 1979	TRANS. MINS NO. 3:32	AID HANDBOOK 3, App 5C(2)
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A.

7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

12. FY 79 App. Act Sec. 603. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar, or competing commodity?

**B. FUNDING CRITERIA FOR PROJECT**

**1. Development Assistance Project Criteria**

a. FAA Sec. 102(b); 111; 113; 231a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained

7. The project will improve the technical efficiency of the University in dealing with the agricultural problems of the small farmers.

8. Planned as a Title XII University setaside.

9. The University of Panama has agreed to contribute substantial counterpart funding for project cost.

10. The US does not own such excess currency.

11. Yes

12. N.A.

1a.(a)(b) The project is specifically directed towards improving the quality of technical training currently being received by agricultural students to provide a better understanding of the problems of the small farmer. This project will bring the student directly in contact with the rural poor while spreading effective farm technology to the rural areas.

## B.1.a.

basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

b. FAA Sec. 103, 103A, 104, 105, 106, 107.

Is assistance being made available: (include only applicable paragraph which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.)

(1) [103] for agriculture, rural development or nutrition; if so, extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, is full account taken of needs of small farmers;

(2) [104] for population planning under sec. 104(b) or health under sec. 104(c); if so, extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems and other modes of community research.

(3) [105] for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development;

(4) [106] for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is:

(i) technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

(ii) to help alleviate energy problems;

(iii) research into, and evaluation of, economic development processes and techniques;

(iv) reconstruction after natural or manmade disaster;

1b.(1) The small farmers will participate in the program and benefit from agricultural students' increased awareness of their problems.

B.1.b.(4).

(v) for special development problem, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance;

(vi) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development.

c. [107] Is appropriate effort placed on use of appropriate technology?

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country)?

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to the Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?

f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental and political processes essential to self-government.

g. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase or productive capacities and self-sustaining economic growth?

2. Development Assistance Project Criteria (Loans Only)

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects.

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

c. Yes, considered essential to the projects success.

d. Yes, this contribution will be reflected in the project agreement.

e. Project disbursements <sup>are</sup> ~~are~~ planned within three years.

f. The project has been designed to improve the quality of technical agricultural training of students in the University and expands their utilization and effectiveness in dealing with the problems of the small farmer a major design of the 'GOP.

g. Yes

2. N.A.

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ANNEX 1, Exhibit C

**ACTION COPY**

*T.O. TEAH*  
ACTION TAKEN *N.A.N.*

*DUV. 4/3/80*  
DATE *4/2* INITIALS *DW*

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TOR: 6620  
CN: 13305  
ACTION: AID  
INFO: DCM  
CHRON

**RECIBIDO**  
APR 1 1980  
*(1)*  
**TEAM**

AIDAG  
E.O. 12065: N/A  
TAGS:

SUBJECT: EDUCATION FOR RURAL DEVELOPMENT PID

1. THE SUBJECT PID WAS REVIEWED AND APPROVED BY THE DAEC ON MARCH 11, 1980. HOWEVER, IT WAS CONCLUDED THAT AN INTERIM REPORT (IR) OR DRAFT PP WITHOUT ANNEXES AND DETAILED ANALYSES SHOULD BE SUBMITTED TO AID/2 BEFORE COMPLETION OF THE PP. THIS IR SHOULD BE SUBMITTED AFTER THE MISSION HAS FINALIZED THE PROJECT DESIGN. IT SHOULD FULLY DESCRIBE THE BASIC OBJECTIVES AND APPROACH OF THE PROJECT; HOW THE PROJECT WILL WORK; AND HOW VARIOUS OUTSTANDING ISSUES WITH THE IMPLEMENTING INSTITUTIONS HAVE BEEN RESOLVED. THE FOLLOWING GUIDANCE IS PROVIDED TO ASSIST THE MISSION IN PREPARING THE IR AND EVENTUAL PP.

2. PROJECT STRATEGY.

A. GOAL LEVEL. THERE WAS CONCERN THAT THE PROJECT GOAL WAS TOO AMBITIOUS GIVEN THE RESOURCES AVAILABLE TO THE PROJECT. THEREFORE, THE MISSION SHOULD CONSIDER LIMITING THE GOAL TO MORE CLOSELY FIT THOSE RESOURCES AND IN PARTICULAR TO FIT THE EDUCATIONAL FOCUS OF THE PROJECT.

B. PURPOSE LEVEL. THE MISSION SHOULD REVIEW THE FEASIBILITY OF THE PROPOSED APPROACH TO ACHIEVING THE PROJECT PURPOSE. IS IT THE MOST APPROPRIATE WAY TO IMPROVE THE RELEVANCE AND PRACTICALITY OF THE FACULTAD AND INCREASE ITS AWARENESS OF SMALL FARMER PROBLEMS? THE REVIEW SHOULD INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING QUESTIONS:

(A) ARE THERE ALTERNATIVES TO THE PROPOSED FIELD WORK PROGRAM, E.G., INTERN OR WORK/STUDY ARRANGEMENTS WITH ONGOING GOVERNMENT PROGRAMS THAT WOULD BE MORE APPROPRIATE AND COST EFFECTIVE? WHAT ARE THE AVERAGE PER STUDENT COSTS FOR DIFFERENT APPROACHES AND HOW DO THESE COMPARE TO THE PER STUDENT COST IN THE SCHOOL OF AGRONOMY? CAN THE NATIONAL UNIVERSITY BEAR THE HIGH RECURRENT COSTS ASSOCIATED WITH THE FIELD WORK PROGRAM?

(5) WHAT IS THE LIKELIHOOD THAT STUDENTS WILL GAIN A LASTING IN-DEPTH UNDERSTANDING OF SMALL FARMERS IN A THREE-MONTH FIELD WORK PROGRAM? ALSO, TO THE EXTENT THAT YOU HOPE TO HAVE AN IMPACT ON SMALL FARMERS, WHAT IS THE

OFF	ACT	INF
DIR		✓
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ECON		✓
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TEAM	✓	✓
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LMD		
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AMUDO		
EMB		
EAR		

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C&R SECTION

LIKELIHOOD THAT THEY WILL BE RECEPTIVE TO SUGGESTIONS MADE BY THE RELATIVELY INEXPERIENCED STUDENTS?

(C) WHAT IS THE LIKELIHOOD THAT THE SITE SELECTED FOR THE FIELD PROGRAM WOULD BECOME UNUSABLE AFTER TWO OR THREE YEARS BECAUSE CAMPESINOS BECOME TIRED OF PARTICIPATING IN THE PROGRAM?

(D) WILL THERE BE SUFFICIENT NUMBERS OF STUDENTS WHO ARE WILLING AND ABLE TO PARTICIPATE IN THE FIELD PROGRAM? FOR EXAMPLE, THOSE STUDENTS WHO ARE MARRIED AND/OR WORKING MAY REACT NEGATIVELY.

### 3. FIELD PROGRAM.

A. RELATIONSHIP TO OTHER GOVERNMENT PROGRAMS. THE MISSION IS URGED TO TIE THE FIELD PROGRAM TO AN EXISTING NETWORK OF AGRICULTURAL EXTENSION AGENTS THAT IS CAPABLE OF PROVIDING CLOSE, ON-SITE SUPPORT TO STUDENTS PARTICIPATING IN THE PROGRAM, P.G., IDIAP OR THE AG DEVELOPMENT BANK. WE EXPECT THE PROJECT TO INCLUDE A FORMAL AGREEMENT OR CONVENIO BETWEEN THE FACULTAD AND THE RELEVANT EXTENSION SERVICE.

B. SITE SELECTION. THE IR SHOULD DESCRIBE THE SITE SELECTED FOR THE FIELD PROGRAM. REGARDING POTENTIAL SITES, IT APPEARS THAT THE RIO INDIO SITE MAY NOT MEET THE SELECTION CRITERIA SPECIFIED IN THE PID. THE IR SHOULD PROVIDE A STRONG JUSTIFICATION IF THAT SITE IS SELECTED. THE ALTERNATIVE SITE SUGGESTED IN THE PID (SUR DE SONA) HAS BEEN IDENTIFIED AS A POSSIBLE LOCATION

FOR A LARGER AID OR IDE FINANCED INTEGRATED RURAL DEVELOPMENT PROGRAM (IRD). IN ORDER TO AVOID UNDUE COMPLICATIONS, YOU SHOULD TRY TO AVOID SELECTING ONE OF THESE IRD SITES. WE ALSO SUGGEST THAT YOU REVIEW PROPOSED SELECTION CRITERIA TO ENSURE THAT THEY ARE CONSISTENT WITH PROJECT OBJECTIVES. FOR EXAMPLE, GIVEN THE PROBABLE EDUCATION OBJECTIVE, YOU SHOULD ENSURE THAT THE AREA SELECTED HAS TECHNICAL ASSISTANCE, NOT LACKS TA AS STATED IN THE PID. SEE PARA 2 A ABOVE.

C. AGRICULTURAL DEVELOPMENT PLAN. IF THE FIELD PROGRAM CONTINUES TO INCLUDE AN AGRICULTURAL DEVELOPMENT PLAN, THE IR SHOULD DESCRIBE WHAT THE PLAN WILL ENTAIL -- HOW LARGE A GEOGRAPHIC AREA WILL IT COVER AND TO WHAT DETAIL? THE PLAN SHOULD REMAIN RELATIVELY SIMPLE AND COMPLEMENT THE EDUCATIONAL FOCUS OF THE PROJECT. IN ADDITION, THE IR SHOULD DISCUSS THE ROLE THE MINISTRIES OF AGRICULTURE AND PLANNING WILL PLAY IN PREPARING AND IMPLEMENTING THE PLAN.

4. COUNTERPART CONTRIBUTION. THE IR SHOULD CONTAIN A DETAILED BUDGET WHICH FULLY DESCRIBES THE HOST COUNTRY COUNTERPART CONTRIBUTION.

BT

#5100

NNNN

**MISSION COMMENTS TO DAEC PID REVIEW**

**SUBJECT: EDUCATION FOR RURAL DEVELOPMENT (525-0219)**

**REF.: STATE 85190, DATED APRIL 1, 1980**

**1. REQUEST FOR INTERIM REPORT (IR)**

- FOR PURPOSES OF EXPEDIENCY AN IR WAS NOT SUBMITTED. HOWEVER,  
ALL RELEVANT ISSUES RAISED DURING THE PID REVIEW ARE ADDRESSED  
BELOW OR IN THE ACCOMPANYING PROJECT PAPER.

**2. PROJECT STRATEGY**

- **A. THE PROJECT GOAL IS NOW DEFINED IN TERMS OF STRENGTHENING**  
- **THE UNIVERSITY OF PANAMA'S ROLE AND CONTRIBUTION TO AGRI-**  
- **CULTURE SECTOR DEVELOPMENT.**

- **B. THE PROJECT PURPOSE IS TO IMPROVE THE QUALITY OF TECHNICAL**  
- **TRAINING PROVIDED TO AGRONOMY UNDERGRADUATES BY THE FACUL-**  
- **TY OF AGRONOMY.**

- **(A) WHAT ARE THE ALTERNATIVES TO THE PROPOSED FIELD PRAC-**  
- **TICUM?**

- **IN ADDITION TO THE PLANNED 5-MONTH FIELD TRAINING**  
- **EXPERIENCE THE PROJECT WILL DEVELOP AND TEST THE**  
- **FEASIBILITY OF A WORK/STUDY PROGRAM AND A JOINT**  
- **STUDENT/FACULTY RESEARCH PROGRAM. THUS, THE FINAL**  
- **STUDENT CURRICULUM ESTABLISHED MAY INCLUDE FEATURES**  
- **OF ALL THREE TRAINING ACTIVITIES.**

- **CAN THE UNIVERSITY OF PANAMA ABSORB THE HIGH RE-**  
- **CURRING COSTS OF THE PROGRAM?**

- **FROM DISCUSSIONS WITH UNIVERSITY REPRESENTATIVES**  
- **USAID IS CONFIDENT OF THE INSTITUTIONS INTEREST**  
- **AND CAPACITY TO ABSORB THE RECURRING COSTS OF THE**  
- **PROGRAM (ESTIMATED AS 103,000 US DOLLARS PER YEAR)**  
- **ON A CONTINUING BASIS.**

- **(B) WHAT IS THE LIKELIHOOD OF THE FIELD PRACTICUM HAVING**  
- **A LASTING IMPACT ON THE STUDENTS?**

- **USAID VIEWS THE 5-MONTH FIELD EXPERIENCE AS OFFERING**

- A TWO-WAY BENEFIT STREAM. STUDENTS ARE LIKELY TO  
 - DEVELOP A BETTER APPRECIATION OF FARM/FARMER CON-  
 - DITIONS, WHILE FARMERS WILL BENEFIT BY ACQUISITION  
 - OF NEW AND MORE PRODUCTIVE FARMING PRACTICES AS A  
 - RESULT OF STUDENT/FACULTY-SUPPLIED TECHNICAL AS-  
 - SISTANCE. A PRE-IMPLEMENTATION ASSESSMENT OF  
 - FARMER ATTITUDES IN THE PROPOSED FIELD TRAINING  
 - AREAS INDICATES STRONG RECEPTIVITY TO THE PROGRAM.  
 - SUCH REACTION IS CONSISTENT WITH THE TRADITIONAL  
 - OPENNESS OF CHIRIQUI PROVINCE PRODUCERS TO INNO-  
 - VATION FROM OUTSIDERS.

- (C) WHAT IS THE PROSPECT THAT THE FIELD TRAINING SITES  
 - WILL FALL INTO DISUSE?

- PROVIDED STUDENT/FACULTY ASSISTANCE IS SUSTAINED,  
 - REGULARIZED AND BENEFICIAL -- IN TERMS OF IMPARTING  
 - NEW, USEFUL FARMING TECHNIQUES, RAISING PRODUCTION  
 - AND INCOME -- THERE SEEMS LITTLE CHANCE OF FARMER  
 - APATHY. HOWEVER, SHOULD THIS OCCUR (FOR WHATEVER  
 - REASON) THE DISTRICTS SELECTED ARE OF A SUFFICIENT  
 - SIZE AND POPULATION, I.E., 45,000 AND 46,000 IN-  
 - HABITANTS RESPECTIVELY, ALTERNATE SITES CAN EASILY  
 - BE CHOSEN.

- (D) ARE THERE A SUFFICIENT NUMBER OF STUDENTS INTERESTED  
 - IN THE PROGRAM?

- THIRTY STUDENTS WILL BE SELECTED TO PARTICIPATE IN  
 - THE FIELD TRAINING EACH YEAR OF THE PROJECT.  
 - FIFTH-YEAR AGRONOMY STUDENTS NUMBER 70 OR MORE IN  
 - 1981 SO THERE SHOULD BE NO PROBLEM IN FINDING  
 - SUITABLE CANDIDATES.

3. FIELD PROGRAM

- A. RELATIONSHIP TO OTHER GOVERNMENT PROGRAMS.

- THE STUDENTS WHO PARTICIPATE IN THE 5-MONTH FIELD TRAIN-  
 - ING PROGRAM WILL FUNCTION IN A VARIETY OF ROLES, APPLIED  
 - RESEARCH, EXTENSION, HANDS-ON LABOR AND, POSSIBLY EVEN  
 - POST-HARVEST MARKETING. THE UNIVERSITY OF PANAMA AND  
 - IDIAP (APPLIED AGRICULTURE RESEARCH INSTITUTE) HAVE  
 - SIGNED A FORMAL AGREEMENT FOR THE LATTER TO ASSIST IN  
 - THE FIELD PRACTICUM. NEGOTIATIONS ARE CURRENTLY UNDER-  
 - WAY BETWEEN THE UNIVERBITY AND RENARE (RENEWABLE NATURAL  
 - RESOURCES INSTITUTE) FOR THE SAME PURPOSE.

- B. SITE SELECTION

- THE ORIGINAL SITE CHOSEN FOR THE FIELD TRAINING, RIO
- INDIO, WAS REJECTED BECAUSE OF ITS REMOTENESS AND DIF-
- FICULT ACCESS. THE PROPOSED SITES ARE TWO DISTRICTS IN
- CHIRIQUI PROVINCE, BARU AND BUGABA. THEY ARE IN THE
- HEART OF PANAMA'S MOST PRODUCTIVE AGRICULTURAL ZONE AND
- CLOSE TO THE FACULTY OF AGRONOMY'S NEW HEADQUARTERS IN
- DAVID.

- C. AGRICULTURAL DEVELOPMENT PLAN

- THE CHANGES IN FARMING PRACTICES CONTEMPLATED INITIALLY
- UNDER THE FIELD TRAINING PROGRAM WILL BE ONLY THE MOST
- RUDIMENTARY, SUCH AS INCREASING CROP DENSITY, INTRODUC-
- ING NEW VARIETIES AND CROP ROTATION, AND IMPROVING
- PRUNING AND OTHER PRACTICES. MORE DETAILED PLANNING
- WILL PROBABLY OCCUR DURING THE EVALUATION OF THE FIRST
- YEAR'S PRACTICUM WHEN TECHNICAL ASSISTANCE FROM A U.S.
- TITLE XII UNIVERSITY WILL BE MADE AVAILABLE. AS
- MENTIONED, IDIAP AND, POSSIBLY, RENARE WILL PLAY AN
- ACTIVE PART IN ONE OR ANOTHER OF THE THREE NEW TRAINING
- ACTIVITIES TO BE TESTED. WHILE IT HAS NOT BEEN DE-
- TERMINED ASSISTANCE FROM THE MINISTRY OF AGRICULTURE
- (MIDA) IS ALSO POSSIBLE.

4. COUNTERPART CONTRIBUTION

- THE UNIVERSITY'S CONTRIBUTION TO THE PROJECT WILL BE 231,000
- US DOLLARS, DISTRIBUTED AS FOLLOWS: A) STUDENT FIELD SUPPORT
- FUND (35,000 US DOLLARS); B) VEHICLES (15,000 US DOLLARS); C)
- EQUIPMENT AND MATERIALS (73,000 US DOLLARS); AND D) OPERATIONS
- (108,000 US DOLLARS). AS STATED ABOVE, THERE WILL BE ANNUAL
- RECURRING COSTS TO THE UNIVERSITY FOR OPERATING THE PROGRAM
- AMOUNTING TO 103,000 US DOLLARS.

DRAFT PROJECT AUTHORIZATION

Name of Country/Entity: Panama; Faculty  
of Agronomy -  
Univ. of Panama

Name of Project: Education for  
Rural Development

Number of Project: 525-0219

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Education for Rural Development Project for the Faculty of Agronomy of the University of Panama involving planned obligations of not to exceed Four Hundred Ninety Thousand US Dollars (\$490,000) in grant funds over a three year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.
2. The project consists of a pilot effort that will design, test and adapt an applied field practicum together with changes in the existing university curriculum in a program to relate undergraduate training more closely to the needs of Panama's agricultural sector.
3. The Project Agreement which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential terms and onvenants and major conditions, together with such other terms and conditions s A.I.D. may deem appropriate.
  - a. Source and Origin of Goods and Services

Goods and services, except for ocean shipping, financed by A.I.D. under the project shall have their source and origin in the Cooperating Country or in the United States except as A.I.D. may otherwise agree in writing.

ANNEX I, Exhibit E

No. 223-79

1 de junio de 1979

Señor  
Robert E. Culbertson, Director General  
Agencia Internacional para el Desarrollo (AID-Panamá)  
E. S. D.

Estimado Sr. Director:

Por este medio deseo hacerle saber que la Universidad de Panamá ha acogido con suma complacencia las gestiones que la Facultad de Agronomía ha adelantado conjuntamente con la Agencia a su digno cargo para establecer la factibilidad de un Convenio de Asistencia mutua entre la Universidad de Panamá y una Universidad Norteamericana.

Entendemos que las conversaciones han sido adelantadas hasta el punto que corresponde ahora al U.S.A.I.D. y a la Universidad de Panamá designar oficialmente un representante para elaborar el Anteproyecto de Convenio que sería posteriormente puesto a consideración de nuestras dos instituciones. Para este efecto deseamos designar al Dr. Rodolfo Alemán quien es Profesor Titular de Tiempo Completo de la Facultad de Agronomía. En sus gestiones el Dr. Alemán estará permanentemente asesorado por el Decano de la Facultad, Dr. Gilberto Ocaña, así como por otros funcionarios de esa Facultad que él designe.

Esperando poder tener pronto la oportunidad de considerar junto con Ud. el contenido del Proyecto de Acción Conjunta a ser elaborado, nos es grato aprovechar esta oportunidad para hacerle llegar nuestros sentimientos de alta consideración y estima personal.

De Ud. atentamente,

DR. DIOGENES CEDEÑO CENCI  
Rector

/mdcc.

insecurity on the part of the students who realize that they have little experience about the rural world and feel they will not be able to perform well among the peasants. Partly also due to the absence of an institutionalized arrangement where by they can maintain sustained contacts with the rural producer. Therefore, since the educational and social distance between the agronomy students and the campesinos is wide, the field practicum assumes a greater relevance in terms of providing the students with a direct contact with the rural producer so that the gap between them will be narrowed. One can only conclude this section by stating that hardly any student will leave the site of his field practicum without having experienced some internal attitudinal change.

AID HANDBOOK 3, App 5C(2)	TRANS. MEMO NO. 3:32	EFFECTIVE DATE June 7, 1979	PAGE NO. 5C(2)-5
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3.

3. Project Criteria Solely for Economic Support Fund

3. N.A.

a. FAA Sec. 531(a). Will this assistance support promote economic or political stability? To the extent possible, does it reflect the policy directions of section 102?

b. FAA Sec. 533. Will assistance under this chapter be used for military, or paramilitary activities?

PROFILE OF THE FACULTY OF AGRONOMY STUDENT BODY

Since most agronomy students come from an urban background and do not have extensive first-hand knowledge about agriculture and the Panamanian countryside in general, it can be assumed that the four and a half month field practicum will expand their awareness about the conditions of the small farmers. Therefore, in essence, the practicum must be judged as a positive undertaking.

In a recent survey of 135 freshmen of the class of 1978, Gladys Valdez <sup>1/</sup> reported some interesting findings about the students of agronomy which allows us to sketch the profile of the typical Faculty of Agronomy student. He is a young urban male from a low middle class background who most of his life has lived in the large urban centers. He has no farming background nor does he come into the university with any meaningful experience about the rural sector. In highschool he did not study agriculture but rather sciences.

According to the figures given by Valdez, the sex ratio of the freshman class was 77 percent male and young, since 73 percent are under 20 years of age when they start their first year of agronomy.

Almost 90 percent of the students have studied in state high schools rather than the private schools that cater to youths from the upper middle and upper class. Quite surprisingly only a small fraction, 12 percent, have graduated from the agricultural schools of the hinterland such as Divisa, Atalaya, Felix Olivares, San Benito, etc. On the contrary Panama City high schools, such as Instituto Nacional and Fermin Naudeau, contribute a disproportionate share to the student body of the school of agronomy which in essence, since its foundation, has remained a school for youths from the nation's capital. Only 13 percent of the students actually came from farming families while at the same time a mere 1 percent said they had previous experience in handling farm machinery. Not surprisingly most students indicated that upon completion of their studies they would like to work as salaried state technicians. As for the particular institutions where they would prefer to work, 73 percent said they would like to join MIDA (Ministry of Agriculture Development), RENARE (Natural Renewable Resources), IDIAP (Research Institute), IMA (Marketing Institute). Only one percent stated a desire to work in the field offering technical assistance to the peasantry. Why so few want to work with the peasantry is a critical issue about which one can only speculate. Perhaps it is partly due to fear, to a feeling of

<sup>1/</sup> Gladys Valdez; Some causes that influence the students, who entered first year in year 1978, in the election of Agronomy Engineering Career. University of Panama, Graduation Thesis, Faculty of Agronomy, 62 p., Panama, 1979.

DETAILED DESCRIPTION OF THE STUDENT PRACTICUM PROGRAM

This program is designed to provide the student with essential field experience in teaching, applied research or extension based in part on his or her career goals and on course requirements established by the Faculty. Currently, faculty students receive primarily academic training which does not prepare them adequately for practical problem solving. This situation, coupled with the fact that most agronomy students generally are not raised on farms or in rural areas, produces professionals with limited practical experience and ability to deal effectively with real-world production problems. The proposed exposure provided through this project will contribute considerably to providing students with appropriate experience and developing their sensitivities to the conditions of poverty faced by most small farmers.

1. Location(s) and Timing of Practicum Activities

To maximize the potential pay-off of the practicum program and to minimize difficulties in monitoring the participating students, two sites will be selected for practicum activities. Two areas have been tentatively identified as potential sites for project activities. These include the Baru and Bugaba Districts of Chiriqui Province which also have been identified as IDIAP priority areas.

Upon project authorization and signature of the project agreement, final preparations for initiation of practicum activities will be made, including detailed organizational planning for the practicum, contracting for project staff and for technical assistance, acquisition of vehicles and equipment and preparation of an area agricultural development plan. This phase is expected to require six to eight months. Implementation of the practicum should begin with the first semester of the 1982 academic year (April, 1982).

2. Student Activities

Student field participation will involve one or more of the following areas: applied agricultural research, extension or student teaching. These activities will be coordinated through an area agricultural development plan which will be produced by the Faculty with the assistance of the participating U.S. university for each of the project sites. This plan will be based on a diagnostic study which will be completed during the project design phase. The plan will be oriented toward increasing productivity of small farmers in the project area. Student activities in applied research, extension or teaching will be specifically focused to achieve the plan's objectives.

a. Research Activities

Applied research activities will be conducted by selected students under the supervision of Faculty professors in conjunction with the U.S. university which will collaborate with the

Faculty. This research will include field experiments such as the introduction of crop varieties new to the project site(s), determination of variety-fertility responses, and utilization of new cultural practices.

The first phase of the field research, e.g., variety trials will be conducted under controlled conditions. Research techniques proven effective at this stage will then be field tested with cooperating farmers. In addition, economic production studies, including market studies will be conducted as necessary by students before research results are recommended to the local farmers.

Specific types of applied research activities will include:

(1) Field Experiments

Field experiments, based on the results of the diagnosis to be completed during project design, will be undertaken. These will be simple, brief, and designed to produce results easily transferable to the cooperating farmers. The field experiments will include variety trials and modifications of selected agronomic practices. The project includes funds for seeds, fertilizer, pesticides, etc.

(2) Cooperating Farmer Field Tests

The plant varieties and agronomic practices that prove effective during the field experiments will then be tested on a limited scale with cooperating farmers under actual farm conditions. Cooperating farmers will be chosen on the basis of their interest in participating in the field demonstration process. This test phase will not only evaluate the physical and economic aspects of production but also the local farmer's ability and willingness to incorporate the particular innovation into his farming system.

(3) Production Studies

Some students will carry out economic production studies involving crops which are being field tested. These might include production cost analyses, market studies, and or risk analyses.

Specific research activities will be coordinated, reviewed and supervised by a research committee made up of senior agronomy professors and consultants from the participating U.S. university who will assure the continuity needed to produce useful results. This approach is not designed to produce sophisticated or elaborate research but should be effective in generating highly reliable and locally adaptable agricultural innovations. In many areas of Panama where agricultural practices are not very advanced, simple innovations based on easily performed research should produce immediate production results when adopted by local farmers.

b. Agricultural Extension

This phase of the practicum is designed to promote extensive interaction between the students, professors and local farmers. Students assisted by Faculty professors will be responsible for providing the farmers with information regarding specific production recommendation that will be developed on the basis of observation and on analyses from the research program. Each student participating in the program, in addition to assisting with the entire effort, will select a specialized extension technique such as demonstration plots, visual aids, publications, radio or farmer services for further elaboration.

Demonstration plots will be established and other extension techniques employed when a particular variety or agronomic practice has been proven suitable under farm production conditions. In addition, students and professors will participate in a variety of general agricultural education activities directed toward improving the basic agricultural knowledge of the local farmers. These extension themes may include:

(1) Soil management, with emphasis on maintaining natural soil fertility through crop rotation.

(2) Cultural practices, with special emphasis on weed control, multi-cropping, intercropping, strip cropping.

(3) Insect and disease control with special emphasis on resistant varieties, techniques to reduce or minimize pest damage and instruction on the careful and discrete use of pesticides.

(4) Product handling and storage with emphasis on centralized product handling keyed to nearby markets.

To train faculty students in extension techniques and give continuity to extension activities, a Panamanian faculty member will be sent to the participating U.S. university for in-service training in Cooperative Extension. Following his training, he will begin to assume responsibility for supervising the extension activity which will have been jointly developed by faculty staff and U.S. extension specialists. On-site training sessions will be conducted for fifth-year students and junior faculty in extension techniques and philosophy.

c. Student Teaching

This phase of the program is designed to provide those university students who may be interested in a teaching career with the opportunity to obtain practical teaching experience under closely supervised conditions. They will assist in and/or teach basic agricultural courses to vocational students at a Basic Cycle school located in the project area. The student teachers will be closely supervised by the Director of the vocational school, the Project Director, and by selected University of Panama faculty members.

Short-term assistance will be provided in agricultural education by the participating U.S. university while the Panamanian faculty member receives U.S. training in vocational agriculture education and is exposed to similar programs in U.S. public schools. Upon completing his training he will assume responsibility for supervising the teaching activities undertaken by faculty students.

The students will help conduct courses in selected agricultural subjects. Teaching methods will emphasize "learning by doing" techniques that incorporate ample field work. It is anticipated that at least two university students will assist in each course. University students will be responsible for planning the specific aspects of course content at the beginning of each semester, preparing lesson plans and conducting classroom, laboratory and field instruction under the supervision of the regular instructor. Special emphasis will be placed on the laboratory and field instruction phases of the course.

THE SOCIAL AND ECONOMIC CHARACTERISTICS OF BARU AND BUGABA DISTRICTS

The students of agronomy will be carrying out their field practicum in two districts of western Chiriqui that have been selected by IDIAP as priority target areas for research and development of technological packages aimed at improving the productivity of the small and medium-sized farmers; these are the districts of Baru and Bugaba.

Both districts contain some of the best agricultural soils in Panama, where the productivity of the land is also among the highest. Although Baru and Bugaba are physically contiguous and share some common traits, sociologically speaking they differ in many important ways.

The two districts have some of the highest rates of population density in rural Panama. For example, Baru (609 km<sup>2</sup>) with a population of 46,000 has 76 persons per square kilometer. Bugaba, with 811 km<sup>2</sup>, has 45,500 persons or 45 per km<sup>2</sup>. The average population density for Chiriqui province is 32. The demographical revolution witnessed in these districts is a phenomena of the present century partly due to a remarkable drop in the death rate and increased longevity of the people, but partly also due to immigration. Baru and Bugaba were Chiriqui's last frontiers of colonization during the XX century.

In Bugaba colonization accelerated from the 1920's as a result of the building of the "Ferrocarril Nacional de Chiriqui", the railine that opened the tropical forest lands of Western Chiriqui to settlement. The process of colonization of the highlands of the districts was later encouraged by construction of the road linking Concepción, the district capital, with the region of volcan in the central mountain region. The people who settled Bugaba during the present century have been predominantly small mestizo/peasant farmers from the neighboring savannah-covered districts of Alanje, David and Boqueron, as well as farmers from North America and Europe who settled in the highlands. Among the nations that contributed to the ethnic composition of the population of Bugaba are Germany, Switzerland, United States, Yugoslavia, Spain etc. The pioneer spirit is still fresh among the local farmers, who tend to be independent-minded, proud of what they have been able to accomplish and with a deep identification to their region. This rural society has never experienced a plantation system, and accumulation of large land holdings ("latifundismo") is a rather recent phenomenon. However, the bulk of its producers are small and medium-sized land holders.

The agricultural census of 1970 showed the following distribution of land in Bugaba:

<u>Size of Farms</u>	<u>No. of Farms</u>	<u>% of Total</u>	<u>No. of Hectares</u>	<u>% of Total Area</u>
0.5 has.	1,473	26%	117	0.1%
0.5- 4.9	2,052	37	3,590	5
5.0- 49.9	1,673	30	26,494	36
50.0-199	280	5	24,595	33
200 +	47	1	18,896	26
<b>TOTAL:</b>	<b>5,525</b>	<b>100%</b>	<b>73,692</b>	<b>100%</b>

Source: "Dirección de Estadística y Censo", Statistics Compendium, Chiriquí, P. 90, 1973.

It should be kept in mind when analyzing this table many of the farms with less than half an hectare are not really farms but the backyard plots of dwellings located in the small towns and cities of the districts. Therefore, the bulk of the farming units of the districts have between 0.5 and 5 hectares of land and those between 5 and 49 hectares. These two categories combined make up 67% of all farm units.

Although the farmers of Bugaba produce a very wide array of products, the predominant orientation is towards livestock and particularly dairy farming. Thus, Bugaba, according to the census of 1971, had 18% of the cattle of Chiriquí which produced 57 percent of the milk produced in the province. The district also had 61 percent of the horses in Chiriquí, and some of the finest ranches for the rearing of thoroughbreds in the country. Bugaba also produces about 20 percent of the coffee of Chiriquí, 20 percent of the rice and a substantial proportion of its vegetable crop which is mostly sold in Panama City.

These achievements in production have been brought about by farmers' own initiatives. As the census also showed only 647 farms used credit while, even less, 117 farms <sup>1/</sup> obtained technical assistance. Although in terms of gaining access to credit and obtaining technical assistance, the situation has improved since the 1971 census was taken, much remains to be done in both aspects. The farmers of Bugaba urgently require technical assistance, and the work that the students of the Faculty of Agronomy will carry out in the area will indeed find a most receptive community.

While Bugaba is oriented towards the production of livestock, farmers in Baru concentrate primarily on crop production. For example, in 1971 the total value of agricultural production stood at \$20,000,000

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<sup>1/</sup> Source: "Dirección de Estadística y Censo", III Agricultural Census, 1970, Vol. III, pages 464-472.

dollars, of which only 6 percent correspond to livestock while 94 percent were provided by crop production, such as bananas, plantains, rice, corn and beans, particularly bananas. On the other hand, the socio-economic organization of production in Baru is more complex than in Bugaba. It can be subdivided into three distinctive but interrelated sectors.

The socio-economic characteristics of Baru have been deeply imprinted by the presence of the plantation system established since the early 1930's by the Chiriqui Land Co., a subsidiary of the former United Fruit Co. (now Standard Brands). Chiriqui Land Co. is dedicated exclusively to the monocultivation of bananas for export to the world market. It cultivates 6,000 hectares under irrigation using advanced technology and giving employment to some 5,000 workers. Plantation workers are among the most highly paid rural laborers in Panama with an average wage of \$175 per month. Furthermore these plantation workers are organized into a highly militant union, the "Sindicato de Trabajadores de la Chiriqui Land Company" or "Sitrachirco". In turn, the workers' movement gave rise to a very active cooperative system. Baru has two large cooperative organizations, the oldest being a savings and loan institution (La Cooperativa de Ahorro y Crédito San Antonio, with 3,600 members and capital of 2.4 million dollars) and a consumers cooperative (Consubarú, with 1,200 members). Most of the membership of these cooperatives is located in the different banana farms or "fincas" of the company.

Another part of the banana plantation system is the state-owned corporation "COPABA" (Corporación Bananera del Pacífico) that cultivates some 1,200 hectares and employs some 800 laborers most of whom in turn are former Chiriqui Land Co. employees.

With the introduction of the plantations, hundreds of labourers migrated into Baru: Central Americans, West Indians, as well as mestizo and indian peasants from Chiriqui.

The plantation sector generates about 75% of the district's gross domestic product, and it also is a key market for the agricultural and livestock products produced by the other two sectors: the group farming units and the independent peasant farmers. There are in Baru, 25 group farming units that came into existence with the agrarian reform process that has affected Baru since the late 1960's. Group farms can be divided into two basic models: the "Asentamientos Campesinos" and "Juntas Agrarias de Producción". The reformed sector covers some 8,000 hectares, mostly former Chiriqui Land property which now belongs legally to the state. About 2,000 families are members of these cooperative production units, most of whom are former Chiriqui Land laborers although recently landless peasants from eastern Chiriqui have been resettled in the area including some Guaymí Indians from the highlands.

In the reformed sector the main emphasis has been on mechanized grain farming--rice in particular, although lately some attention has been given to planting corn and sorghum as an alternative crops. Besides the common plot where the main production effort takes place, all families

are given a small plot where they grow mostly subsistence crops for household consumption. Lately, however, a significant number of members of the Asentamientos and the Juntas have begun to plant plantains on a commercial basis in their family plots.

Even though substantial progress has been made in raising production within the reformed sector, there are critical problems, such as employment, productivity and income which are still lagging behind the original targets, and thus it is a priority goal of the Panamanian government to improve this situation. In the group farming units, per capita income derived from the collective farming activities is barely 66 dollars per person per year. <sup>1/</sup> Both IDIAP and the Ministry of Agriculture are giving priority to improving the performance and conditions of the peasants within the reformed sector. Therefore, agronomy students will carry-out their field practicums with some of these organizations, mainly those that show greatest economic and organizational potential.

The third sector of Barú is formed by the independent peasant land holders. They are independent in the sense of landownership and because it is the family that is the basic unit of production. The independent sectors includes some 2,100 families who farmed about 40 percent of the land under production. These farmers cultivate about 40 percent of the rice, 75 percent of the sorghum and 100 percent of the corn. Moreover, they are responsible for almost the whole of Barú's livestock production. Among the independent farmers, those whose farms are under five hectares, plantains are the main cash crop, mixed with the planting of corn for the market as well as to feed chickens and pigs. On the other hand those farmers whose holdings are over five hectares usually engage in mechanized and semi-mechanized rice farming. The strata of independent farmers generally has a higher level of productivity than the group farming units, but still below that of plantation sector. The per capita income of the independent farmers is 364 dollars per year, higher than that of the group farming sector which is only 66 dollars per capita per year. Per capita income of the plantation sector is 1,054 dollars <sup>2/</sup>. The independent farmers have had less access to technical assistance and credit than peasants from the reform sector. Consequently, the independent land holders are a priority target group of IDIAP, whose main concern is to increase their productivity particularly in the main cash crops such as plantains rice and corn.

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<sup>1/</sup> Ministry of Agriculture Development, Barú Diagnosis, page 156, Santiago, 1977.

<sup>2/</sup> Ministry of Agriculture Development, op. cit.

On the basis of recent surveys carried out by IDIAP 1/ the profile of the farmer with whom the students will be working looks something like this: He is a rural dweller whose age varies between 45 and 55 years. Although he might only have three years of formal education, he has been the head of his farm for at least 20 years thus he has gained substantial knowledge on local environment and the problems that confront him. His practical agricultural experience is far broader and deeper than that of the agronomy students, as the latter are mostly limited to theoretical knowledge. The average farmer supports a household of five members, who in turn provide the bulk of the labor force that the farm requires, although occasionally laborers are hired on a daily basis. The independent farmer produces a substantial amount of the foodstuffs his family consumes, but he is also sharply tuned to the market and is quite willing to improve his commercial activities if it means a larger cash income. Thus he is not at all unresponsive to technological innovation. Nonetheless he does not actively pursue commercial credit and generally shuns it if he can do without, specifically credit that involves using his land as collateral to pay for expensive inputs, and technical assistance which historically has been scarce and of dubious quality.

In conclusion, the students of agronomy who will be working in the different sites of Baru and Bugaba, in conjunction with technicians of IDIAP and with the local peasantry and the small farmers, will find a receptive area for their efforts but at the same time areas where the existence of many types of producers will require a flexible practicum approach.

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1/ Agriculture Research Institute, Diagnosis of Three Areas (Aserrio, Guarumal and Progreso), Panama, June, 1978.

FINANCIAL ANALYSIS

This project consists of six (6) major cost components; technical assistance, training, field support fund, transportation (vehicles) equipment and material and operating expenditures.

This section describes, in detail, the costs presented in the overall Financial Plan.

1. Technical Assistance

This project will provide the university with 18 person-months of technical assistance. This technical assistance will be used to design, implement and evaluate the field experiences, and to outline a long-range plan for expanding Faculty of Agronomy curriculum to include advanced degree work. The budget for this line item is \$202,000. Assuming that this contract will be let to a university with an overhead rate of about 50 percent, the amount budgeted for this line item is in line with past AID experience.

2. Training

Training totling \$212,000 has been budgeted in accordance with the estimated standard costs for participants prescribed in Participant Training Notice No. 29, dated January 15, 1981.

96 person-months of academic training \$18.50 ea. per month	\$177,600
6 person-months of technical training \$39.00 ea. per month	23,400
Contingencies	11,000
<b>TOTAL:</b>	<b>\$212,000</b>

3. Field Support Fund

\$81,000 of the total project funds (\$46,000 AID and \$35,000 GOP) have been allocated for the field support fund. This fund will be used to partially offset the cost of living in the field of the 30 students participating in the field exercises during each of the three years of the project. Each student will be compensated at a rate of \$6.00 a day for roughly 4 1/2 months.

This fund is not intended to defray all costs but it should enable the students to meet all of their basic needs. The GOP currently provides its staff with \$10 a day per diem when they are sent to the field.

4. Transportation

Grant funds totaling \$30,000 have been budgeted for the acquisition of two vehicles (one 4-wheel drive pick-up and a van). An amount of \$15,000 will be set aside for each vehicle. This cost is in line with anticipated purchase prices and shipping costs.

5. Equipment and Materials

The GOP has budgeted \$73,000 of counterpart funds to provide for the needed agricultural input such as irrigation, equipment, sprayers, fertilizers and pesticides to help make the students field experience a success. The listing of equipment to be purchased for the project and the estimated amount were prepared by an AID-contracted specialist, and we have included the estimated cost in the budget at face value.

6. Operating Expenditures

The GOP has budgeted \$108,000 in counterpart funds to cover operating expenses associated with implementation of the project. Operating expenses will include staff salaries, in-country travel and per diem, fuel and vehicle maintenance, and office supplies. USAID's preliminary analysis indicates that this sum is realistic and adequate. To ensure that the project encounters no unreasonable delays for lack of operating budget, the grant agreement will contain the standard language found in Section 3.2 of the Sample Grant Agreement found in AID Handbook 3 which requires the grantee to provide all addition funds necessary to carry out the project effectively.

7. Projected Expenditures

The table on the following page shows the projected expenditures, by fiscal year.

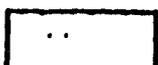
(\$000)

	<u>AID</u>	<u>FY 82</u> <u>GOP</u>	<u>TOTAL</u>	<u>AID</u>	<u>FY 83</u> <u>GOP</u>	<u>TOTAL</u>	<u>AID</u>	<u>FY 84</u> <u>GOP</u>	<u>TOTAL</u>	<u>AID</u>	<u>Grand Total</u> <u>GOP</u>	<u>Total Project</u>
Technical Assistance	112	--	112	40	--	40	50	--	50	202	--	202
Training	18	--	18	72	--	72	122	--	122	212	--	212
Field Support	22	5	27	16	11	27	8	19	27	46	35	81
Vehicles	30	15	45	--	--	--	--	--	--	30	15	45
Equipment and Materials	--	21	21	--	24	24	--	28	28	--	73	73
Project Operations	--	<u>32</u>	<u>32</u>	--	<u>36</u>	<u>36</u>	--	<u>40</u>	<u>40</u>	--	<u>108</u>	<u>108</u>
	<u>182</u>	<u>73</u>	<u>255</u>	<u>128</u>	<u>71</u>	<u>199</u>	<u>180</u>	<u>87</u>	<u>267</u>	<u>490</u>	<u>231</u>	<u>721</u>

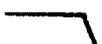
ANNEX VI

AID/W PP RE- VIEW	PRO- JECT AUTHOR IZED.	PRO- JECT SIGNED	CPs MET
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	7	8	9	10	11	12	1	2	3	4
1. FIELD SUPPORT FUND							30 students selected to participate in year 1 practicum			5-
2. EQUIPMENT AND MATERIALS				GOP identifies needs for year 1.		GOP obtains price quotes and issues purchase orders			Equipment & materials delivered	
3. TRANSPORTATION (Vehicles)				GOP receives price quotes.		GOP issues purchase order			Vehicles delivered	
4. TRAINING				PIO/P for first 2 participants presented			Two faculty members			PIO/P for second group of participants presented
5. TECHNICAL ASSISTANCE		RFP in preparation GOP/AID	RFP Circulated.	Proposals evaluated.	Contract Executed		12 pm of technical ass. design second			
6. PROJECT OPERATIONS										GOP funds project operating costs



Project Activities



Contracting - related actions.

TIME-PHASED IMPLEMENTATION PLAN

1 9 8 2								1 9 8 3					
5 6		7 8 9		10 11 12		1 2 3		4		5 6 7 8 9			
month practicum (year 1)								30 students selected to participate in year 2 practicum		5-month practicum (Year 2)			
				<p>GOP identifies needs for year 2</p>		<p>GOP obtains price quotes and issues purchase orders</p>		Equipment and materials delivered					

sent to the U.S. for 24 months to obtain M. S. degrees in Agricultural Sciences.

Two faculty members sent to the U.S. for 24 months to obtain M. S. de											
<p>PIO/P for short term training presented</p>								3 faculty members assigned to project sent to U.S. for 3 months short term training			
istance provided to implement first practicum and											
One pm of TA to evaluate progress and formulate year 2 activities.								2 pm of evaluate and for year 3.			

uch as salaries, office operations, faculty travel, and vehicle fuel and maintenance throughout lif

ANNEX VI

			1 9 8 4											
10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
			30 students selected to participate in Year 3 Practicum			5-month Practicum (Year 3)								
<p>GOP identifies needs for year 3</p>		<p>GOP obtains price quotes and issues purchase orders</p>					Equipment and materials delivered.							
degrees in Agricultural Sciences.														
of TA to evaluate progress formulate year 3 activities.						2 pm of TA are provided to refine practicum for Year 3.						One pm of TA to evaluate progress formulate year 4 activities, and prepare outline for multi-year faculty expansion.		
life of the project.														