

PD ABA-416

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT DATA SHEET

1. TRANSACTION CODE
 A = Add.
 C = Change
 D = Delete
 Amendment Number _____
 DOCUMENT CODE 3

COUNTRY/ENTITY
Dominican Republic

3. PROJECT NUMBER
57-0243

4. BUREAU/OFFICE
USAID/Dominican Republic

5. PROJECT TITLE (maximum 40 characters)
UNIVERSITY AGRIBUSINESS PARTNERSHIP

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)
 MM DD YY
 06 31 91

7. ESTIMATED DATE OF OBLIGATION
 (Under "B" below, enter 1, 2, 3, or 4)
 A. Initial FY 89 B. Quarter 3 C. Final FY 94

8. COSTS (\$000 OR EQUIVALENT \$) =

A. FUNDING SOURCE	FIRST FY 89			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	3,600		3,600	12,000		12,000
(Grant)	(3,600)		(3,600)	(12,000)		(12,000)
(Loan)						
Other U.S. 1. MUCIA (Title XII)				7,010		7,010
2						
Host Country					5,078	5,078
Other Donors)						
TOTALS	3,600		3,600	19,010	5,078	24,088

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	250	030		0		3,600		12,000	
(2)									
(3)									
(4)									
TOTALS						3,600		12,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)
 660 670 620 150 160 070

11. SECONDARY PURPOSE CODE
 660

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code	XII	TNC	R/AG	BF
B. Amount	10,221	1,611		

13. PROJECT PURPOSE (maximum 480 characters).

To provide the expanding agribusiness and agro-industrial community with increased trained manpower by institutionally strengthening the Superior Institute of Agriculture (ISA) and the Center for Rural Development and Training (CADER).

14. SCHEDULED EVALUATIONS

Interim	MM	YY	MM	YY	Final	MM	YY
	07	91	07	94		08	96

15. SOURCE/ORIGIN OF GOODS AND SERVICES
 000 941 Local Other (Specify) _____

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP. Amendment.)

Approval of Methods of Implementation and Financing
 Richard Lawrence, A/CONT

17. APPROVED BY
 Signature: Raymond F. Rifenburg
 Title: Raymond F. Rifenburg Acting Director
 Date Signed: MM DD YY
 06 23 89

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
 MM DD YY

PROJECT AUTHORIZATION

NAME OF ENTITY : SUPERIOR INSTITUTE OF AGRICULTURE
NAME OF COUNTRY : DOMINICAN REPUBLIC
NAME OF PROJECT : THE UNIVERSITY AGRIBUSINESS PARTNERSHIP
NUMBER OF PROJECT : 517-0243

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the University Agribusiness Partnership Project for the Dominican Republic involving planned obligations of not to exceed \$12,000,000 in grant funds over a five 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. The planned life of project is 7 years from the date of initial obligation.

2. The project consists of providing the expanding agribusiness and agro-industrial community with increased trained manpower by institutionally strengthening the Superior Institute for Agriculture (ISA) and its Center for Rural Development and Administration (CADER).

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.

4. a. Source and Origin of Commodities, Nationality of Services.

Commodities 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. Except for ocean shipping, the suppliers of commodities or services shall have the Cooperating Country or the United States as their place of nationality, 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.

b. Conditions Precedent

1. Condition Precedent to Disbursement for Procurement

As a Condition Precedent for disbursements to ISA for procurement other than the Title XII contract, ISA will provide in form and substance satisfactory to AID unless otherwise indicated in writing, a detailed and time-phased plan for procurement, which shows how ISA will handle the procurement of all commodities in such a way that will ensure timely arrival of commodities and full compliance with the standard provisions of the grant agreement.

2. Condition Precedent to Disbursement for Institutional Support

As a Condition Precedent for disbursement to ISA for Institutional Support, after December 30, 1990, or six months after signing of the grant agreement, whichever date is later, ISA will provide in form and substance satisfactory to AID unless otherwise indicated in writing, a project implementation action plan which includes, among other things, revenue enhancement measures; how project-provided data processing and software systems will continue to be applied to attain project objectives; improvements in financial management personnel; and enhancements to the organization of the financial management function and the budgetary approval and control process.

c. Convenants

1. ISA agrees to coordinate with AID and project funded consultants, in the preparation of a Project Data Collection and Monitoring System within the first six months of the project.

2. ISA agrees to conduct an assessment after the first 12 months of the project, to measure progress to date in procurement and financial management enhancements. The assessment will be made by an independent firm of Certified Public Accountants satisfactory to AID.

3. ISA agrees that AID will participate in setting the scopes of work and reporting requirements for periodic audits of ISA.

d. Waivers

A waiver for AID financing of the International Transportation Costs of project participants per Handbook 10, Chapter 15, and as detailed in Annex VIII, is hereby approved.

Signature: Raymond F. Rifenburg
Raymond F. Rifenburg
Acting Mission Director
June 23, 1989
Date

UNIVERSITY AGRIBUSINESS PARTNERSHIP PROJECT

Project Paper
USAID/Dominican Republic

517-0243

June 5, 1989

Table of Contents

	Page
Project Data Sheet.....	i
Table of Contents.....	ii
Glossary.....	v
PROJECT PAPER	
I. SUMMARY AND RECOMMENDATIONS.....	1
II. BACKGROUND.....	4
A. Summary of the Problem.....	4
B. Profile of Agribusiness University Education in the Dominican Republic.....	5
1. Superior Institute of Agriculture (ISA).....	5
2. Other Institutions.....	7
3. ISA Faculty/Staff Salaries and Experience.....	8
4. Sources of Income.....	9
5. Training/Research Resources.....	10
III. PROJECT DESCRIPTION.....	12
A. Goal and Purpose.....	12
B. Brief Description of the Project.....	12
C. Relationship of Project to USAID's Development Strategy and Other Projects.....	13
D. Relationship to AID Agricultural Sector Strategy and Policies.....	14
E. Alternative Strategies Considered.....	14
F. Other Donor Activities.....	16
G. Project Summary.....	16
1. Institutional Endowment Fund.....	16
2. Development Office.....	17
3. Exchange Faculty/Staff.....	17
a. From the U.S. to ISA/CADER.....	17
b. From ISA/CADER to U.S.....	18
c. Short Term Technical Assistance.....	18
4. Short Term Training.....	18
5. ISA Institutional Support.....	19
6. Expected Impact/Achievements.....	21
H. Project Components.....	22
1. Administration Program.....	22
2. Horticulture/Agronomy Program.....	27
3. Animal Production Program.....	30
4. Forestry/Natural Resources Program.....	33
5. CADER Agribusiness Program.....	35

IV.	SUMMARY PROJECT ANALYSES.....	39
A.	Summary of Administrative Analysis.....	39
1.	Project Management.....	39
2.	Financial Management.....	41
3.	Contracting.....	41
4.	Training.....	41
5.	Reporting.....	42
6.	Managing the University.....	42
B.	Summary of Economic and Financial Analysis.....	42
1.	Economic Analysis.....	42
2.	Financial Analysis.....	44
C.	Summary of Social Soundness Analysis.....	47
1.	Socio-cultural Feasibility.....	48
2.	Spread Effects.....	49
3.	Social Consequences, Benefit Incidence and Gender Issues.....	49
D.	Environmental Considerations.....	49
V.	IMPLEMENTATION PLAN.....	50
A.	Project Initiation.....	50
B.	Project Administration and Management.....	50
1.	USAID Project Monitoring.....	50
2.	ISA Project Administration.....	50
3.	The Consortium Project Administration.....	50
a.	Technical Assistance.....	51
b.	Long-Term Technical Assistance.....	52
c.	Short-Term Technical Assistance.....	52
d.	Training.....	53
e.	Procurement.....	54
f.	Project Reviews.....	54
g.	Contributed Resources.....	55
C.	Evaluation and Audit.....	58
D.	Gray Amendment.....	60
E.	Implementation Schedule.....	60
F.	Procurement Plan.....	61
G.	Methods of Implementation and Financing.....	61
VI.	FINANCIAL PLAN AND COST ESTIMATES.....	62
A.	Financial Plan.....	62
B.	Cost Estimates.....	64
VII.	CONDITIONS AND COVENANTS.....	72
A.	Conditions Precedent to Subsequent Disbursement.....	72
B.	Covenants.....	72

LIST OF TABLES AND CHARTS

Table 1: Technical Assistance to ISA Administration.....	25
Table 2: Administration Training.....	26
Table 3: Infrastructure Support of ISA Administration.....	27
Table 4: Technical Assistance to Horticulture/Agronomy.....	28
Table 5: Horticulture/Agronomy Training.....	29
Table 6: Infrastructure Support to Horticulture/Agronomy.....	30
Table 7: Technical Assistance to Animal Production.....	31
Table 8: Animal Production Training.....	32
Table 9: Infrastructure Support to Animal Production	32
Table 10: Technical Assistance to Forestry/Natural Resources.....	33
Table 11: Forestry/Natural Resources Training.....	34
Table 12: Infrastructure Support to Forestry/Natural Resources...	35
Table 13: Technical Assistance to CADER.....	37
Table 14: CADER Faculty Training.....	38
Table 15: Equipment and Supplies for CADER.....	38
Table 16: History of AID Support to ISA/CADER.....	40
Table 17: Methods of Implementation and Financing.....	47
Table 18: Project Implementation Schedule.....	61
Table 19: Financial Plan.....	62
Table 20: Projections of Disbursements/Contributed Resources.....	63
Table 21: Estimated ISA Contribution to Project.....	63
Table 22: Summary Cost Estimates.....	64
Table 23: Cost Estimates: Commodities.....	65
Table 24: Cost Estimates: Technical Assistance.....	66
Table 25: Cost Estimates: Training.....	67
Table 26: Cost Estimates: Transition Period.....	68
Table 27: Cost Estimates: Development Office.....	69
Table 28: Cost Estimates: Project Support at ISA.....	69
Table 29: Cost Estimates: Contract Support at U.S. Campuses.....	70
Table 30: Cost Estimates: Evaluation.....	71

ANNEXES (See Annex for Detailed Table)

Page

I.	Logical Framework	
II.	Approval Cable	
III.	Statutory Checklist	
IV.	Request for Assistance	
V.	Environmental Impact Statement	
VI.	Project Committee Approval	
VII.	Project Analyses.....	1
	A. Economic Analysis.....	1
	B. Financial Analysis.....	6
	C. Social Soundness Analysis.....	16
	D. Administrative Analysis and Program.....	25
	E. Horticulture/Agronomy Program.....	54
	F. Animal Production Program.....	70
	G. Forestry/Natural Resources Program.....	90
	H. CADER Agribusiness Program.....	103
	I. Women in Development.....	126
	J. Survey Analysis of Agricultural Universities	
	K. Economic Analysis Tables	
VIII.	Supporting Documentation	
IX.	Reference Documents	

GLOSSARY

AID	Agency for International Development (Washington)
ARD	Agriculture/Rural Development Office (USAID/DR)
BAGRICOLA	National Agricultural Development Bank
CADER	Center for Rural Development and Administration
CATIE	Center for Research and Training in Tropical Agriculture (Costa Rica)
CDSS	Country Development Strategy Statement
CEA	State Sugar Council
CEDIA	National Center for Rice Research
CENDA	Northern Agricultural Research Center
CIAE	Center for Economic and Food Research
CIAF	Center for Agriculture and Forestry Information
CIAT	International Center for Tropical Agriculture
CIMPA	Center for Research and Improvement of Animal Production
CNA	National Agricultural Council
CNHE	National Council of Businessmen
CONT	Controllers Office (USAID/DR)
CPA	Certified Public Accountant
EC	European Community
FCE	Education Credit Fund (Also FUNDAPEC)
FDA	Agricultural Development Foundation
FEPROCA	Provincial Federation of Farmers Organizations of Azua
FSI	Foreign Service Institute
FSN	Foreign Service National
FTE	Full Time Equivalent
FUNDAPEC	Foundation for Educational Credit (Also FCE)
FX	Foreign Exchange
FY	Fiscal Year
GODR	Government of the Dominican Republic
GOI	Government of Italy
GTZ	German Technical Assistance Program
HBCU	Historically Black Colleges and Universities
IAD	Agrarian Reform Institute
ICOR	Incremental Capital Output Ratio
ICRAF	International Council for Research in Agroforestry
ICRW	International Center for Research on Women
IDB	Interamerican Development Bank
INCAE	Central American Business School

INDHRI	National Drainage and Irrigation Institute
INESPRE	National Price Stabilization Institute
IPA	International Programs Office (OSU)
IQC	Indefinite Quantity Contract
IRR	Internal Rate of Return
IRS	International Revenue Service
ISA	Superior Institute of Agriculture
JACC	Joint Agricultural Consultative Committee
KAF	Konrad Adenauer Foundation
LC	Local Currency
LOC	Letter of Commitment
LOP	Life of Project
MCO	Management Contracts Office (USAID/DR)
MUCIA	Midwest Universities Consortium for International Activities, Inc.
NGO	Non-Governmental Organization
NP	Non-Profit
OAS	Organization of the American States
ONAPLAN	National Office of Planning
OSU	Ohio State University
OSURF	OSU Research Foundation
PACD	Project Assistance Completion Date
PID	Project Identification Document
PIO/C	Project Implementation Order-Commodities
PIO/T	Project Implementation Order-Technical Assistance
PPC	Bureau for Program and Policy Coordination (AID)
PSC	Personal Services Contract
PUCMM	Pontifical Catholic University Madre y Maestra
RTAC	Regional Technical Aid Center (Mexico)
SDA	Santiago Development Association
SEA	Secretariate of Agriculture
TA	Technical Assistance
TSP	Technical Secretariate of the Presidency (GODR)
UASD	Autonomous University of Santo Domingo
UEPA	Agricultural Policy Analysis Unit

UNPHU
USAID

Pedro Henríquez Ureña National University
U.S. Agency for International Development - (Dominican
Republic)

WID

Women in Development

PROJECT PAPER

UNIVERSITY AGRIBUSINESS PARTNERSHIP PROJECT
517-0243

I. SUMMARY AND RECOMMENDATIONS

A. Project Title

University Agribusiness Partnership Project

B. Project Number

517-0243

C. Source of Funds

ARDN

D. Total Project Amount

AID US\$12 million, GODR US\$2,400,000 (RD\$15 million), Other US\$2,780,000 (RD\$17,375,000) million.

Proposed AID FY 89 Obligation : \$3.6 million
Proposed AID FY 90-95 Obligation : \$8.4 million

Proposed GODR First Year Contribution: RD\$10 million
Proposed GODR Additional Contribution: RD\$5 million

E. Terms

Entire amount as a grant.

F. Grantee

Grant funds will be made available to the implementing institution, the Superior Institute of Agriculture (Instituto Superior de Agricultura - ISA).

G. Coordinating Agencies

USAID/Dominican Republic, the Superior Institute of Agriculture.

H. Implementing Agency

The Superior Institute of Agriculture (ISA)

I. Life of Project

Seven years from Obligation (Estimated PACD June 30, 1996).

J. Project Goal

Increase non-traditional, commodity-based rural incomes.

K. Project Purpose

Provide the expanding agribusiness and agro-industrial community with increased trained manpower by institutionally strengthening ISA and CADER.

L. Environmental Soundness of Project

The activities of this project in regard to A.I.D. environmental procedures qualify for a negative determination in compliance with the requirements of 22CFR Part 216 (Section 216.2, Applicability of Procedures, Part (b), Exemptions; and Section 10 of Part II.C., Pesticides, Appendix B of A.I.D. Handbook (15, Jan. 1, 1983) wherein use of pesticides is permitted for assistance provided by A.I.D. for controlled experimentation of limited scope and not involving application for crop production purposes. The Environmental Threshold Decision from AID/W is Annex V.

M. Project Summary

The Project has been designed to strengthen the Superior Institute of Agriculture (ISA) and its Center for Rural Development Administration (CADER) to provide well trained agricultural and livestock professionals. The students are to be trained both academically and by practical experience to acquire sufficient technical and management skills to meet the growing demand for trained agricultural professionals among agribusinesses and industries producing non-traditional crops.

To strengthen ISA financially, the Project will establish a Development Office to generate matching donations to an Endowment Fund (which was created under project 517-0125 with CADER) which will be significantly expanded through Local Currency program contributions and possibly Debt for Development activities. The Development Office will establish a broad range of mechanisms (in addition to the Endowment Fund) to maximize ISA's ability to close the cost/revenue gap associated with providing a modern and efficient research and academic environment. ISA faculty and staff salaries will be raised to levels commensurate with private sector salaries.

To strengthen the faculty, a seven-year collaborative assistance agreement has been undertaken with a consortium of educational institutions composed of the land grant universities of the Midwest Universities Consortium for International Activities (MUCIA which includes Ohio State, Michigan State, Purdue and the Universities of Illinois, Minnesota and Wisconsin), the University of California/Davis, Texas A+M University, the Academy for Educational Development, and J.E. Austin Associates (hereafter referred to as the Consortium). The Consortium will provide long-term resident

faculty and staff, while selected ISA/CADER faculty and staff will receive long-term, non-degree training (e.g., 12-24 months) at these and other institutions. Long-term graduate degree training will be provided through the Development Training Project - 517-0216, wherein funding for 45 M.S. degrees in the agricultural sector is budgeted, both for public sector and private non-profit institutions (through Foundation for Educational Credit - FUNDAPEC) like ISA, and for private sector candidates (i.e., CADER graduates) through the National Council of Businessmen - CNHE. In addition, resources for both short-term training and technical assistance will be provided.

During the Project, a phased plan will be developed and implemented to determine the disposition of several of ISA's unprofitable crop and food processing facilities. This could be done through the sale or long-term lease of these facilities to private operators or groups who are willing to maintain the teaching/research function of the facilities while introducing commercial procedures.

Mechanisms to equate tuition more in keeping with the cost of an ISA degree will be established within the Institute's admission policy, which is currently based strictly upon merit without regard to financial need.

The electronic data processing systems will be expanded to provide students, faculty and staff with increased access to modern equipment and to enable the timely preparation and publication of documents. Resources will be provided to more fully incorporate the satellite research forests and other teaching/research opportunities into the curriculum.

Coordination with several governmental and private organizations such as CENDA (soil testing) and CIMPA (livestock research and extension) will be sought in an attempt to avoid duplication of facilities within the Santiago region. Through both the Project and coordination among other donors, additional resources for the acquisition of essential equipment, laboratories, publications, infrastructure and long-term advisors will be provided.

N. Summary Findings

The Project Review Committee has reviewed all aspects of the proposed Project and finds that it is financially, economically, technically and socially sound, and consistent with both the development objectives of the GODR and those of USAID/Dominican Republic, as set forth in the USAID/DR FY 1986 CDSS. The Project Review Committee has further determined that ISA is administratively capable of implementing the Project.

O. Recommendations

That USAID/DR approve a grant for \$12 million to be funded in increments over a five year period, beginning with \$3.6 million in FY 89 for the Project (517-0243); and that the PACD be established on or about June 30, 1996 (seven years from the expected date of obligation).

II. BACKGROUND

A. Summary of the Problem

The USAID and other donors have been making a concerted effort to move the Dominican Republic from its dependence on traditional agricultural export crops. This is being done in two ways. First, efforts are being made to develop the industrial and service sectors so they can compete on international markets. Secondly, the international donors are assisting the Dominican Republic with the development of non-traditional agricultural crops for export and domestic consumption. The latter efforts are based on two decades of public and private investment in infrastructure (irrigation and drainage, feeder roads and major highways, land settlements, saving and investment programs, and export marketing mechanisms). As a result, the production of non-traditional agricultural exports (products other than sugar, coffee, cacao and tobacco) and crop import substitutes has risen dramatically. For example, the value of non-traditional exports increased by over 40% between 1986 and 1989.

While increases in non-traditional agricultural production are dramatic, they are starting from relatively small bases. Such increases must be maintained in order to make a significant change in the make-up of the country's agricultural exports. However, non-traditional agriculture is encountering serious trained manpower constraints. Existing non-traditional agricultural operations cannot expand or improve and new ones cannot get started because properly, well trained mid-level and higher level agricultural and livestock technicians are unavailable. Trained manpower is not available to manage on-going operations or to carry out site-specific research to improve existing crops or to establish new crops.

To date, the primary sources of trained manpower (technical agricultural schools, colleges and universities) have placed emphasis on producing agriculturalists who would work in the public sector on basic research or extension. Non-traditional agriculture requires trained farm managers who must oversee commercial operations. Such individuals must be able to administer large quantities of inputs and to understand marketing concepts. On the research side, adaptive as opposed to purely theoretical research is needed. The agricultural education institutions have responded slowly to the changing needs of agriculture primarily due to limited and inexperienced faculty and staff.

To further worsen the situation, these very institutions are being stripped of their most effective human resources to meet the demands of the private sector. Faculty salaries have not kept pace with alternative sources of employment, nor have continuing investments in academic infrastructure (laboratories, classrooms, equipment, libraries, maintenance) been possible in the face of inflation, devaluation, increased operating expenses, socially mandated low tuitions, and the lack of dependable sources of revenue. The most efficient and academically prestigious institutions have sought innovative strategies to upgrade their programs and facilities, but they too must find additional resources to meet the challenge of the next two decades.

All of the educational institutions charged with producing trained manpower for agriculture rely to a certain extent upon support from the Government of the Dominican Republic. Given the state of the public exchequer, alternative funding mechanisms must be established with private sector participation to meet core operating expenses, especially to retain highly trained and motivated teachers and to develop adequate research faculties. New programs must be developed in response to the increasing commercial demand for non-traditional crop production technology and know-how. Students must be taught the administration and management of agricultural production rather than concentrating solely on its technical requirements. Laboratories, model processing facilities, libraries and data processing centers require modernization and expansion. Newly graduated M.S. and Ph.D. students must be provided an opportunity to mature their skills among wiser and more experienced mentors, in research, teaching and institutional management. Lastly, students must be provided additional hands-on training within operating units which replicate, in a teaching/research environment, the kinds of agribusiness and industrial operations they will confront upon graduation. In summary, students must receive training in areas that will meet the needs of both private and public sector employers, rather than training with a purely public sector emphasis, which has predominantly been the case to date.

B. Profile of Agribusiness University Education in the Dominican Republic.

During preparation of the PID, a survey was conducted among several institutions to compare their relative capability for achieving the Project's goal and purpose. The analysis focused upon those learning/research centers traditionally associated with the agricultural sector from which the three most developed institutions (Superior Institute of Agriculture, Autonomous University of Santo Domingo and Pedro Henríquez Ureña National University) are profiled below. Only the Superior Institute of Agriculture (ISA) was selected to receive project resources. Neither of the others combines the quantity nor quality of human and capital resources available within ISA.

1. Superior Institute of Agriculture (ISA)

ISA was created in 1962 through an agreement between the GODR, USAID and the Santiago Development Association. In 1980, it was recognized as an independent, non-profit organization by Decree 2087. The Association is a private organization of civic-minded business leaders from the Santiago area who promoted and sponsored the original concept of the school. A high school agricultural curriculum was inaugurated in 1964 on the 300 hectare (762 acre) resident campus 5 kilometers southwest of Santiago, in the heartland of the country's most productive agricultural region, the Cibao Valley. By 1987, more than 838 agricultural technicians had graduated from the high school level program, many of whom continued their preparation within ISA's five year agricultural B.S. curriculum which was added in 1968. This university level program has graduated over 650 students, with specializations in agribusiness, horticulture, forestry, animal production, irrigation, and others. It was operated as part of Santiago's Catholic University (PUCMM) until 1986 when ISA was granted full autonomy and authorization to issue university degrees. ISA's students still receive the majority of their non-agricultural courses at PUCMM through a cooperative agreement and receive a joint ISA-PUCMM diploma.

In response to demands from the agribusiness community to provide students with something more than just scientific and empirical knowledge of agricultural and livestock production, ISA established the Center for Rural Development and Administration (CADER) in 1981, which provides research and short-term agribusiness training. The Center was started with USAID and Kellogg Foundation assistance and it is modeled upon the INCAE-Harvard case study model. By 1987, CADER staff had trained 1,500 business people, farmers, and government officials, and had written over 150 agribusiness case studies for incorporation into the Center's curriculum.

In 1984, ISA began planning the eventual elimination of its resident high school program (due to exorbitant operational costs and because the need for such graduates is currently being met through other high school programs) and the inauguration of a three-year, technical school degree in agriculture. Begun in 1987, the associate degree program currently enrolls 51 students. The high school program will graduate its last 82 students in 1989.

Of the more than 1,500 ISA graduates in the last 24 years, 85 percent are currently employed in their area of specialization. Of the 115 students who were funded for graduate study outside of the Dominican Republic (primarily in the U.S.), all have returned and are following their profession within the country. Nine of the forty full-time faculty hold a Ph.D., 17 have an M.S. and 14 possess a B.S. or other type of degree. In addition to the main campus, where over 50 hectares (127 acres) are under constant crop rotation, the Institute owns 1,000 hectares (2,540 acres) of dry forest in Mao for research and an equal amount of humid research forest in Santiago Rodríguez. Both areas are about one hour's drive from Santiago. Several on-campus, commercial agricultural and livestock operations have been owned and administered by ISA over its history. These have included a 40 unit dairy, a 35 unit swine reproduction and fattening center, a 55 unit dairy goat operation, a 13,000 bird poultry unit, a slaughterhouse, an animal feedmill, and a canning and food processing facility. At the time of their initiation, these were established to serve a dual role as teaching laboratories and commercial income generators for the institution. In recent years, however, the majority of these facilities have fallen into disuse due to a lack of emphasis on their commercial viability and inappropriately sized technology.

Collaborative agreements exist with a nearby seed processing business, a rice mill, and the contiguous Secretariate of Agriculture's Northwest Regional Research and Extension Center (CENDA), which offers soil analysis services--albeit often in an untimely fashion and with results of questionable accuracy.

CADER, operating with its own administrative, research and training staff, is located in its own on-campus conference complex consisting of several large, tiered conference rooms, individual meeting/class rooms, administrative and faculty offices, and guest residence quarters with a cafeteria facility. CADER organizes at least 6 national seminar/workshops a year, drawing participants from the public, private and academic sectors to focus upon resolving national and regional agricultural development issues. It conducts training for entrepreneurs in agribusiness management, develops and teaches agribusiness modules within ISA's curriculum, conducts research on topics related to agribusiness and provides consultants to the private sector.

2. Other Institutions

The Autonomous University of Santo Domingo (UASD) initiated agronomic studies in 1962. It currently provides specialization in animal production, soil science, plant pathology, irrigation, plant protection and veterinary science. The full-time agricultural faculty is composed of 32 agronomists, 18 veterinarians, and 13 animal scientists. Three possess a Ph.D. and at least 90 percent of the remainder have completed post-graduate specialization (i.e., training courses and/or workshops). Of the part-time faculty (50 agronomists, 4 animal scientists and 1 veterinarian), 90 percent hold M.S. degrees.

Over 1,500 students are currently enrolled in the agricultural sciences at UASD. No data was available on the number of graduates. Laboratories are available for physiology, soil chemistry, plant production and pathology, soil microbiology, nematology and soil physics. The animal production/veterinary laboratories include feed, poultry disease, microbiology, surgery and anatomy facilities. Data on the number of agricultural library volumes was not available. There are no computerized library services.

The 331 hectare (841 acres) campus includes 13 hectares (32 acres) of structures; 119 hectares (302 acres) in cultivation, and 188 hectares (476 acres) in grassland or forage crops. The faculty utilizes several production units for research, teaching and commercial purposes, composed of a 410 unit dairy, a 30,000 unit poultry operation and a 50 sow swine center.

As one of the oldest universities in the hemisphere, the UASD faculty and student body have always demonstrated their willingness to function as the guardians of liberal thought. Although this role was severely constrained during the Trujillo years, the University reasserted its traditional Latin American role in 1962, and especially during the political upheavals in 1965. The constant disruption of the research/teaching process and the total politicization of the campus led several faculty members to found a new private university in 1966.

This new university, located on land donated by the Government, established an agricultural faculty (among others) in 1966, and following its incorporation into the state system, was designated the Pedro Henríquez Ureña National University (UNPHU). The curriculum includes specialization in agronomy (crop production, soils and irrigation, education and extension, and economics), animal science and veterinary medicine. Post-graduate degrees are offered in forestry and animal production, and technical (junior college) degrees in agriculture, forestry and animal production.

The agricultural school maintains 9 full-time professors, two of which hold Ph.D.'s, and the balance M.S. degrees. There are 40 part-time faculty, all of whom possess an M.S. or have post-graduate training (workshops, seminars, etc.). Approximately 800 students have graduated in the agricultural or animal sciences since 1966, and there are currently 223

students enrolled at the Santo Domingo campus, with an additional 330 completing their studies at the satellite campuses in La Vega and San Juan de la Maguana. Laboratories are available for soils, entomology, plant pathology, animal nutrition, anatomy and clinical veterinary practice.

The library possesses approximately 10,000 agricultural volumes and provides computer facilities. Of the 719 hectares (1,826 acres) available, 53 (135 acres) are dedicated to structures, 6 hectares (17 acres) are under cultivation, 414 hectares (1,051 acres) are utilized for pasture and forage crops, and 36 hectares (92 acres) are used in forestry research. An additional 209 hectares (532 acres) are maintained as a natural forest and ecological preserve.

The university maintains several production units for research, teaching and commercial purposes, including a 314 head dairy, a 755 head beef operation, and facilities (unused) to house 20,000 poultry.

Although UNPHU surpasses the potential of UASD as a possible site for the University Agribusiness Partnership Project, it has neither the quantity nor quality of full-time faculty nor the permanent crop cultivation found at ISA. In addition, although it is a private school, UNPHU receives major support directly through a line-item in the GODR budget, and as a result, is unready to aggressively establish full financial autonomy or to seek alternative sources of funding. The relative assets of each university are compared in Annex IX.

3. ISA Faculty/Staff Salaries and Experience

University faculty in Santo Domingo and other major cities where the faculty normally hold part-time academic assignments at several institutions while simultaneously working in other public or private institutions. However, the ISA/CADER faculty and staff hold full-time positions. Although a few attempt to maintain private investments to augment their low salaries, the full-time nature of their institutional commitment allows little spare time for such activities

Present funding levels within ISA provide faculty salaries far below alternative employment opportunities. Monthly salaries range from RD\$696 to RD\$3,174 (US\$111 to \$505), of which over 70 percent are below RD\$1,500 (US\$240). Manual labor on nearby commercial vegetable farms receives RD\$400/600 per month, plus breakfast, lunch and transportation. A U.S. educated USAID/FSN Project Officer with a M.S. degree receives four times the average monthly salary of his ISA cohorts. Comparable salaries in the private sector are 1.5 times greater than this, and nearly six times greater than current ISA levels.

Over 50 percent of the current faculty are recently trained Ph.D., M.S. or B.S. graduates. As part of their university training, almost all of these faculty members completed theses and dissertations which exposed them to basic research methodology. However, unlike their counterparts in the U.S. and Europe, who continue their careers in academia, the young and inexperienced ISA/CADER faculty return to work in a setting with few experienced mentors. Recently mastered analytical skills

find little reinforcement and sophisticated laboratory techniques encounter few opportunities for application in the underequipped and poorly maintained physical plant. Faculty department heads are usually appointed based upon their academic rank, and have little or no administrative experience.

4. Sources of Income

ISA's current funding is derived from several sources. In 1988 these included:

- a GODR subvention of approximately 25 percent (for the high school program, which is in its last year);
- research, consulting and technical assistance which generated 30 percent;
- tuition payments which generated slightly over 5 percent;
- gifts and donations from the private sector of approximately 10 percent;
- interest reflows from the Endowment Fund (created under project 517-0215 with CADER) which generated approximately 10 percent; and
- miscellaneous income from various economic activities of almost 20 percent.

In spite of this somewhat diversified income base, a seven year cost/revenue projection (see Annex VII. B. 7.) indicates unsustainable shortfalls, even if the student enrollment were to remain constant. In the face of increased operating expenses, both faculty salaries and physical plant investment/maintenance have suffered greatly.

Tuition has never been charged for the high school program, in exchange for a GODR-provided stipend to the institution which has dwindled greatly in recent years through inflation, devaluation and GODR reductions. The tuition paid by the university degree students is determined by PUCMM, to which it is paid directly by the students. While formal agreements between PUCMM and ISA stipulate that 35 percent of these payments be passed to ISA, this does not occur until the student has fully repaid any education loan to PUCMM. In essence, ISA controls only the tuition rates of its three-year, technical student program, which was about 20 percent of the overall student population in 1988.

A more detailed description of the current constraints to raising tuition levels is found in Annex VII, pp. 10 and 23-24. However, the overriding constraint is simple: The salaries that agricultural students are expected to earn would not bear out the higher cost of tuitions paid back as loans. As these salaries rise, higher tuition rates can then be charged.

PUCMM, on the other hand, establishes its tuition rates on a sliding scale based on the projected income earning ability of its graduates in the respective fields of study offered. The agricultural sciences are charged the lowest rates, whereas disciplines such as law and medicine are charged the highest. PUCMM raised tuition rates 50 percent across the board in 1988.

Revenues from ISA's production and processing units have offset some costs. However, these units are managed primarily for teaching/research purposes and depend largely upon faculty and student labor. They generally have not been operated as profit centers and some are currently inoperative.

Support from local philanthropists, businesses and international donors has allowed ISA to meet its most essential infrastructural needs to keep pace with the changing demands of the agribusiness community, but inflation in recent years (over 25 percent in 1987, 58 percent in 1988) has stripped ISA of all but its most committed faculty and staff. The Technical Analysis (See Annex VII, Sections E-H) demonstrates the staffing deficit created by these unfavorable economic and institutional conditions on a department by department basis.

5. Training/Research Resources

In 1975, ISA created an internal Center for Economic and Food Research (CIEA), to coordinate research activities within its academic community and to provide research for potential users and purchasers of such services. The priorities established for the faculty centered upon the analysis of significant constraints to the development of productive enterprises combining agriculture, livestock and forestry, and opportunities to expand local food production. Several of the major studies which resulted from this ongoing prioritization of research include:

a. The research and development of locally adapted varieties of African oil palm for commercial production. This was funded by and coordinated with the Organization of American States (OAS), the Secretariate of Agriculture (SEA), the Northwest Regional Research and Extension Center (CENDA), and the Sociedad Industrial Dominicana, (a large, diversified, privately owned company in Santo Domingo which utilizes vegetable oil). The research project was initiated in 1980 and had an eight year duration. Among its many activities was the vegetative propagation of demonstration plot material using tissue culture.

b. The research and development of locally adapted and socio-economically beneficial rice varieties. This has been contracted by the Secretariate of Agriculture (SEA) and conducted in coordination with the National Center for Rice Research (CEDIA) and SEA's Department of Agricultural Research. Beginning in 1981, this study developed several varieties adapted to local production and economic conditions, as well as consumer tastes, which have enjoyed widespread adoption among rice growers. Ongoing research includes the development of equally resistant and acceptable varieties to replace current strains by 1990.

c. The development of technology and the promotion of wheat and flour substitutes. This project, which began in 1978, led to the development and dissemination of white sorghum, a crop not previously grown in the Dominican Republic. Funded by the SEA and supported by the National Flour Mill, the analyses successfully directed the government away from costly and ill-conceived plans to divert land from high income crops to wheat production.

d. The Fuelwood Development Program. With funds donated by the GODR and USAID, and in conjunction with the National Commission on Energy Policy and Purdue University, this project identified and tested foreign and native forest species for rapid growth, the firewood and charcoal properties of various species, appropriate methodologies for dry forest management and efficient wood/charcoal conversion technologies. Although the project formally ended in early 1987, ISA maintained and expanded the research program and related curriculum activity. A cooperative research assistance agreement was recently signed with Israel's Ben Gurion University to provide additional technical collaboration.

e. Additional research projects include a major production improvement program with the National Cotton Company, the development of improved nitrogen-fixing qualities in red beans with the assistance of Ohio State University, and numerous consulting contracts for research and/or training with the Agricultural Policy Studies Unit (UEPA) under the National Agricultural Council (CNA).

Although training and research resources at ISA/CADER exceed those available at other institutions, increased demand and limited income have severely constrained the institution's ability to respond to apparent need. Sophisticated scientific equipment, where available, is not adequately located within controlled environments and routine or emergency maintenance is not available. Likewise, neither the potable water nor backup electrical systems are sufficient to meet the requirements of the 500--person campus.

The 20,000 volume library has exceeded the space available thus delaying the utilization of valuable new acquisitions and the installation of additional electronic aids. Text books for individual student use are non-existent and most students currently depend on very limited photo-copied excerpts of library texts. Additionally, the Institute's laboratories must be equipped and refurbished to more adequately meet the agribusiness research and teaching requirements. Some appropriately sized agricultural machinery must also be added to ISA's inventory to keep pace with research needs.

Data processing facilities are overutilized, causing delays in research and thesis preparation. An electronic, computer-based, printing capability is budgetarily beyond consideration. Experimental plot and agribusiness site visits must be scheduled long in advance to ration the use of the few available vehicles, and joint research/learning opportunities with the nearby Plan Sierra Integrated Rural Development Program remain largely unrealized.

III. PROJECT DESCRIPTION

A. Goal and Purpose

The Project goal is to increase non-traditional commodity based rural incomes. The purpose is to provide the expanding agribusiness and agro-industrial community with increased trained manpower by institutionally strengthening ISA and CADER.

B. Brief Description of the Project

The Project has been designed to strengthen the Superior Institute of Agriculture (ISA) and its Center for Rural Development Administration (CADER) to supply agricultural and livestock professionals. The students are to be trained both academically and by practical experience to acquire sufficient technical and management skills to meet the growing demand among agribusinesses and industries producing non-traditional crops.

To strengthen ISA financially, the Project will establish a Development Office to generate matching donations to an Endowment Fund which will be significantly expanded through Local Currency program contributions and possibly Debt for Development activities. The Development Office will establish a broad range of mechanisms (in addition to the Endowment Fund) to maximize ISA's ability to close the cost/revenue gap associated with providing a modern and efficient research and academic environment.

To strengthen the faculty, it is planned that a seven-year collaborative assistance agreement will be undertaken with a consortium of educational institutions composed of the Midwest Universities Consortium for International Activities (MUCIA), the University of California/Davis, Texas A & M University, the Academy for Educational Development, and J.E. Austin Associates (hereafter referred to as the Consortium). MUCIA itself is composed of eight affiliated institutions of which the six land grant institutions will help implement this project: Ohio State, Michigan State, Purdue, and the Universities of Illinois, Minnesota and Wisconsin. The Consortium will provide long-term resident faculty and staff, while selected ISA/CADER faculty and staff will receive long-term, non-degree training (e.g., 12-24 months) at these and other institutions. The project will also provide assistance for faculty salary increases and budget assistance in the forestry program in years one and two.

The purpose of long-term, non-degree training is to provide relatively inexperienced faculty and administration officers an opportunity to practice and sharpen their research, teaching and supervisory skills among experienced mentors, free of the coursework pressures inherent to a degree program. Approximately 10 to 12 faculty and/or staff who already possess M.S. or PD degrees will be selected to participate in this "hands-on" training experience. Long-term, graduate degree training will be provided through the Development Training Project - 517-0216, wherein funding for 45 M.S. degrees in the agricultural sector is budgeted both for public sector and private non-profit institutions (through FUNDAPEC) like ISA, and for private sector candidates (i.e. CADER graduates) through the CNHE. Likewise, resources for both short-term training and short-term technical assistance will be provided.

During the Project, a phased plan will be developed and implemented to determine the disposition of several of ISA's unprofitable crop and food processing facilities. ISA will explore whether this could be done through sale or long-term lease of these facilities to private operators or groups who are willing to maintain the teaching/research function of the facilities while introducing commercial procedures.

Mechanisms to equate tuition more in keeping with the cost of an ISA degree will be established within the Institute's admission policy, which is currently based strictly upon merit without regard to financial need.

The electronic data processing systems will be expanded to provide students, faculty and staff with increased access to modern equipment and to enable the timely preparation and publication of documents. Resources will be provided to more fully incorporate the satellite research forests and other teaching/research opportunities into the curriculum.

Coordination with several governmental and private organizations such as CENDA (soil testing) and Center for Research and Improvement of Animal Production (CIMPA) (livestock research and extension) will be sought in an attempt to avoid a duplication of facilities within the Santiago region. Likewise, through both the Project and coordination among other donors, additional resources for the acquisition of essential equipment, laboratories, publications, infrastructure and long-term advisors will be provided.

C. Relationship of Project to USAID's Development Strategy and Other Projects

The Project fully supports the USAID strategy of concentrating on productivity-increasing programs in the private sector while encouraging the greatest possible dialogue on policy reform. ISA is a private institution which receives only partial government support. Although it receives a limited government subsidy, the Institute receives no GODR input in policy formation, management, or administration. This project complements the 1987 Sugar Diversification (0236) and Commercial Farming Systems (0214) projects by focusing upon non-traditional crop production, management and marketing. The Diversification project is focused upon the closure of several state sugar mills, and the transfer of sugar cane lands to private agribusiness management for the cultivation, production and processing of non-traditional crops. The Commercial Farming Systems project is composed of three elements: a privately endowed and managed agricultural research foundation (the FDA), the promotion of rural savings mobilization institutions and mechanisms, and the provision of bridge credit to the commercial out-growers of non-traditional crops.

CADER's existing and productive association with the Agricultural Policy Unit (0156) will be strengthened and institutionalized as will the existing linkages to the On-Farm Water Management (0159) and the ongoing fuel woods activities that were originally funded under a component of the Energy Conservation project (0144). CADER will continue to work closely with the Joint Agricultural Consultative Committee (JACC) through the Agribusiness Promotion (0186) project. Both ISA and CADER faculty have benefited from graduate training under the Agricultural Sector Training Project (0160). Long-term graduate degree training will continue to be provided to eligible ISA/CADER candidates through the Development Training Project (0216).

D. Relationship to AID Agricultural Sector Strategy and Policies

The activities of this Project are in accord with both the A.I.D. Sector Strategy in Agriculture (November 1983) as well as the A.I.D. Policy Paper on Food and Agricultural Development (May 1982, pages 4,5) which states, "A major priority of AID policy is to assist countries to develop and/or strengthen private and public institutions dealing with the host of technical, administrative, economic and social problems constraining increased and more efficient food and agricultural production, marketing and consumption." Furthermore, "A.I.D. will also encourage: (1) an expanded role, where appropriate, for private enterprise in the provision of agricultural research and the dissemination of improved technology as well as in the processing, preservation, and marketing of agricultural commodities, (2) research and other institutions that expand access by low-income, small producers to improved technology, productive resources and services..."

The Project provides ample opportunity for private sector involvement through their contributions to an income generating Endowment Fund, participation in design/implementation of case study-based curriculum, seminars and practicums.

E. Alternative Strategies Considered

The objectives of the Project could conceivably be achieved through the creation of training programs within the commercial agribusiness and industrial sector. However, most agribusinesses in the Dominican Republic are still too small to develop their own training programs. In contrast, it is noteworthy that the largest private manufacturer of animal feed in the country recently promised an endowment for the creation of an animal sciences (zootecnia) program within ISA, to meet the manufacturer's need for more highly trained technicians.

Additionally, the objectives could be achieved by strengthening the institutional capability of several other universities which train agriculturalists. However, no other Dominican university possesses the quality and quantity of training resources found at ISA (see above, Section II - B. 1 and 2) nor has any other achieved the record of excellence accorded ISA graduates by the private and public sectors.

Although the Mission is supporting the development of a private-sector funded Agricultural Development Foundation (FDA) through the Commercial Farming Systems Project (0214), FDA's primary purpose is to develop mechanisms to channel more resources into applied, production-oriented research in response to commercial agribusiness needs. Due to its institutional objectives, the FDA should not be made into a training institute.

F. Other Donor Activities

Major donor activities with ISA/CADER currently include projects with the Interamerican Development Bank (IDB), the Konrad Adenauer Foundation (KAF), the European Community (EC) and the Government of Italy (GOI). Additionally, the German Technical Assistance Program (GTZ) and the German Government are providing salaries and a small operating budget for three German faculty members in livestock and forestry.

The IDB project, with an LOP of 33 months, contains a grant of US\$480,000 for technical assistance and equipment and a local counterpart contribution of US\$272,000. The primary objective is to improve the management of farmer settlements, especially those using irrigation and those requiring major community development activities. Major outputs include the training of 510 extension agents, farmers, community leaders and government officials in 20 workshops covering such areas as administration, financial management, business systems, promotion and community organization. It includes the training of 220 high-level officials in decision making and administration, and the preparation, and dissemination of training materials among participating institutions. The project was signed by ISA and the IDB on January 21, 1988, but has not yet received a counterpart assignment from the GODR.

In response to an offer from the Konrad Adenauer Foundation, ISA/CADER presented a proposal in December, 1987, to train the members, officers and employees of the Provincial Federation of Farmer Organizations of Azua (FEPROCA) in the administration of their agribusinesses (swine, cattle, food processing, beekeeping, and agro-forestry cultivation). Project outputs include 90 federation leaders trained in business and organization management through 15 workshops, 400 federation members trained in appropriate production techniques, and the preparation and dissemination of training materials. The US\$415,860 grant for project implementation carried an 18 month LOP. The project paper is now undergoing final revision by the KAF.

A one-year project is now under consideration by the EC to fund a national seminar (or series) focusing upon the agrarian reform program in the Dominican Republic. ISA would be responsible for analyzing land tenure, titling procedures, and organizational models, as well as training reform sector beneficiaries and technicians in administration. Two to three seminars would be organized by ISA to focus upon agrarian reform policies.

Through the Center for Latin Activities, and in coordination with SEA and CIMPA, ISA has proposed a US\$2.0 million project to the Government of Italy to establish an aquaculture curriculum for the training of technicians and private sector employees in marine and fresh-water fish

production. The institution is currently awaiting a response from the GOI.

G. Project Summary

The principal problem facing ISA today (as in years past) is the insufficiency of resources needed to attract and keep good faculty members, provide adequate laboratory facilities, and develop and maintain an updated library of appropriate agricultural materials. To address this problem, the Project will strengthen the Institute's Endowment Fund and create a Development Office.

1. Institutional Endowment Fund

An Endowment Fund to support ISA operations will be fully institutionalized with resources provided from local private sector donations, outside donations (e.g. donor organizations, philanthropic institutions, and business groups), and the GODR's local currency program. The existing Endowment Fund, which was created under project 517-0125 with CADER, currently has resources of approximately RD\$1,500,000 (with another RD\$5 million expected to be disbursed from the GODR soon). This Endowment Fund was capitalized through Local Currency contributions of the amount above, and has earned approximately RD\$410,000 in interest to date, which has been used for ISA/CADER operating expenses. The Financial Analysis of this project (517-0243) estimates that a cash infusion of not less than RD\$20 million to that Fund will be needed. For illustrative purposes, this total is composed of a RD\$ 15 million grant from the GODR LC program and at least RD\$ 5 million from local and outside contributions. However, it is the intent of the Project to maximize the non-governmental contributions to the Fund in view of the possible shortages in availability of local currency in the future and the need to diversify the Fund's sources of financial support.

Faculty retention is the most serious issue facing ISA. During the project's initial years, Fund earnings will be dedicated exclusively to achieving staff/faculty salary levels sufficient to meet the retention criteria established but not yet implemented by ISA. AID will also provide budget support to this area in the initial two years of the project; after that time, the Fund will take over. The Fund will also support on an incrementally increasing basis, the operating costs of the Development Office (described below). In later years, earnings from the Fund will enable ISA/CADER to meet the gap between projected revenues and costs.

The management of the Fund will be the responsibility of ISA's Board of Directors who will make the necessary investment decisions based on criteria described (See Annex VII pp 12-13) in the Financial Analysis. It is presently contemplated that the investment decisions be relatively straightforward, requiring little day-to-day monitoring. As the Fund grows, and more complex types of investments are required, ISA will hire a competent financial advisor for this purpose.

Due to an abnormally high inflation rate currently in the Dominican Republic, investments will be sought wherever possible in situations where the economic return is greater than the rate of inflation. In order to ensure the long-term growth of the Fund and to prevent its decapitalization, the Development Office and ISA's Board of Directors will constantly investigate and analyze ways to increase the Fund. The long-range goal will

be to achieve the position whereby "drawdowns" on the income generated by the Fund to help pay for ISA's general expenses will be limited to the excess beyond the income needed to cover the rate of inflation. Annex VII, pp. 44-50 provides details of the functioning of this Fund and the Development Office.

2. Development Office

A Development Office will be created through the Project. This office will be located in Santo Domingo and be managed by a full-time Director. It will have various responsibilities including fund raising, alumni and community relations, donor coordination and strengthening the important linkages between ISA and the Dominican Private Sector. The Director of this office will receive periodic short-term assistance from experienced university fund raisers. Ten person weeks of technical assistance are programmed during the first year to organize the office, identify its major functions and to establish accounting, record keeping and other systems in support of its activities.

The Development Office will establish a broad range of mechanisms (in addition to the Endowment Fund) to maximize ISA's ability to meet the costs associated with providing state-of-the-art research and agribusiness education and training. These mechanisms will include: annual fund raising campaigns, debt-equity swap donations, alumni contributions, endowed faculty chairs, etc., to ensure growth of the Fund. The TA advisor will initiate the preparation of a strategy for the endowment campaign and for meeting annual fund raising goals. The office will need approximately two weeks of additional short-term technical assistance each year thereafter. In addition, the Director of the Development Office will visit other similar offices at Consortium institutions. These visits will be coordinated with the short-term technical assistance inputs. (Such activities will always take into account and follow OMB restrictions on project-financed fund-raising).

This office, which will be funded through the Project with US\$277,000 on an incrementally decreasing basis until it achieves self-sufficiency by year 7 of the project, will coordinate closely with the MUCIA Chief-of-Party and the ISA Rector.

During the initial stages of the project, MUCIA short-term technical assistance will focus particularly on the start-up of the Development Office.

3. Exchange Faculty/Staff

a. From the U.S. to ISA/CADER

The Project will provide 34 person years of long-term technical assistance selected from the faculty and staff of the Consortium. Teams of three to six resident faculty will complete two (or three) year assignments at ISA/CADER over the seven-year LOP. The purpose is to provide the ISA/CADER faculty and staff with experienced and dedicated university personnel, who will act as advisors and mentors in research, teaching and administration. These will include personnel with specializations in agro-exports, agricultural policy, finance, horticulture, forestry and animal science.

The long-term resident faculty and staff will assist ISA/CADER personnel in strengthening their institution by improving administration and decision making, establishing on-the-job training activities, promoting the utilization of computerized information systems, improving curricula, research methodology and teaching techniques, installing modern laboratories with adequate research and reference materials, and training trainers for field and experimental work. They will also help to establish improved internal communication and coordination systems, establish a university planning and development program, and improve linkages to the private sector by enhancing the provision of ISA and CADER's technical assistance services.

b. From ISA/CADER to U.S.

Approximately 14 ISA/CADER faculty and staff (28 person years) will receive long-term, non-degree training (e.g. 12-24 months) at the Consortium's institutions and elsewhere throughout the 7 year LOP. The participants will fill research, teaching, extension and administrative positions to gain experience in their respective areas of specialization. Where appropriate, formal course work might be taken, although this would be an exception to the norm. Instead, practical internships will be organized where ISA faculty will engage in intensive work-study programs. In addition to the technical knowledge received, it is the intention of this Project component that ISA faculty be exposed to the functional mechanisms of university organization and management in the U.S.

c. Short-Term Technical Assistance

Almost 500 person weeks of short-term technical assistance will be made available to ISA/CADER from the Consortium and other institutions. The purpose of this assistance is to develop local expertise among faculty and staff in research, teaching and university administration in specific areas where longer term investments are not required or convenient in order to achieve the Project purpose. In many cases, short-term advisors will be used to provide expertise in narrowly defined areas not requiring long-term inputs, (i.e. bovine mastitis, tissue culture, and the calibration of laboratory instruments). In other cases, short-term advisors will be used on a recurring basis to teach and conduct research on topics requiring only a periodic presence, (i.e., floriculture, computers in agricultural administration, and student services).

4. Short-Term Training

Over 430 person weeks of short-term training will be provided to ISA/CADER faculty and staff in the U.S., and elsewhere when appropriate. This type of training will be used to strengthen and broaden the knowledge of new faculty and represents continuing education and a refresher mechanism for current personnel. It may include participation in formal course programs, or individually designed internships in laboratories and programs. In the latter case, efforts will be made to coordinate these short-term training activities with the various long and short-term technical assistance advisors under the Project. This will be done to strengthen the long-term institutional linkages which will serve ISA beyond the Life of Project.

Included in the short-term training category are visits by ISA faculty and staff to professional conferences, meetings, and other educational events to broaden their exposure to different approaches and techniques and to increase their network of professional contacts. Where possible, it will enhance ISA's linkages with the Consortium's member universities over the long run. Participation in scientific conferences is an essential component of maintaining awareness and involvement in current scientific activities. This is particularly important for a small faculty group with a very limited range of national counterparts.

5. ISA Institutional Support

ISA has a credible record among Dominican universities in obtaining a limited level of annual giving from private sector firms. However, this funding has not been sufficient to keep ISA abreast of inflation. Salaries, upkeep, and research have lagged so badly that ISA falls far short of its potential for supporting badly needed growth in Dominican agriculture. This must be dealt with in three major ways:

- Annual giving for operating expenses, including scholarships to enable the bright but truly poor to continue coming to ISA, thus obtaining technical skills and in many cases social mobility as well;
- Institutionalization of a much larger Endowment Fund, interest from which will help underwrite the operating costs of ISA into the next century; and,
- Creation of a faculty involved in relevant research and skilled in obtaining funding to underwrite that research.

ISA has a good track record in attracting foreign donations as well. However, ISA will be on a firmer footing if it can also attract higher levels of local donations, to meet both the annual and Endowment Fund requirements. In turn, with the school's basic finances on a sounder basis, it will be more attractive to donors, who typically prefer to cover the incremental costs of new buildings or projects, but are seldom interested in paying the overhead and operating expenses of the institution.

GODR contributions are the main source of funding for most other universities in the country (about 87 percent for UASD). The GODR provided only 25 percent of ISA's total revenues in 1988. While welcome, experience has shown that these contributions lag inflation and are often very late in disbursement. Obtaining budget commitments and then obtaining actual disbursement take an inordinate amount of time and energy from ISA leadership.

Thus, the main principle in the financial design of this Project is to assist ISA in attaining substantial self-supporting status based almost entirely on Dominican private sector resources. This will be a major institutional innovation with favorable repercussions that will likely go far beyond the agricultural sector. (A parallel effort to fund agricultural research through the Commercial Farming Project has successfully pursued a similar objective.)

To encourage ISA's leadership, and to give them "talking points" in approaching donors, the Project is "front-end-loaded." That is, for some components, the USAID donation would come in the first two years but it would be up to ISA to obtain revenues to replace supplies, equipment, vehicles, etc., as needed which result from the institutional improvement effort, even though the Project itself contemplates a life of 7 years.

For example, a critical component of the Project is the creation of the position of Director of Development. This will involve the opening of the office in Santo Domingo described above, plus efforts (courses, meetings with agribusiness representatives, etc.) to give ISA a higher profile in the capital city. US\$277,000 will be provided under the Project to fully fund this position and related expenses, (not direct fund-raising efforts, which would be provided by ISA as an in-kind project contribution) for the first two years, after which ISA will begin picking up these costs on a gradually increasing basis. The position and the office are to be totally self-sufficient by Year 7 of the Project.

The Director's job tenure and salary will depend directly upon performance. The salary allotted for the position is reasonably competitive with similar private sector situations.

The bulk of the USAID grant will be used for expenditures in US dollars. The key design element throughout the Project is hiring and retaining ISA faculty who will be known and recognized in their disciplines, and who will be entrepreneurial in seeking research and other off-campus funding for ISA. This will involve technical assistance and numerous trips by ISA faculty to meet U.S. colleagues. It will include a Project support office at ISA with modern communication facilities (FAX, modem, etc.), and an expanded electronic bibliographic searching capability at the ISA library. The Project will include some restocking of totally depleted laboratories plus supplies and equipment for teaching and research.

A critical problem is the low level of full-time faculty salaries. The average current faculty salary is RD\$1,442 a month; for those who have at least an M.S. degree from a U. S. university, it is RD\$1,847. Numerous evaluations of ISA and CADER concur in regarding this as the most immediate threat to the institution's survival. The Project will solve this problem on a permanent basis by mobilizing domestic giving. However, the current situation is so critical that a "jump start" is urgently needed to ensure that ISA has a faculty that can move into the important new role it is expected to fulfill. Thus, the Project will finance modest peso contributions in Years 1 and 2, equivalent to approximately US\$404,000, to help bring salaries closer to private sector levels. While never expecting parity, ISA does seek to increase salaries enough so that persons who have a real vocation for research, teaching and outreach will no longer be forced by economic necessity to take jobs selling agricultural chemicals or other work that would affect the ability to dedicate oneself fully to teaching and research. Therefore, the Project includes funds sufficient to raise faculty salaries by 100 percent to make up for 1988 and earlier lags behind inflation which was 25 percent in 1987 and 58 percent in 1988. In addition, to reinstate a performance bonus system which has not been awarded at ISA during all the years of tight budgetary controls, an average of 50 percent more for merit will be budgeted. The range for merit awards should be from 5 to 95 percent.

After these raises, the average faculty salary will be only RD\$3,403 a month, and the average for those with a U. S. Master's Degree or better will only be RD\$4,618. At current exchange rates, the latter is only some US\$735 a month, but this is much closer to an adequate middle class family income in the Dominican Republic than is the present figure, less than US\$300 a month.

Another US\$70,000 is programmed for urgently needed protective steps at two ISA forest projects -- fencing, for instance, to keep out stray animals. After these investments, and in about two years, these forests are expected to be at least self-supporting financially. They are also key elements in the country's efforts in research to reduce dependence on imported petroleum as an energy source.

The past lack of long-term financial planning has contributed to the deterioration of ISA's physical plant to the point where many items are unserviceable, while others are inadequate in quality and quantity. In another regard, the changes in focus from the public to the private sector, from traditional to non-traditional crops, and from a technical school to a college level program all demand a certain level of investment in infrastructure which ISA itself cannot presently afford. As a result, some investments in bricks and mortar will be required to complete ISA/CADER's development plan. Structures such as a new library, controlled environment laboratories, an administrative complex and modifications to the production facilities must be completed. ISA/CADER and USAID will encourage other donors to earmark contributions towards the construction of specific essential structures in accordance with the long range capital investment plan. This Project will limit its scope to the provision of only those commodities considered essential to immediate implementation, such as laboratory and field equipment, agricultural machinery, vehicles, data processing and printing facilities, a limited electrical generating capacity, and modest refurbishing of office space for the technical assistance advisors. This category represents only US\$ 0.78 million, or 6.5 percent of the total value of the Project.

6. Expected Impact/Achievements

The Project is expected to affect rural incomes by meeting the increasing demand for agricultural technicians trained theoretically and practically in the production of non-traditional crops and livestock. ISA will be strengthened to achieve this goal by receiving long-term technical assistance and training opportunities, in teaching, research, extension and administration. A Development Office will be established, and the Endowment Fund strengthened to meet the institution's core costs and recurring costs, and reduce ISA's dependency upon GODR and donor financing. Approximately 12 new faculty will have been hired from among the large group of students whose graduate degree training was financed under the Agriculture Sector Training Project.

At Project completion, at least 12 of ISA's faculty and staff will have practical work experience obtained at U.S. universities and participating institutions. Additionally, 38 person years of long-term resident U.S. faculty assistance in research, teaching and administration will have been completed. At least 15 major policy workshops will be completed, as well as 60 policy seminars. Fifty weeks of short cycle training for agribusiness professionals will have been completed and 3,000 farm leaders introduced to non-traditional crop and/or livestock improved practices. No less than 250 research monographs relating to non-traditional crops, agribusiness, and watershed/irrigation management will have been published, and income generated from an Endowment Fund of at least RD\$ 20.0 million will be used to meet ISA/CADER core costs. Faculty and staff salaries will be sufficiently competitive with the private sector to enable ISA/CADER to retain its highly trained personnel and attract new, equally motivated, academicians to the expanded scope of its mission.

H. Project Components

Training and technical assistance will be provided in 5 basic areas: Administration, Horticulture/Agronomy, Animal Production, Forestry/Natural Resources, and the CADER Agribusiness Program. Each of these programs is described below, and Tables 23 and 24 on pages 66 and 67 also provide an aggregate listing of all TA and Training for the project.

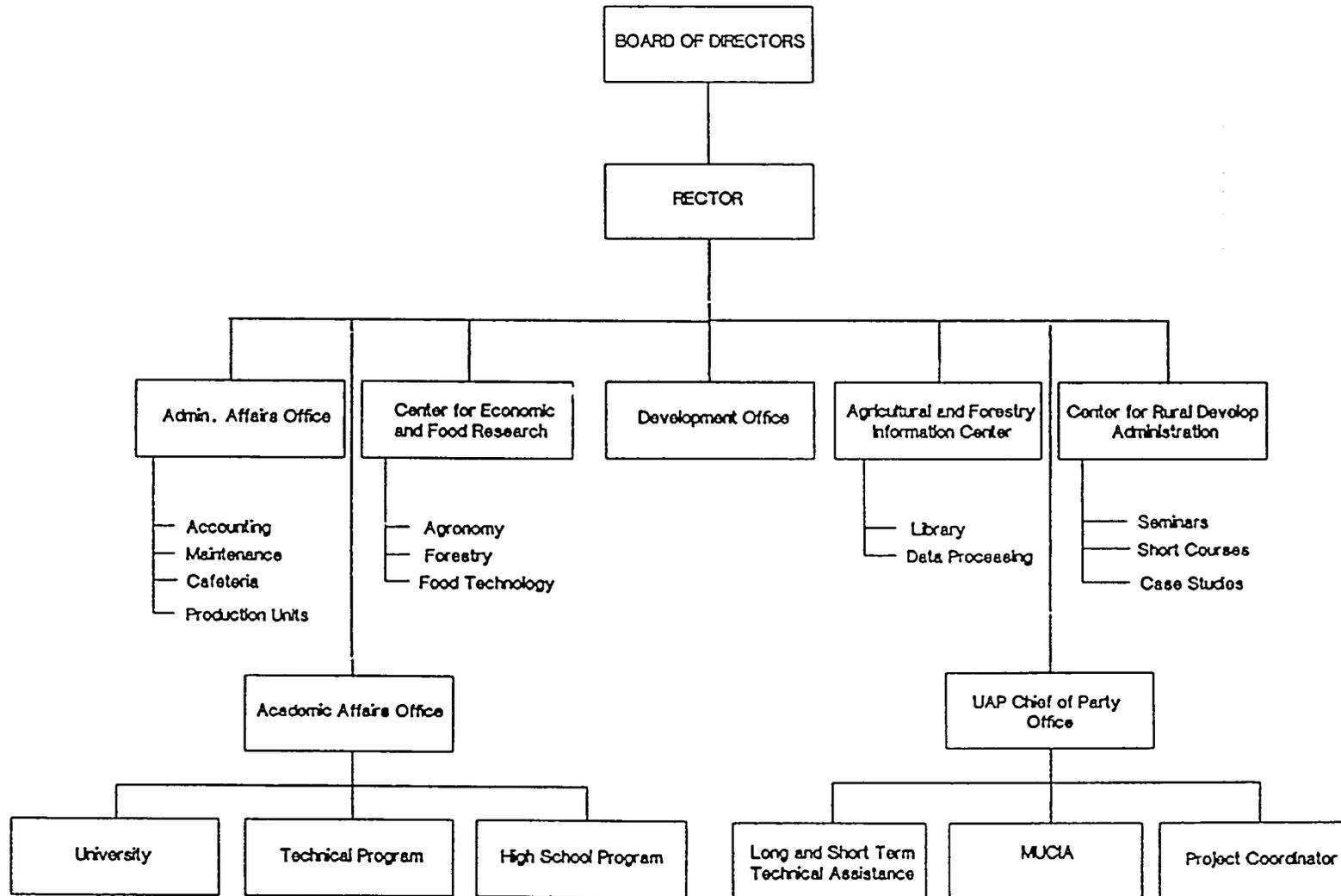
1. Administration Program

Administration refers to the administrative structure which supports the Institute's academic, research and outreach programs. It includes the Office of the Rector, the Office of Academic Affairs, the Administrative Affairs Office, the Center for Economic and Food Research (CIEA), the Center for Agricultural and Forestry Information (CIAF), and the Center for Rural Development Administration (CADER). Also to be included is the new Development Office. (See Figure 1)

The technical program for Administration will include long and short-term technical assistance, long and short-term training, and the provision of infrastructure support.

Long-term technical assistance will be provided through the Project Chief-of-Party who will act as an advisor (half-time) to the Rector of ISA while also teaching, conducting research and providing outreach services within CADER or one of the other designated academic concentrations (half-time). The Chief-of-Party will work closely with the Rector in the exercise of his functions by elaborating and helping to implement institutional development plans and evaluations, advising the Development Office, and overseeing the short-term technical assistance in administration. It is anticipated the Chief-of-Party will advise the Rector in reviewing and establishing institutional policies regarding faculty relations, program priorities, and enabling linkages with clientele in the private and public sectors, and program development.

PROPOSED ORGANIZATIONAL STRUCTURE
UNIVERSITY AGRIBUSINESS PARTNERSHIP PROJECT



Short-term technical assistance is programmed for each of the major administrative support units within ISA. Long-term planning will include a comprehensive review of the existing organizational, administrative and support structures. This will entail a revision of ISA's long range development plan made necessary by recent transformations in the agricultural sector. Additional short-term technical assistance to the Development Office is programmed for each of the seven years. The substantial input of short-term assistance in Year 1 is to help organize the Development Office, identify major functions, establish accounting, record keeping and other support systems, and prepare strategies for annual fund raising and Endowment Fund campaigns.

Technical assistance by experienced university administrators to the Academic Affairs Office is programmed for admissions, record keeping and student services. Technical assistance is programmed for computer applications in support of administration and data systems. This will include modifications of computer accounting and financial control systems and data bases for academic and research programs. Technical assistance to ISA's farm will review existing operations, farm management techniques, and the sale of farm products. Short-term technical assistance to analyze gender issues and design strategies to address such issues will be provided during the Project's first year. These and other technical assistance activities are presented in Table 1.

TABLE 1: Technical Assistance to ISA Administration - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term: (Person Years)								
Office of the Rector (Half time*)	.5	.5	.5	.5	.5	.5	.5	3.5
Short-Term: (Person Weeks)								
Long-term Planning	4	2	--	--	--	--	--	6
Development Office	10	2	2	2	2	2	2	22
Academic Affairs:								
Admissions	2	--	--	--	--	--	--	2
Registrar	--	2	--	--	--	--	--	2
Student Services	--	2	--	2	--	--	--	4
Computer Applications:								
Administration	4	--	--	2	--	--	--	6
Data Systems	2	--	2	--	2	--	--	6
Administration:								
Budget Preparation	2	--	--	--	--	--	--	2
Accounting	2	--	2	--	2	--	--	6
ISA Farm Management	2	--	--	2	--	--	--	4
Equipment Maintenance	2	--	2	--	2	--	--	6
Library Development	2	--	2	--	2	--	--	6
Gender Issues	2	--	--	--	--	--	--	2
Short-Term Total	34	8	10	8	10	2	2	74

* Will also provide half-time departmental technical assistance, e.g. to CADER

The long-term training activities include internships for the Rector, and the three Vice-Rectors. These will be programmed by the Chief-of-Party in collaboration with ISA administrators and will take place at one or more of the Consortium affiliated university campuses or locations. These internships will be coordinated with the short-term technical assistance and other inputs to the Project.

The short-term training activities will include an opportunity for the Rector to attend a short course for university Chief Executive Officers in the U.S. during the first year. Repetitive visits by the Director of the CIAF are programmed to include reviews of existing computer applications for college administration, and for him to become acquainted with new, appropriate data system software. The Director of the Development Office will visit similar offices at Consortium institutions. These visits will be coordinated with the short-term technical assistance inputs and will also serve to provide instruction on methodologies for fund raising activities for ISA. Visitation by the head librarian will be coordinated with the short-term technical assistance inputs. Other short-term training opportunities are programmed for university admissions, registrar and student services activities, budgeting and accounting systems, farm

management, research administration and gender issues. Opportunities for ISA administrators to remain current with research and field technologies and to meet with colleagues at other institutions through attendance at professional society meetings are also programmed during the first four years of the Project.

The long and short-term training activities for the administrative staff are found in Table 2.

TABLE 2: Administration Training - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term: (Person Months)								
Academic Affairs	--	12	--	--	--	--	--	12
Administrative Affairs	--	--	12	--	--	--	--	12
Research Administration	--	--	--	12	--	--	--	12
Executive Administration	--	--	--	--	12	--	--	12
Total	0	12	12	12	12	0	0	48
Short-Term: (Person Weeks)								
Executive Training	10	--	--	--	--	--	--	10
Computer Applications	4	2	4	2	4	--	--	16
Development Office	2	4	4	4	4	4	4	26
Library Administration	1	2	--	--	--	--	--	3
Other	--	8	--	--	--	--	--	8
Professional Meetings	6	7	6	6	--	--	--	25
Gender Issues	2	--	--	--	--	--	--	2
Total	25	23	14	12	8	4	4	90

Most infrastructure support to ISA's central facilities will be provided during the first year of the Project. Major purchases include two campus power generators, a water filtration system, 2 jeeps and a bus to support administrative offices and the University. Laboratory space will be converted into office space for the Animal Production faculty, freeing up space for the long-term advisors in the other programs. Equipment, tools and supplies will be purchased to support the motor pool and for practical student training. Air conditioning units will be purchased for the laboratories and library. Office supplies will be purchased for the long-term resident advisors. The provision of equipment, supplies, and other infrastructural support to ISA's central administrative facilities is summarized in Table 3.

TABLE 3: Infrastructure Support to ISA Administration - Project 517-0243

Category	Amount
Vehicles (2 jeeps, 1 bus)	\$60,000
Teaching Equipment	5,000
Computers	9,000
Software	2,000
Desk top Publishing	10,000
Reference Books, Docs.	14,000
Journals, Bibl. Svcs.	7,000
Copying Machines (2)	10,000
Textbook Revolving Fund	20,000
Office Supplies	2,000
Air Conditioners	10,000
Fax Machine	3,000
Maint. Tools, Parts	10,000
Generators Water System	150,000
Total	\$312,000

2. Horticulture/Agronomy Program

The overall objective of ISA's horticulture and agronomy program is to improve the productivity of agriculture by providing training to agricultural engineers and technicians, through teaching, research, and outreach activities.

In teaching, the Project will strengthen the program by establishing a B.S. degree in Horticulture. Currently, there is only a B.S. degree offered in Agronomy, although students may major in horticulture. The curriculum will be reviewed and expanded, and an M.S. program will be explored. The three year technical degree curriculum will also be strengthened. Curricula for all programs will be made more practical through the use of internships, field visits and laboratory work.

In research, priority will be placed on improving tomato, pepper, cucurbits (melons, squash, cucumbers, pumpkins, etc.), tropical fruits, dry beans and seed production. Emphasis will also be placed on integrated pest management. Through the Project, a tissue culture laboratory, a post-harvest laboratory and a food technology laboratory will be strengthened to improve ISA's capacity to teach, conduct research and provide services.

In outreach activities, the horticulture/agronomy program will expand its services to farmers and agribusiness through seminars, workshops, field days, technical assistance, consulting, and publishing. In this capacity they will be assisted by long and short-term technical assistance.

Technical assistance will include 12 person years of long-term technical assistance and 90 person weeks of short-term assistance. The long-term technical assistance is programmed in four areas, two of which are specialized in horticultural crops and two of which provide support for

horticultural and cereal crops. The major crops to be supported are tomatoes, peppers, cucurbits and tropical fruits. The two support areas are integrated pest management and post-harvest technology. The short-term assistance will be provided in several areas including field beans, floriculture, tissue culture and foundation seed production. Additional assistance is programmed for natural resource topics in specific horticultural areas (soils/irrigation) and gender issues.

The technical assistance will be programmed to facilitate long-term collaborative relationships between ISA faculty and faculty from the Consortium affiliated universities. Table 4 provides an overview of the technical assistance programmed for horticulture.

TABLE 4: Technical Assistance to Horticulture/Agronomy - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term (Person Years)								
Vegetables	1	1	--	--	1	1	--	4
Tropical Fruits	1	1	--	--	1	1	--	4
Integrated Pest Management	--	--	1	1	--	--	--	2
Post-Harvest Technology	--	--	1	1	--	--	--	2
Total	2	2	2	2	2	2	0	12
Short-Term (Person Weeks)								
Tomatoes/Peppers	--	4	2	2	--	2	--	10
Cucurbits	--	4	2	2	--	2	--	10
Tropical Fruits	10	--	--	--	2	--	--	12
Field Beans	--	--	4	2	2	--	--	8
Floriculture	--	3	2	2	--	--	--	7
Tissue Culture	--	--	8	--	2	--	--	10
Post Harvest Technology	--	3	--	--	--	--	--	3
Pest Management	--	--	--	--	--	3	2	5
Foundation Seed	--	--	8	2	2	--	--	12
Irrigation/Soils	--	--	--	8	3	--	--	11
Gender Issues	2	--	--	--	--	--	--	2
Total	12	14	26	18	11	7	2	90

Training for the horticultural/agronomy faculty will include long-term, non-degree internships, short courses, workshops and professional society meetings. These training activities are summarized in Table 5. Long-term training activities have been scheduled for periods of twelve months each and are designed to expose the trainee to technical as well as administrative issues at U.S. universities. They include post harvest technology, foundation seed production, tissue culture, soil science and floriculture. Short-term training will cover several major commodities in addition to tropical fruits, pest management, irrigation, food science, extension methods and gender issues. Forty-six weeks have been programmed for professional meetings and conferences. This activity is designed to keep ISA faculty abreast of current research, and to promote professional linkages with colleagues in the U.S. and other Latin American countries.

Table 5: Horticulture/Agronomy Training - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term (Person Months)								
Tissue Culture	--	--	--	12	--	--	--	12
Post Harvest Technology	--	12	--	--	--	--	--	12
Foundation Seed	12	--	--	--	--	--	--	12
Soil Science	--	--	12	--	--	--	--	12
Floriculture	--	--	--	--	12	--	--	12
Total	12	12	12	12	12	0	0	60
Short-Term (Person Weeks)								
Horticultural Commodities	--	8	--	--	--	--	--	8
Tropical Fruits	--	6	--	--	--	--	--	6
Beans	--	--	4	--	--	--	--	4
Pest Management	--	--	--	4	--	--	--	4
Irrigation	--	--	--	--	4	--	--	4
Food Science	4	--	--	--	--	--	--	4
Extension Methods	--	2	--	--	--	--	--	2
Gender Issues	--	2	--	--	--	--	--	2
Conferences:								
Am. Horticulture Science	--	3	--	3	--	3	--	9
Am. Society of Agronomy	--	--	1	--	1	--	1	3
Interam. Hort. Society	--	5	5	5	5	5	5	30
Int'l Hort. Society	--	2	--	--	--	2	--	4
Total	4	28	10	12	10	10	6	80

Items that will be purchased in support of the horticulture/agronomy program are summarized in Table 6. The largest category is for laboratory and field equipment. These will be purchased in support of research programs, particularly for selected commodities, and for the practical training of students. Two small tractors and three vehicles will be provided to facilitate research activities, on-farm trials, and greater field interaction with major clientele groups. Personal computers, audio visual equipment, seeds and plant materials will be provided.

Table 6: Infrastructure Support to Horticulture/Agronomy - Project 517-0243

Category	Amount
Laboratory and Field Equipment	\$112,500
Vehicles (3 Jeeps Pick-ups, 2 tractors)	85,000
Computer Equipment	8,000
Teaching Equipment	4,500
Seeds and Plant Materials	5,000
Total	\$215,000

3. Animal Production Program

The Project will strengthen ISA's Animal Production program at the degree level and provide advisory services to the animal production sector. It will spearhead a more practical approach to learning linked closely to the needs of the industry and will include student internships, field visits, and hands on applications.

In teaching, the Project will strengthen the Animal Production curriculum in the area of meat production, reproduction, animal nutrition, pasture management, animal pathology, veterinary medicine, dairy production, and aquaculture.

In research, the Project will focus on problems affecting livestock production and utilization, which are regarded as a high priority by both government and industry. These will be integrated with the teaching needs as well as with outreach efforts. Specifically, research areas to be developed include:

- Pastures and Forages
- Animal Health
- Dairy and Beef Production
- Poultry and Swine Production
- Animal Nutrition

Outreach activities will include short courses, single day conferences, presentations to producers groups, radio presentations, demonstrations, field days, and the preparation of technical bulletins and management calendars.

Four person years of long-term technical assistance will be provided by an animal nutritionist and a production systems specialist. ISA will request long-term technical assistance in food technology from another donor. Ninety weeks of short-term technical assistance will be provided for

laboratory management, legumes, parasitology, bovine mastitis, animal nutrition, forage agronomy, herd improvement, avian pathology, swine diseases, milk and meat hygiene, and animal traction. (See Table 7.)

A total of 6 years of long-term, non-degree training will be provided to faculty in the areas of animal nutrition, pastures and forages, production systems, and food technology. This will be supplemented by 93 person weeks of short-term training. A summary is presented in Table 8.

Financing of US\$71,500 will be provided for field and laboratory equipment and supplies, teaching and computer equipment, livestock, documentation, 2 vehicles and repairs to existing infrastructure (Table 9.)

Table 7: Technical Assistance to Animal Production - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term (Person Years)								
Animal Nutritionist	1	1	--	--	--	--	--	2
Production System Specialist	--	--	1	1	--	--	--	2
Total	1	1	1	1	0	0	0	4
Short-Term (Person Weeks)								
Laboratory Mgmt.	3	--	--	3	--	--	--	6
Tropical Legumes	4	2	2	2	--	2	--	12
Parasitologist	--	4	--	4	--	--	--	8
Bovine Mastitis	3	3	--	--	--	--	--	6
Animal Nutritionist	--	--	--	3	--	3	--	6
Forage Agronomist	--	3	--	3	--	--	--	6
Herd Improvement	--	2	--	2	2	--	2	8
Avian Pathologist	--	8	--	8	--	--	--	16
Swine Diseases	6	2	2	--	--	--	--	10
Milk/Meat Hygienist	--	--	2	2	--	--	--	4
Animal Traction	--	--	3	--	3	--	--	6
Gender Issues	2	--	--	--	--	--	--	2
Total	18	24	9	27	5	5	2	90

Table 8: Animal Production Training - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term (Person Months)								
Animal Nutritionist	12	--	--	--	--	--	--	12
Pastures and Forages	--	--	6	6	--	--	--	12
Production Systems	12	12	--	--	--	--	--	24
Food Technology	12	12	--	--	--	--	--	24
Total	36	24	6	6	0	0	0	72
Short-Term (Person Weeks)								
Pastures and Forages	--	--	4	--	4	--	--	8
Animal Traction	4	--	4	--	--	--	--	8
Agroforestry Systems	--	--	--	4	--	4	--	8
Animal Health	--	4	4	4	4	--	--	16
Herd Improvement	--	4	4	4	--	--	--	12
Extension Communication	--	2	--	--	--	--	--	2
Gender Issues	--	2	--	--	--	--	--	2
Sub-Total	4	12	16	12	8	4	0	56
Short-Term Conferences: (Person Weeks)								
Forage/Pasture	1	1	1	1	1	1	1	7
Animal Health	1	1	1	1	1	1	1	7
Animal Nutrition	--	--	1	1	1	1	1	5
Production Systems	--	--	--	--	1	1	1	3
Animal Food Technology	--	--	--	--	1	1	1	3
Poultry/Swine Production	--	1	1	1	1	1	1	6
Management and Genetics	--	1	1	1	1	1	1	6
Sub-Total	2	4	5	5	7	7	7	37
Short-Term Total	6	16	21	17	15	11	7	93

Table 9: Infrastructure Support to Animal Production - Project 517-0243

Category	Amount (US\$)
Field and Laboratory Equipment, repairs	\$27,500
Teaching Equipment	2,000
Field and Laboratory Supplies	2,000
Computer Equipment	5,000
Vehicles (2 trucks)	30,000
Livestock	5,000
Total	\$71,500

4. Forestry/Natural Resources Program

The instructional and research activities of the Forestry/Natural Resources program emphasize sustainable natural resource conservation and management. They are designed to promote increased forest production through forest plantations and the restoration of natural forest cover. Activities of this program will build upon the wood fuel program financed by AID and the Dominican Energy Commission which terminated in 1988. The objective of the instructional activities is to establish a professional forestry degree program in addition to a technical degree in forest technology. The research goals of the program are to consolidate and give continuity to research initiated under the wood fuel project, and to initiate new research programs in watershed management and related areas. The goal of the outreach activities is to disseminate research findings through workshops, seminars, field days, publications and agribusiness contacts, to the private sector, thus stimulating commercial plantations and resource conservation practices. (See Annex VII for further information).

Technical assistance will include long and short-term advisory inputs, long and short-term training and the provision of infrastructural needs. Table 10 summarizes the technical assistance inputs.

Table 10: Technical Assistance to Forestry/Natural Resources - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term: (Person Years)								
Forestry Management/Policy	--	--	--	1	1	--	--	2
Forest Soils	1	1	--	--	--	--	--	2
Watershed Management	--	--	1	1	--	--	--	2
Total	1	1	1	2	1	0	0	6
Short-Term: (Person Weeks)								
Forest Products	2	2	2	2	2	2	2	14
Forest Industry	4	4	4	4	4	4	4	28
Parks and Reserves	4	4	4	2	2	2	2	20
Watershed Management	2	4	4	2	2	2	2	18
Gender Issues	2	--	--	--	--	--	--	2
Total	14	14	14	10	10	10	10	82

Long-term technical assistance is programmed in three areas: forest soils, forestry management and policy, and watershed management. These advisors will assist faculty to program new activities, prepare new research and outreach programs (and assist in their implementation), and assist in the design of curricula for the academic programs. When appropriate, research activity will be integrated with thesis and dissertation research by faculty members who will undertake graduate training in the U.S.

Short-term technical assistance is programmed in five areas and will include periodic return assignments in each area. These visits will promote collaborative relationships with faculty from Consortium affiliated universities.

Table 11: Forestry/Natural Resources Training - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term: (Person Months)								
Tree Improvement	--	12	12	--	--	--	--	24
Dry Forest Silviculture	--	--	--	12	--	--	--	12
Tropical Pine Management	--	--	--	12	12	--	--	24
Other	--	--	--	--	--	12	--	12
Total	0	12	12	24	12	12	0	72
Short-Term: (Person Weeks)								
Nurseries/Plantations	8	--	--	8	--	8	--	24
Silviculture/Ecology	4	--	--	4	--	4	--	12
Pine Management	4	--	--	4	--	4	--	12
Conferences:								
Forest Management	1	1	1	1	1	1	1	7
Forest Protection	1	1	1	1	1	1	1	7
Silviculture	1	1	1	1	1	1	1	7
Watershed Management	1	1	1	1	1	1	1	7
Forest Industry Products	1	1	1	1	1	1	1	7
Parks and Reserves	--	--	1	--	1	--	1	3
Agroforestry	1	1	1	1	1	1	1	7
Forest Soils	1	1	1	1	1	1	1	7
Total	23	7	8	23	8	23	8	100

The training activities scheduled for the Forestry/Natural Resources program are summarized in Table 11. Two internships are programmed for a period of two years in tree improvement and tropical pine management. Internships in silviculture and another area yet to be defined, with MUCIA assistance, are programmed for one year each. The unspecified area may be related to soil conservation and/or watershed management. Short-term training is programmed for tree nurseries/plantations, silviculture/ecology and pine tree management. It is anticipated that faculty in these areas will undertake repetitive visits to the U.S. in the first, fourth and sixth years of the Project. The short-term training will be provided in eight areas including conferences and professional meetings.

The infrastructure requirements to support the Forestry/Natural Resources program are listed in Table 12. They include 4 vehicles, laboratory, and field equipment. All items will be used to support the program's research and outreach activities.

Table 12: Infrastructure Support to Forestry/Natural Resources - Project 517-0243

Category	Amount
4 Vehicles	\$60,000
Laboratory Equipment	20,000
Field Equipment	15,000
Computer Equipment	8,000
Total	\$103,000

5. CADER Agribusiness Program

CADER's mission is to strengthen management capabilities in Dominican agriculture, agro-industry and rural development through: management training for university students, public officials, agriculturalists and business managers; and, provision of direct services to GODR employees and the Dominican private sector in the form of executive courses, policy dialogue seminars, consulting services and contract research. Through these inputs the project will interact with the private sector and provide outreach to farmers, as well as provide linkages to ISA's academic planning and research process as well as its students.

The Project includes three major objectives for CADER. First, it will enable the Center to become more closely linked to the private sector by developing stronger services and a more effective internship and placement program. Secondly, it will enable CADER to achieve a self-financing capability through more marketable and profitable services such as consulting and executive courses and seminars. Thirdly, it will strengthen the faculty through short and long-term training, and through the provision of short and long-term technical assistance.

The Project will allow CADER to improve both the quantity and quality of its services. These include yearly management courses for two university level programs, six executive courses, three policy seminars, 10-30 case studies in agribusiness management, four major research activities, approximately six consulting contracts, and 16 university level theses. CADER will plan (and most likely increase) its services as needed, pending the results of an updated, detailed survey of private sector demand to be conducted during the first year of Project implementation (such surveys have been conducted in the past). More detailed information on CADER's services and outreach can be found in Annex VII, pp 103-125. The development of this closer linkage will improve the future employment potential for ISA and CADER graduates and interns.

The Project will provide 8.5 person years of long-term technical assistance in the area of agro-exports, agro-finance, and agricultural policy analysis. It will provide 156 weeks of short-term technical assistance in direct support of its efforts to expand services to the private sector, strengthen its university level programs, executive courses and policy seminars, and achieve financial self-sufficiency (See Table 13).

The Project will provide seven years of long-term non-degree training in the areas of agro-exports, agricultural policy, financial management, agroindustries, international business and marketing. An additional 68 person weeks of short-term training will be provided in areas such as fruit and vegetable marketing, agribusiness management, quality control, customs administration and institutional development (see Table 14).

Finally, the Project will provide US\$80,000 to purchase three vehicles, teaching and computer equipment, and two photocopiers per Table 15.

Upon completion of the Project, it is expected that CADER will have achieved financial self-sufficiency, that it will have expanded its faculty from 5 to 10 full-time professors, and that over 1,000 people will have benefited from its courses, seminars and direct services.

Table 13: Technical Assistance to CADER - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term (Person Years)								
Agro-exports	1	1	1	1	-	-	-	4
Agro-finance*	.5	.5	-	-	1	-	.5	2.5
Ag. Policy	-	-	.5	.5	.5	.5	-	2
Total	1.5	1.5	1.5	1.5	1.5	.5	.5	8.5
Short-Term (Person Weeks)								
Private Sector Survey	6	4	2	2	-	-	-	14
Private Sector Services	8	4	2	2	2	2	2	22
Ag. Marketing	4	-	4	-	4	-	2	14
Design/Eval. Corporate Strategies	-	4	-	4	-	2	-	10
Formulation/Eval. of Ag. Projects	4	-	4	-	4	-	-	12
Management Control/Information Systems	-	4	-	-	-	2	-	6
Ag. Quality Control	4	-	2	-	2	-	-	8
Processing/Packaging	-	-	4	-	-	2	-	6
Inter. Business	-	-	4	-	-	-	-	4
Farm Management	-	4	-	4	-	2	-	10
Human Res. Management	-	-	4	-	2	-	-	5
Production Economics	-	4	-	-	-	2	-	6
Computers in Ag. Administration	4	-	4	-	-	-	-	8
Fruit Marketing	-	4	-	4	-	2	-	10
Vegetable Marketing	-	4	-	4	-	2	-	10
Managerial Economic Analysis	-	-	2	-	2	-	4	8
Gender Issues	2	-	-	-	-	-	-	2
Total	32	32	32	20	16	16	8	156

* May provide half-time administrative assistance to the ISA Rector, or to other departments.

Table 14: CADER Faculty Training - Project 517-0243

Description	Project Year							LOP
	1	2	3	4	5	6	7	
Long-Term (Person Months)								
Educ. Admin.	12	--	--	--	--	--	--	12
Agro-exports	--	12	--	--	--	--	--	12
Ag. Policy	--	--	--	12	--	--	--	12
Financial Management	--	--	12	--	--	--	--	12
Agroindustries	--	--	--	12	12	--	--	12
Inter-Business	--	--	--	--	--	--	--	12
Marketing	--	--	--	--		12	--	12
Total	12	12	12	24	12	12	0	84
Short-Term (Person Weeks)								
Admin. of Private Sector Services	4	2	4	4	--	--	--	14
Fruit/Veg. Marketing	4	--	--	--	--	--	--	4
Computers in Ag. Administration	--	2	--	--	--	--	--	2
Packaging and Cratinges	--	2	--	--	--	--	--	2
Quality Control of Ag. Products	--	--	--	--	4	--	--	4
Agribusiness Management	--	--	4	--	--	--	--	4
Executive Management (INCAE)	--	--	4	--	4	8	4	20
Institutional Development	--	--	--	4	--	--	4	8
Customs Administration	--	--	--	4	--	--	--	4
Project Administration	--	--	--	--	4	--	--	4
Gender Issues	--	2	--	--	--	--	--	2
Total	8	8	12	12	12	8	8	68

Table 15: Equipment and Supplies for CADER - Project 517-0243

Category	Amount US\$
Vehicles (3 Jeeps)	\$45,000
Teaching Equipment	10,000
Computers & Equipment	15,000
Photocopiers (2)	10,000
Total	\$80,000

IV. SUMMARY PROJECT ANALYSES

A. Summary of Administrative Analysis

The purpose of the administrative analysis is to assess the administrative and institutional capability of ISA to implement the project and to determine whether the suggested implementation plan is workable. The analysis focused upon a systematic review of ISA's organization, management and staffing in the functional areas of project management, financial management, contracting, training, reporting and managing the university. In each of these areas, ISA was judged capable of implementing the Project according to the suggested plan, due to the Institute's experience, current and projected human resources, and the inputs provided by the Project.

1. Project Management

The Institute has successfully participated in, and directly managed, a large number of projects throughout its 25 year history. These have included both loan and grant projects undertaken with USAID (See next page), the GODR, several of the governmental ministries, and other donors, including international organizations such as the Kellogg Foundation. The Institute is in the final stages of project approval with the EC and Italian government (see Section III.F., Other Donor Activities). Nevertheless, none of these activities are of a size and complexity to interfere with ISA's ability to implement and manage this project.

Several of the projects required multi-institutional coordination, with overlapping jurisdictions in their management and execution. The Institute's positive contribution to the success of these projects is a matter of record. ISA's academic organizational structure, with authority and responsibility clearly sub-delegated to the Vice-Rectors and through them to the departmental heads (i.e. "areas of specialization") has been a major factor in developing management expertise throughout the organization.

The Project will augment existing management capability through the assignment of one long-term advisor and 74 person weeks of short-term technical assistance directly to ISA's central administrative unit. Four person years of long-term, non-degree training in the U.S. will be provided, in addition to 90 person weeks of short-term training, conference participation, etc. The Project will supply computer systems and software to facilitate implementation, monitoring, and evaluation, and contemplates the expansion of ISA's communications facilities. The remaining balance of long-term advisors are tasked, in their respective scopes of work, with the improvement of management capability throughout the technical, academic and research divisions of ISA and CADER. A full-time, USAID-experienced on-site Project Coordinator contracted as part of the MUCIA team will help implement the Project.

Table 16: History of AID Support to ISA/CADER

Project Number	Project Title	Dates	Project Funds Received by ISA ^a (US\$ thousands)
No Number	Loan to Santiago Development Association for Building Construction and Equipment	1962-1965	500 ^b Loan
AID/1a-268	Technical Assistance to the Secretariat of Agriculture	1965-1973	±250 Grant
SDR 517-T-027	Small Farmer Program I	1975-1976	±550 Loan
DR 517-T-027	Small Farmer Program II	1977-1978	±83 Loan
DR 517-0144	Energy Conservatuon and Resource Development Energy Farm	1980-1987	±1,000 Loan
DR 517-0125	Rural Development Administration Center I ^c	1983-1985	800 Grant
DR 517-0160	Agricultural Sector Training	1983-1990	±1,000 Loan
DR 517-0125	Rural Development Administration Center II ^c	1985-1987	1,600 Grant

^aMany of these projects were national in scope but allowed for ISA's participation and use of funds. The exact amount of funding allocated to ISA from these projects could not be determined, so the entries in this column represent estimates of the amount of money received by ISA from these projects.

^bThis loan was subsequently supplemented with a \$264,000 grant from A.I.D. for the same basic purposes.

^cProvided support only to ISA.

2. Financial Management

ISA and its management institute, CADER, have long experience in financially managing the college as well as discrete projects, research grants, and the productive units on campus. Oversight of ISA's financial management is provided by the Santiago Development Association through the designation of a member as ISA's Treasurer, and through regular audits conducted by a U.S. affiliated CPA firm.

The USAID Controller's office recently completed an evaluation of ISA's financial management capability with respect to project implementation. Additional modifications of the existing systems are recommended in the evaluation. Some recommendations are being implemented prior to signing the agreement while others will be implemented simultaneously with project start-up (See Annex VII. B. 1.). Expert short-term technical assistance will be provided to assist ISA in the strengthening of the Endowment Fund and creation of the Development Office, as well as financial management and systems. Finally, after the first 12 months of the project an assessment to measure progress in achieving procurement and financial management enhancements will be carried out by an independent Certified Public Accounting firm.

3. Contracting

ISA has attained a relatively advanced level of procurement experience for both human and material resources. Almost all commodity procurement under USAID's Rural Development Management Project (517-0125) was accomplished by the Institute, including appropriate competitive bidding procedures, required documentation and customs-clearance. The college has for many years conducted research for both public and private entities under contractual arrangements. Assistance to improve their efficiency in this area is provided under the Project, as described above. Since 1963, ISA has received and managed over US\$6 million in USAID project funds.

4. Training

Of the 115 ISA graduates who have been awarded scholarships over the past twenty years for graduate study (mostly in the US), 100 percent have returned to the Dominican Republic to exercise their profession. This unprecedented record is a demonstration of the extraordinary sense of dedication of ISA graduates and a reflection on the effectiveness of ISA's internal selection and nomination process. Countless other opportunities for short-term training have been utilized by ISA to maintain and upgrade the academic and research skills of its faculty.

The long-term (non-degree) and short-term training contemplated for the Project respond to the faculty determined needs of the Institution, and have been carefully reviewed by the design team and coordinated to achieve the Project objectives. To assist with USAID compliance regarding long-and short-term training regulations, a full time, USAID experienced, on-site Project Coordinator will be contracted by the Consortium. A part-time campus training coordinator (at the US lead institution) will be contracted half-time to coordinate arrangements in the US with designated Project counterparts at the participating institutions.

5. Reporting

ISA is a mature institution with regard to reporting and monitoring project implementation, both with USAID and other institutions. The Project will provide modest additional resources to augment this capability (i.e. desktop publishing, technical assistance). Over \$200,000 has been budgeted to support USAID auditing, monitoring and evaluation requirements. Simultaneously with Project start-up, USAID/ARD will contract the design of an independent, "outside" monitoring and evaluative system to enable timely and precise measurement of project outputs in terms of achieving the Project's goal and purpose. ISA will provide quarterly reports for submission to USAID to monitor project implementation.

6. Managing the University

A review of the background information herein provided and the Project references (See Annex VII) reveals an institutional management capability characterized by a defined vision of purpose, pragmatic operational skills, and a willingness to effectively confront the changing social and economic demand for the Institute's products: trained professionals, appropriate research and effective outreach programs.

Over a 25 year span, the Institute established and maintained a highly respected resident agricultural secondary school, expanded their mission to establish a bachelor's degree granting/research institution, and more recently incorporated an agribusiness, rural development-policy training and research institute. The Project has been developed with the full participation of the ISA and CADER faculty and staff, with input from the Institute's graduates, founding mentors, and a growing agribusiness clientele, as well as the USAID.

Given the Institute's 25 year experience with both long and short-term technical assistance and its demonstrated capacity to expand, adjust and successfully cope with unexpected economic conditions, there is no reason to believe the Institute is less than fully capable of managing the Project under the conditions proposed herein.

B. Summary of Economic and Financial Analyses

The purpose of the economic and financial analysis is to estimate the degree to which the Project's benefits to the Dominican economy as a whole exceed the costs, and the degree to which the financial (cash) benefits provide sufficient investment return to protect participants.

1. Economic Analysis

The major expected impact of the project on the economy is to improve agricultural productivity, resulting in raising average rural incomes.

During the ten year period, 1970 to 1980, agricultural productivity, measured in terms of value added per agricultural worker increased an average 3.2 percent a year, rising from RD\$4,265 to RD\$5,877*. Since 1980, however, there has been a significant erosion of these productivity gains, averaging 1.9 percent a year. Sector growth has stagnated.

* 1987 pesos.

The failure of agricultural value added to grow is largely due to shrinking markets for traditional commercial agricultural products without corresponding increases in non-traditional agricultural products. This occurred despite a tendency for improvement in the GODR's macroeconomic and food policies in recent years that now make non-traditional agricultural products relatively more profitable than in earlier years. Exchange rate developments since 1984, for example, have substantially improved the terms of trade for non-traditional agricultural products, particularly for export and tourist markets, vis a vis additional investment in alternative productive activities. The improved policy environment may be a reason why net agricultural productivity in 1987 did not reflect any deterioration, as compared to 1984. Exchange rates were allowed to float in 1985, and real exchange rate adjustments have generally tracked trends in domestic inflation relative to international inflation.

Farmers and investors have been slow to respond to improved prospects for profitable agricultural activities. In 1982/1983, private sector investment in agriculture amounted to 13.4 percent of agricultural value added. During the recession year 1985 investment in agriculture fell to less than 10 percent of value added, and by 1988 was still at less than capital replacement levels, estimated at 11.6 percent of agricultural value added during the period 1982-1988. Accordingly, it is not surprising that agricultural output has stagnated.

The Mission is optimistic, however, that agricultural output can be increased, and that improved macroeconomic and food policies will allow agricultural output to grow at about 2.0 percent a year and average productivity increases of the order of 0.4 percent a year are feasible without a project designed to improve the calibre of agricultural professionals, and to develop a quality institution that will provide needed guidance on adoption of appropriate technical innovations.

The proposed project should significantly strengthen an agricultural institution by substantially improving its ability to train agricultural professionals and engage in productive research.

The project's purpose level outputs will be:

- 1) high quality research and teaching faculty;
- 2) high quality graduates;
- 3) wide-spread dissemination of research results by means of articles, books seminars, workshops and extension services; and
- 4) high quality graduates will be hired by agribusiness companies that will develop markets for non-traditional agricultural products in the tourism and export sectors, as well as develop efficient domestic distribution of agricultural products.

The results of successful implementation of the project are potentially spectacular. Rates of return on R&D projects in developing countries are typically in the 40-60 percent range. (See, for example, USAID/Pakistan, Transformation and Integration of the Provincial Agricultural Network Project Paper, 1984; and Vernon W. Ruttan, Agricultural Research Policy. University of Minnesota Press, 1982).

The economic analysis could evaluate in detail all design components of the project, and specify impact by product sub-groups in terms of improved productivity, increased output, increased employment, reduced import content, reduced spoilage, improved utilization of by-products, etc. However, this kind of exercise would be tedious and highly speculative.

Accordingly, an illustrative goal level analysis has been prepared that shows how rural incomes can be improved by expected increases in agricultural productivity due to technical innovations developed and adopted because of the project. The large reduction in risk resulting from R&D activities and new market developments should attract substantial new investment and result in raising average annual growth in agricultural value added over the period 1991-2010 from 2.0 percent a year that could be obtained without the project to over 4.0 percent; result in raising agricultural employment growth from an estimated annual maximum of 1.6 percent a year to an estimated 2.3 percent; and attract new investment of the order of 45 percent over what can reasonably be expected without the project. By the year 2000, additional annual value added in agriculture may be of the order of 17 percent higher than expected value added without the project. By 2010, additional annual value added is estimated at some 50 percent higher than that expected without the project. These results flow from very substantial improvement in productivity per unit of labor and capital cost. Labor productivity, which is the key to improved rural household income, is expected to rise from a projected average 0.4 percent/year without the project to more than 1.7 percent/year over the period 1991-2010. At the margin, new investments using improved technologies can expect incremental capital output (ICOR) ratios of the order of 2.5, equivalent to returns of 40 percent, compared to expected returns of only 17 percent (ICOR = 6) if expected project technologies are unavailable or not implemented.

After deducting increased private sector investment from expected project flows, the project's economic IRR is of the order of 22 percent. This is substantially higher than the implicit social discount rate of 17 percent available to project alternatives*. The project resource flows consist of:

- 1) Gross (unadjusted) additional value added (benefit);
- 2) Additional private investment attracted by purpose level outputs (cost);
- 3) Project resource allocations (cost).

Project resource allocations have been defined as A.I.D., GODR and initial private sector contributions, referred to 1987 constant peso prices. The economic accounting price of foreign exchange in 1987 of RD\$6 = US\$1, i.e. $3.84 \times 1.20 \times 1.30 = 5.9904 = 6.00$, was used to value foreign exchange. The extensive secondary benefits resulting in value added and increased employment from distribution and export activities were not included in the analysis. Only on-farm benefits were included. Relevant tables are included in Annex J.

2. Financial Analysis

The Methods of Implementation and Financing are presented in Table

* This ignores public sector investment, which is not assumed to change because of the project.

17, the Financial Plan is presented in Table 19, the Projection of Disbursements Contributed Resources by Year in Table 20, and the Summary Cost Estimate is presented in Table 22. In addition, Tables 23-30 provide detailed summary financial information on commodities, training, and other project components. Detailed tables of units of technical assistance and training used in the projections, along with detailed commodity lists by organizational entity of ISA are included in the discussion of project components, under Section III. H, of the project paper.

Adequacy and Accuracy of the Financial Plan: As discussed in more detail in Annex VII, the Financial Plan appears adequate to achieve the purposes of the project and the benefits discussed in the Economic Analysis. The most significant consideration is the adequacy of the Endowment Fund to allow ISA to achieve financial self-sufficiency. There will be effective safeguards to prevent decapitalization of the fund. USAID will use its approval authority over disbursements of local currency funds from the GODR special account to ensure that an adequate plan exists to manage, account for and safeguard these resources. Evaluations built into the project and managed by USAID will test the assumptions relative to self-sufficiency and the size of the Endowment Fund as the project proceeds. This is expected to provide explicit "go, no go" decision points for continuing AID support of the project.

Recurring Costs: Since an important objective of this project is the financial self-sufficiency of the Grantee, recurring costs, by definition will not be a problem. If the sensitivity analyses as discussed in Annex VII and presented in table form in Annex VIII D hold up, ISA will be able to establish with project resources an Endowment Fund large enough to generate the earnings required to meet basic core operating expenses.

Financial Management, Vulnerability and Audit Coverage: As can be seen from the "Methods of Implementation and Financing" Table 17 most project funds will be handled directly by a Title XII institutional contractor who has been pre-registered for funds management and accounting capability. ISA will directly handle US\$751,000 for budget support (to augment faculty salaries as part of faculty retention objectives) until the Endowment Fund begins to kick in. Although ISA will contract directly for commodity procurement, the majority of off-shore procurement will be financed by AID, using Direct Letters of Commitment. The Controller's Office has reviewed the financial management capability of ISA and has concluded that, while the systems of internal control and the external audit coverage of ISA are of reasonable high quality, additional steps are being taken to improve financial management prior to signing the Grant Agreement.

Because of the importance of (as well as risks associated with) the management of a large endowment fund, USAID has added funds to augment the audit coverage of the project and monitor the corresponding growth of ISA's financial management capability. Audits will be carried out on an annual basis, as is already the case, however these additional funds will be used to ensure monitoring of the areas mentioned above.

As part of the aim of institutional strengthening, ISA will manage these additional funds for audit but there will be a covenant in the Grant Agreement to allow USAID participation in setting the audit scope of work and reporting requirements. These steps should ensure an adequate level of audit coverage for the project.

The first disbursement to ISA for procurement (other than the Title XII contract) will be conditioned upon USAID approval of a detailed procurement plan. A second condition precedent will require submission by ISA of a project implementation action plan which includes, among other things, revenue enhancement measures; how project-provided data processing and software systems will be continue to be applied to attain project objectives; improvements in financial management personnel; and enhancements to the organization of the financial management function and the budgetary approval and control process.

ISA will also agree to conduct an assessment after the first 12 months of the project, to measure progress to date in procurement, and financial management enhancements. The assessment will be made by an independent firm of Certified Public Accountants satisfactory to AID, and will indicate the progress made on the approved plan.

With respect to financial management capability of the host country owned local currency funds to be provided by the GODR from the special account, there are two concerns. The first is that these funds be managed, accounted for and reported in such a way to minimize the opportunities for misuse or decapitilization of fund. A second concern is whether there is adequate incentive for ISA to make the effort required to obtain the funds necessary from the private sector, rather than rely on GODR funds. To address the first concern, USAID will request the Technical Secretariate to the President (TSP) to request and approve a comprehensive plan for the collection, management, accounting, auditing and reporting of the expanded Endowment Fund before any funds are released to ISA for this purpose. USAID approves all disbursements from the special account and will have the opportunity to review this plan before funds are released. The second concern could be addressed by having a pari-parsu arrangement in the agreement for local currency funds between TSP and ISA which would also have to be approved by USAID. The obvious drawback to such an arrangement, of course, would be that the endowment funds can not begin to earn revenue for ISA until they are disbursed by TSP and invested. This issue will be given further consideration during final negotiations between USAID, ISA and TSP.

Methods of Implementation and Financing: All of the methods, except for the use of Direct Letters of Commitment, shown on Table 17 are preferred methods under the Payment Verification Policy Guidance.

A justification for use of the Direct Letter of Commitment is made because 1) due to current GODR foreign exchange regulations, it is difficult to ensure that ISA would be able to purchase dollars from the Central Bank in a timely fashion and therefore implementation of the project could be impeded; and 2) the use of USAID-financed Direct Letters of Commitment provides a system of control during the initial, but crucial, phase of the project.

Table 17: Methods of Implementation and Financing (US\$000) - Project 517-0243

<u>Project Elements</u>	<u>Method of Implementation</u>	<u>Financing</u>	<u>Amount</u>
Technical Assistance	Title XII	LOC-TFCS	\$7,475
L-T Advisors	Direct AID Contract		
S-T Advisor			
Commodities Vehicles			782
Vehicles	ISA Contract	Direct L/Com.	
Equip. & Supplies	ISA Contract	Reimbursement	
Training	Title XII	LOC-TFCS	1,611
Long-Term	Direct AID Contract		
Short Term			
Project Office Support	Title XII	LOC-TFCS	1,135
At ISA	Direct AID Contract		
In USA			
ISA Institutional Support	ISA Contract	Reimbursement	751
Transition Period			
Development Office			
Project Monitoring			
Evaluation Design	Direct Contract	Direct Pay	50
Evaluation	Direct Contract	Reimbursement	136
Audit	ISA Contract	Reimbursement	60
TOTAL			\$12,000

C. Summary of Social Soundness Analysis

1. Socio-cultural Feasibility

The goal and purpose of the Project are consistent with those of ISA as reflected in major policy statements by members of its Board of Directors. ISA's goals include: (a) reducing rural poverty; (b) reducing natural resource degradation; and (c) agricultural modernization through the generation and transfer of new, appropriate agricultural technologies. In the past, ISA has prepared human resources primarily for the public sector. This was consistent with a general concern to build a state system of support for the agricultural sector. This Project will help ISA refocus activities in the direction of preparing human resources for service to agricultural production in the private sector. It will help generate new jobs, equip graduates with management and technical skills of value to private sector producers, and transfer appropriate technologies to the public and private sectors.

The Project will address several key constraints to upgrading ISA's academic and research programs. First, it will increase

retention of experienced research and teaching faculty by increasing salaries and promoting greater faculty participation in ISA's governance. The concept of a university career will be promoted through networking and collaboration with colleagues at other institutions. Long-term resident advisors will serve as role models and will collaborate with ISA's faculty in teaching, research, and outreach activities.

ISA's financial base will be consolidated through the strengthening of the Endowment Fund. The success of the Fund assumes that ISA will be able to solicit sufficient support from private sector institutions, particularly agribusinesses. This objective will be facilitated by providing greater opportunities for private sector involvement at ISA, by generating new technologies that address needs in the private sector, and by upgrading and increasing outreach activities to the private sector. Communication with clientele will be enhanced through a new Development Office in support of ISA. (See Annex VII, pp. 41-50).

The Project will increase ISA's ability to address the needs of the agribusiness sector through curriculum revision and systematic needs assessments. (See Annex VII, p 117) It will provide technical assistance to increase the quality and number of extracurricular activities available to students. These activities will be designed to increase leadership, public speaking and management skills desired by agribusiness clientele. Technical assistance and infrastructure improvements will increase ISA's capacity to link theory and practice through significant hands on learning experiences. The Project will monitor the needs of major clientele in the private sector through surveys and the creation of advisory committees. (See annex VII, pp. 104-127).

2. Spread Effects

There are two principal innovations addressed by the Project. The first is a model of higher agricultural education with instructional and research programs that are highly interactive with private sector clientele. The second is an Endowment Fund. Success in institutionalizing the Endowment Fund will depend on increased interaction with private sector clientele based on the perception of useful technologies and services, and on increased involvement of this clientele in ISA's programs. Technical assistance, training, equipment and supplies will facilitate this interaction.

The Project will build on existing leadership at ISA which will be harnessed to promote the ISA image and its services, and to raise monies for the Endowment Fund. ISA's leadership includes members of the Santiago Development Association (who are also on the Board of Directors) and a dedicated, hard working faculty and staff. The Project will support activities undertaken by them.

3. Social Consequences, Benefit Incidence and Gender Issues

The Project is designed to increase ISA's contributions to Dominican society, particularly to its agricultural sector. Several groups will benefit from the Project including students, faculty, agribusinesses, commercial producers, medium and small farmers, and rural laborers. The Project will continue to support ISA's tradition of providing opportunities for bright, but poor, rural youth to achieve social mobility through advanced education. Tuition and loan policies will facilitate their access to ISA's program.

The Project will ameliorate unequal opportunities for women to access ISA's technical and university programs. Women are currently disadvantaged in two ways. First, their total educational costs are higher (due to lack of housing on campus). Secondly, they find it more difficult to find jobs once they graduate. To alleviate these disadvantages ISA will convert dormitory space for use by female students in order to reduce room, board and transportation costs associated with living off-campus. Disadvantages in the job market will be addressed by increasing on-campus interaction with successful women professionals. CADER will give greater attention to gender issues, particularly those related to job market participation through case studies, short courses, and seminars. Short-term technical assistance and training opportunities will be designed to increase gender awareness among faculty and students in the development of curriculum and research methodologies. Both training and technical assistance will be provided through short-term contracts with organizations which support these activities.

The Project will focus on promoting the increased production of non-traditional agricultural crops for domestic consumption as well as for export. Of particular importance will be the focus on fruits, floral, and vegetable crops. This production will provide additional employment opportunities for rural laborers, because the crops involved are labor intensive. It will also mitigate labor displacement resulting from diversification of State owned sugar cane lands.

D. Environmental Considerations

Environmental impacts of this Project will be minimal. The Project proposes to strengthen the training capability of the Instituto Superior de Agricultura and its management training unit, CADER.

This will be accomplished by providing long-term resident U.S. technical assistance, and training opportunities for ISA/CADER staff and faculty in the U.S. Modest commodity procurements will be limited to data processing and publishing equipment, laboratory supplies, vehicles and small agricultural machinery for research plots.

With respect to the technology support services and development activities, these will utilize the services of experienced U.S. crop/livestock production specialists and technology packages which are acceptable under U.S. environmental regulations. The testing and demonstration use of chemical inputs will therefore be under careful supervision and in demonstration conditions. Section 216.2, Applicability of Procedures, Part (b), Exemptions, and Section 10 of Part II.C., Pesticides, Appendix B of AID Handbook (15, Jan. 1, 1983), permits use of pesticides for assistance provided by AID for controlled experimentation of limited scope and not involving application for crop production purposes.

Therefore, a negative environmental threshold determination, in conformance with CFR Part 216, AID Environmental Procedures, has been approved for this project (See Annex V).

V. IMPLEMENTATION PLAN

A. Project Initiation

The Consortium will contract for the project during Summer 1989 and will provide continuous, short-term administrative technical assistance through the end of 1989, by which time a Chief-of-Party will be in the field. A Dominican Project Coordinator will work closely with the initial short-term consultants and later with the Chief-of-Party in handling the day-to-day administration of the project.

The initial group of short-term consultants and the Chief-of-Party, upon arrival, will focus on: (1) refining scopes of work for long-term resident advisors; (2) organizing the Development Office; (3) structuring logistical support for long-term advisors; (4) preparing the scope of work for requested short-term advisors and providing them logistical support; and, (5) assisting ISA's administration in meeting Conditions Precedent to disbursement of funds.

B. Project Administration and Management

1. USAID Project Monitoring

USAID's Office of Agriculture and Rural Development will monitor Project activities. An individual in this Office will be designated as the Project Officer, and will serve as USAID liaison to the ISA Rector and Consortium Chief-of-Party.

2. ISA Project Administration

ISA will administer expenditures and maintain accounts for all local currency, including funds assigned to salary increments, local procurement, the Development Office, and the Endowment Fund. Most commodity procurement will be managed by ISA, through AID Direct Letters of Commitment. The Reccor, in collaboration with other ISA administrators and faculty, will advise the Chief-of-Party on the expenditure of dollars for the Project.

3. Consortium Project Administration

The administrative structure for this project will be simple and direct (See Figure 1, Organizational Structure, in Section III - H). The MUCIA Chief-of-Party will be responsible for managing field activities and will have wide latitude in working with local counterparts and AID mission staff to carry out the project. He will be responsible to the MUCIA Executive Director for execution of the contract. At the same time, the U.S.-based Project Coordinator will be responsible for activities in the United States and for backstopping the Chief-of-Party and the field team. Within the Consortium, the U.S. Project Coordinator is responsible to the Executive Director for execution of the subcontract between the Consortium and the lead university.

The MUCIA Consortium will maintain overall responsibility for performance under the contract. While MUCIA's Executive office acts on behalf of the Consortium for project development, contract negotiations, and management oversight, MUCIA typically contracts day-to-day project management to a member university to act as the lead institution. This permits the Consortium to take advantage of existing managerial, fiscal, and accounting systems available at the member universities, thus reducing duplication of costs in project management and allowing the MUCIA Executive staff to focus on programmatic and financial oversight.

After the prime contract is signed by the Executive Director and Treasurer, a subcontract to establish a U.S. Project Office will be negotiated with the lead institution. The lead institution may negotiate second tier contracts with other member institutions and with non-consortium members, particularly for provision of staff for technical assistance assignments.

For example, if Ohio State University were chosen as MUCIA's designated lead institution, it would be responsible for day-to-day management through a Project Office. Accounts would be maintained and funds disbursed through the Ohio State University Research Foundation (OSURF) in a timely and efficient manner, but financial reports to USAID and ISA would flow through the MUCIA treasurer's office. Similarly, program reports would be drafted by the MUCIA project team, reviewed by the Executive Staff, and submitted to ISA and USAID.

a. Technical Assistance

Technical assistance includes long-term resident advisors and short-term consultants. Assistance lasting at least 12 months or more is considered to be long-term. The Project calls for 38 person/years of long-term assistance and 492 person/weeks of short-term assistance. The Chief-of-Party, with the ISA-based Project Coordinator and ISA, will prepare annual technical assistance plans to update the overall project technical assistance plan.

Most technical assistance will be provided from the MUCIA affiliated institutions. However, when appropriate expertise is not available, MUCIA will seek consulting services from the best available outside sources. Gender issue technical assistance and training will be subcontracted with an appropriate firm specializing directly in this area, or through a USAID/DR buy-in to an AID/WID IQC.

b. Long-Term Technical Assistance

Technical assistance inputs will be linked to training inputs and both will be used to establish long-term linkages between participating U.S. institutions and ISA. The Chief-of-Party, with input from ISA counterparts and other resident advisors, will be responsible for preparing terms of reference for other long-term resident advisors. The Project Coordinator will prepare required AID documentation. All long-term candidates will be interviewed by the MUCIA Personnel Committee and approved by the Board of Directors. This procedure will not require more than two weeks. AID will reserve the right to approve the terms of reference and proposed candidate for each long-term position.

The terms of reference for each long-term advisor and any preferences for specific individuals would be sent to the U.S. Project Office. The U.S. Project Office would house a half-time Project Coordinator (.50 FTE) who would recruit additional prospective candidates for each position following this sequence of activities:

(1) The U.S.-based Project Coordinator would contact designated MUCIA Liaison Officers and other university contacts about open positions and request vita for candidates. Should candidates provided by the respective institutions not possess the required language skills (FSI S-3), they will be asked to outline a training plan indicating how and when these skills will be acquired. The contract will not be responsible for the costs of language training, if required.

(2) The U.S.-based Project Coordinator will screen the vitas and provide up to five to the MUCIA Executive Director for evaluation by MUCIA's Personnel Committee.

(3) The U.S. Project Office will simultaneously forward these vitas to the Chief-of-Party for evaluation, ranking and concurrence by ISA and the USAID Mission.

(4) In cases where nominees for long-term assignment are not known to ISA or USAID staff, an initial short-term assignment may be designed or an interview may be necessary before final approval is given.

(5) The U.S. Project Office will subcontract with the employing institution for technical assistance staff. The institution which provides the person for a long-term assignment will disburse all funds associated with that position and will be accountable for them.

c. Short-Term Technical Assistance

The Chief-of-Party, with ISA administrators and the long-term resident advisors, will prepare terms of reference for short-term consultants. Short-term consultants will provide assistance from five days up to eleven months. The Project team, in collaboration with ISA counterparts and the USAID Mission, may identify preferred candidates for assignments. The ISA-based Project Coordinator will prepare the necessary AID documentation including information required for the Project Monitoring System, and present it to the USAID Mission for processing. AID reserves the right to approve the terms of reference and proposed candidate for each short-term position.

The terms of reference for the short-term advisors will be sent to the U.S. Project Office. The Project team, in collaboration and with the concurrence of ISA counterparts and the USAID Mission, may identify preferred candidates for the assignment and would indicate this preference to the U.S.-based Project Coordinator. In this case, the U.S.-based Project Coordinator will communicate with the candidate's home institution to obtain the services. If the individual is unavailable for the assignment, the U.S.-based Project Coordinator will follow the procedure outlined above for identification of the long-term candidates. In all cases, ISA and the USAID concurrence must be obtained prior to selection.

The institution which provides each short-term advisor will be responsible for all disbursements and accounting related to the consultancy. If the consultant is from an institution which is not formally affiliated with the Project, his/her participation would be programmed through the U.S. Project Office. If the consultant is not from the U.S., the Chief-of-Party will provide funds for the assignment using an imprest account with a U.S. bank. The U.S. Project Office would account for these expenditures in coordination with MUCIA.

d. Training

The provision of non-degree, professional development training opportunities to ISA faculty and administrators is an integral part of the Project. This training will include internships and sabbaticals at U.S. universities and their associated research/extension facilities, in addition to seminars, short-courses, conferences, and participation in professional meetings. Non-U.S. facilities may be used for training when necessary to meet special project needs. Training in gender issues will be arranged by the USAID and/or the AID/W WID office.

The Chief-of-Party will prepare and submit an annual training plan for USAID/DR concurrence as part of the Annual Work Plan for the project. The annual plan will be based on the life-of-project training plan specified in the Project Paper.

The Chief-of-Party, with input from the ISA-based Project Coordinator, will prepare terms of reference for professional development training for ISA faculty and staff. The Chief-of-Party will also consult with the long and short-term advisors to ensure that training is used to integrate the individual into professional teaching and research networks. The ISA-based Project Coordinator will prepare and submit required documentation to the USAID and coordinate with the Mission regarding USAID training regulations.

The terms of reference may include a recommendation for training at a particular institution, and collaboration with one or more specific counterparts. Preference will be given to placing individuals at Consortium and other Project-affiliated institutions to facilitate ongoing, long-term linkages among scientists.

The U.S. Project Office will provide a U.S.-based Training Coordinator (half time employee .50 FTE) to oversee placement, provide logistical support, and monitor the activities of trainees. This person will have had previous experience in placing and supporting non-U.S. trainees in the U.S. The Training Coordinator will network with counterparts at other participating institutions and agencies, and will be supported by a secretary (.25 FTE) who will also work for the U.S. Project Coordinator.

The terms of reference would be sent to the U.S. Project Office and the U.S.-based Training Coordinator will arrange for the training/internship with the appropriate academic department and university. Following receipt of the terms of reference for a training program, the U.S.-based Training Coordinator will, in conjunction with the host institution and host counterpart, prepare a detailed budget for the specified program. This budget will be returned to ISA and USAID/DR for approval before the training program begins. If the terms of reference do not specify a particular institution, the U.S.-based Training Coordinator will find an appropriate academic department.

A U.S. faculty member or administrator at the selected university will be appointed as the primary counterpart for the ISA faculty or staff member. This counterpart will establish a network of contacts among colleagues working on the same or related topics throughout the U.S. with the purpose of introducing the ISA participant to this network. Communication costs as well as travel funds for the ISA faculty to meet/interact with some individuals in this network may be approved as part of the individual training plan.

The U.S.-based Training Coordinator will arrange for all short-term training activities in the U.S. and abroad.

e. Procurement

Procurement of equipment and supplies to support ISA is critical to project success. The Chief-of-Party, with the ISA-based Project Coordinator and ISA administration, will prepare a procurement plan based on the Project Paper and Grant Agreement commodity tables. This plan will detail all equipment and supplies to be purchased for the project, by year. The ISA-based Project Coordinator will prepare all necessary support documentation for USAID concurrence. Most commodity procurement will be done directly by ISA, through AID Direct Letters of Commitment. A copy of the procurement plan will be sent to the U.S.-based Project Coordinator.

f. Project Reviews

On-site annual and semi-annual reviews will be conducted for the Project to ensure that all parties are involved in a periodic discussion of project implementation issues as they emerge. These meetings will be based on quarterly and annual reports to be prepared by the Chief-of-Party and the long-term resident faculty. Participants will include a representative of the U.S. Project Office, the Consortium, Chief-of-Party, ISA administrators, the ISA-based Project Coordinator, USAID Project Officers and others as may be required.

g. Contributed Resources

MUCIA has stated that an underlying interest in implementating the project is to provide access for its member institutions to opportunities for overseas learning experiences. Faculty and students at member institutions benefit from comparative cross-cultural experiences by becoming more familiar with the Dominican Republic and its agricultural economy. Given the ever-shrinking dimensions of the global economy and the social world in which we live, the internationalization of teaching, research and public service is a priority for these institutions.

This, however, can not take place in the absence of resources (financial, human and infrastructural), and while most of these resources will be provided through the USAID grant to the project, additional, substantial resources will also be provided by ISA/CADER itself, the Dominican government, and MUCIA.

MUCIA has indicated that the justification for contributions to this project by MUCIA institutions rests in the need to internationalize activities on their individual campuses. The universities are disposed to make them only to the extent that they result in improved teaching, research and public services to their constituencies. MUCIA and its member universities, as well as Texas A&M University and the University of California/Davis, are tax supported institutions which must respond to the educational needs of their respective states. As such, it is not possible to consider these institutions as potentially philanthropic in providing resources to other countries. This is not to say the institutions are reluctant, or unable, to contribute to the development in the Dominican Republic, but to distinguish between direct short-term transfers of resources and long-term developmental activities that will build mutually beneficial relationships and linkages.

Following is a list of resources that may be applied by MUCIA and its collaborating partners to the Project to promote long-term, mutually beneficial interaction between ISA and the MUCIA institutions. It is estimated that Consortium contributions to the project will be on the order of US\$7,010,000 over the seven year period. Section B of Annex VIII provides a quantified listing of these contributions.

(1) Establishment of a Debt for Development Mechanism

For some time, MUCIA has been exploring the feasibility of debt equity swaps, based on Internal Revenue Service tax incentive policies, for the purpose of promoting development activities. Until now, most of these swaps have involved issues of natural resource degradation through the use of local currency and the establishment of endowment funds. Nevertheless, the needs and requirements of ISA, especially concerning the need to strengthen its Endowment Fund, are similar, and the "debt for development" mechanism appears to be an appropriate potential mechanism for providing additional funds to the Project.

The costs of seeking such funding are substantial, and to date, MUCIA has spent \$92,500 in MacArthur Foundation and consortium resources for its "debt for development" initiative for the Dominican Republic, including travel expenses and legal fees but not MUCIA staff salaries. MUCIA does not have the legal resources or experience required to fully establish a fund of this type, and the MacArthur Foundation's assistance (which MUCIA sought on its own initiative) has enabled MUCIA to more aggressively seek this supplemental support specified for the Project.

The "debt for development swap" mechanism may be used to obtain funds for an ISA-related foundation. The steps to be followed to achieve this could be:

-MUCIA, with the approval of the Coordinating Agent for the Dominican Republic lending bank group, approach U.S. banks in the MUCIA region that hold insecure Dominican paper in an attempt to negotiate a swap.

-The U.S. banks, along with MUCIA and the Central Bank of the Dominican Republic agree in principle to negotiate a three-way agreement to implement the swap. This step may also involve negotiations with the IMF in relation to local monetary guidelines.

-The agreement would be presented to the Internal Revenue Service (IRS) for approval through a private letter ruling.

-After IRS approval, the U.S. banks would donate their paper to the Central Bank in the Dominican Republic "for the use of" MUCIA.

-MUCIA would retain certain "control" over the resources generated from the swap in order to preserve the tax incentives for the U.S. banks involved. MUCIA would therefore arrange for a local Dominican corporation to be formed that would issue all of its stock to the consortium.

-The Central Bank would issue a combination of local bonds and pesos in an agreed-upon proportion to the corporation. The corporation would then establish a not-for-profit foundation to channel the required funds to ISA.

-MUCIA would designate local officers and directors of the corporation in such a way as to maintain a balance between the need for MUCIA involvement, for tax purposes and the need both to elicit Dominican commitment and to respect Dominican sovereignty.

Annex VIII. C provides a USAID proposal for a "debt for development" mechanism for ISA's Endowment Fund.

(2) Cost Sharing Built into MUCIA's Funding Structure

Regarding application of indirect costs, MUCIA has indicated to AID that it will waive the General and Accounting fee (G&A) in addition to indirect costs. In this arrangement, the Consortium would share the cost of development assistance projects with its member institutions. Thus MUCIA recovers part of its administrative costs through a sharing of its member universities overhead charges (a subsidy from them). In the majority of projects implemented by MUCIA, this portion of indirect costs has been below actual costs.

(3) The Use of Title XII Program Support Grants

Currently, five of MUCIA's eight member universities, plus Texas A&M University, and Fort Valley, participate in an AID-funded Title XII Program which provides Program Support Grants. These funds can be selectively used for activities such as the following:

-To top-off the Spanish language capability for selected short and long-term staff before they travel to the Dominican Republic.

-To pay the travel expenses of proposed long-term technical assistance team members to the Dominican Republic for interviews with potential Dominican counterparts and USAID staff.

-To organize and design collaborative research efforts between Dominican agricultural researchers and their counterparts at the respective MUCIA institutions, a process that has already begun at The Ohio State University, Michigan State University and at the University of Wisconsin. Collaborative research on establishing a pesticide residue laboratory and the creation of a seed bank and seed vigor testing program are two activities soon to be implemented between the faculties of Ohio State University and ISA. Program Support Grant funds were used to stimulate this activity and were used to support travel by U.S. faculty to the Dominican Republic and by ISA faculty to the U.S.

(4) The Use of University Resources to Promote Curriculum and Research Enhancement

Each of the MUCIA member institutions and their affiliates have funds for research and instructional programs. These funds will be accessed by faculty members to promote collaborative activities with counterparts at ISA. This can be justified on the need to internationalize teaching and research on these campuses and the opportunities that affiliation with ISA will provide. Encouragement of this activity will be promoted through the cluster networks which will be established to administer program activities. Examples of the types of activities that might be supported using these university and/or grant funds are:

-U.S. Student internships for medium to long-term study at ISA. The tuition and other fees paid by these student interns will serve to augment ISA's revenues.

-U.S. Graduate student and post-doctoral research at ISA in collaboration with ISA faculty, financed by MUCIA affiliate institutions and through outside funding obtained by them.

-Collaborative research between the faculty of participating universities and ISA faculty, financed by either the universities themselves and through outside funding obtained by them.

-Assigned research leave and sabbaticals by U.S. faculty members from participating universities at ISA for periods of from three months to one year.

(5) The Use of Facilities Free of Charge Under Faculty Exchanges

None of the universities participating in the Project will charge ISA faculty for the use of office space, library and other non-laboratory facilities, during their training residencies. Use of laboratories and expendable items associated with the use of laboratories may, however, be charged.

(6) Tuition for Short-Term Training

Tuition is not charged to participants in non-degree and non-formal training programs. There are instructional costs for laboratory supplies and other fees charged for short-term training programs. The U.S.-based Training Coordinator will prepare a budget for each training program, and this budget will be approved by ISA and USAID/DR before the program begins.

C. Evaluation and Audit

The USAID envisions that at least two evaluations will be conducted throughout the life of the project. The scopes of these evaluations will be developed within Year One of the project. Such a system will allow not only for the measure of project progress in meeting stated objectives, purpose and goal, but should also allow for data that can be utilized in cross-cutting sector or strategy evaluations (impact). Specialized technical assistance will be contracted by the USAID shortly after obligation of the project to:

- 1) develop baseline project data;
- 2) establish a system and plan for continual data collection and monitoring (this plan will describe the arrangements for monitoring, including an assessment of the adequacy of ISA, USAID and MUCIA staff for performing monitoring tasks);

- 3) in consultation with USAID staff, produce statements of project targets that are quantitative and/or qualitative, based on the PP;
- 4) establish progress indicators over the life of project;
- 5) identify planning assumptions (or external factors);
- 6) state causative factors that influence project progress;
- 7) recommend the number, types and levels of evaluation deemed necessary during the life of project; and
- 8) prepare draft scopes of work to be utilized in project evaluations.

The Project data collection, monitoring and evaluation system will be developed in conformance with AID evaluative practices, utilizing Handbook 3, Chapter 14 guidance, and AID's Design and Evaluation of AID-Assisted Projects Manual.

Arrangements will be made by the USAID for the contracting of experienced (in AID evaluative methodologies) and technically qualified evaluators to carry out actual evaluations as indicated in the plan. The USAID will periodically monitor the institution's adherence to the plan (through ISA/MUCIA reporting and site visits), particularly in the collection of baseline data, for follow-up surveys and the analyses of such data preparatory to or as part of possible project evaluations. Progress in areas such as the following would be assessed:

- Progress towards institutional self-sufficiency
- The Development Office activities, including securing funds for the endowment, alumni relations, and public relations;
- The retention and professional growth of ISA faculty;
- The maturation of academic research and outreach programs at ISA;
- The development of effective and efficient administrative procedures, including institutional governance and backstopping for academic, research and outreach activities; and
- The impact of the project on the Mission's sectoral strategy and goals.

Evaluations built into the Project and managed by USAID will test the assumptions relative to self-sufficiency and the size of the Endowment Fund as the Project proceeds. This is expected to provide explicit "go, no go" decision points for continuing AID disbursements for the Project.

Audits will continue to be carried out on an annual basis, as is already the case. AID funds will be provided to ISA to supplement the cost of audits by the amount that Project audit is additive to the current scope of ISA's Audits. The USAID controller is satisfied with the quality of work of ISA's current audit firm, Fernandez, Pellerano y Asoc., an affiliate of Coopers and Lybrand.

ISA will also agree to conduct an assessment after the first 12 months of the project, to measure progress to date in procurement, and financial management enhancements. The assessment will be made by an independent firm of Certified Public Accountants satisfactory to AID, and will indicate the progress made on the approved plan.

D. Gray Amendment

Gray Amendment procurement policies are addressed through the Collaborative Assistance mode of contracting which was utilized for the design, and which is to be used for the subsequent implementation of the project. The Request for Expressions of Interest requested offerors to identify how they would address the Gray Amendment, and the USAID evaluation of Expressions of Interest took this into account in selecting an institution. The Director of Fort Valley's International Program Office for Agriculture participated in the project design in the Dominican Republic. MUCIA has traditionally involved HBCU's in its programs and activities and will apply these same procedures to the University Agribusiness Partnership Project. First, the U.S. Project Office will subcontract with HBCU faculty and staff to provide both long-and short-term technical assistance during the project. HBCU faculty, staff and facilities will be accessed through existing Memoranda of Understanding between the following MUCIA members and corresponding HBCU's:

University of Illinois--University of Maryland/EShore
Michigan State University--North Carolina A & T State
University of Minnesota--Lincoln University
University of Wisconsin--Virginia State University

Other members of the project Consortium and their HBCU linkage include:

Texas A & M University--Texas A&M/Prairie View

In addition, the project Consortium includes J. Austin Associates, an 8(a) firm which has been closely associated with ISA and CADER's development of an agribusiness curriculum over the last five years. J. Austin Associates will provide long-and short-term technical assistance and training opportunities for the ISA and CADER faculty/staff.

E. Implementation Schedule

Project activities are scheduled to occur over a seven year period. Most inputs will be initiated and some will be completed during the early years in order to maximize their impact and contribution to ISA's programs. Major Project activities are detailed in the following Implementation Schedule.

F. Procurement Plan

Procurement of goods and services for the project will be divided into two stages. The first stage is for the project mobilization period during the initial 12 months following execution of the Grant Agreement. The second stage consists of the subsequent 78 month period prior to the PACD.

A detailed and time-phased procurement plan will be submitted to the USAID by ISA prior to AID disbursements for commodities, as indicated in the Conditions Precedent in this PP and in the Grant Agreement with ISA.

Table 18: Project Implementation Schedule - Project 517-0243

Activity	Project Year						
	1	2	3	4	5	6	7
Project Initiation							
Project Agreem't Signed	--						
Development Office							
Initiated		--	-----	-----	-----	-----	-----
Technical Assistance							
Project Coordinator							
Contracted	--						
U.S. Short-Term T.A.							
Initiated*	----	-----	-----	-----	-----	-----	-----
U.S. Long-Term T.A.							
Initiated*	--	-----	-----	-----	-----	-----	-----
Training							
Long-Term Training							
Initiated*	----	-----	-----	-----	-----	-----	-----
Short-Term Training							
Initiated*	----	-----	-----	-----	-----	-----	-----
Procurement							
Vehicles	--	-----		-----			
Equipment	--	-----	-----	-----	-----		
Library	--	-----	-----	-----	-----	-----	-----
Livestock and Seeds	--	-----	-----	-----	-----	-----	-----

* Refer to Technical Annex for technical assistance, training, and procurement by program area.

G. Methods of Implementation and Financing

The Project will be implemented by an AID direct grant to ISA. AID has contracted on ISA's behalf for a collaborative assistance Title XII contractor to provide technical assistance, training and project office support at ISA and in the U.S. Approximately US\$9.5 million is budgeted for this contract. ISA will also be an implementing agent for some elements, as shown in Table 17, and USAID will be the implementing agent for evaluation and WID activities.

IV. FINANCIAL PLAN AND COST ESTIMATES

As required by Handbook 13, Chapter 4, The Grantee will provide at least 25% of total project costs over the life of project. In the case of this project, 30% or US\$5,078,000 will be provided as follows: GODR Local Currency contributions of US\$2,400,000 or 14% of the total; private, local currency donations of at least US\$800,000 or 5% of the total; and approximately US\$1,878,000 or 11% in the form of in-kind contributions from ISA which consist of additional personnel salaries and expenses, and the funding of the new Development Office (See Table 27).

Table 19: Financial Plan

University Agribusiness Partnership Project Budget
 Proyecto Consorcio Universidad-Agroempresa
 (\$000)

Project Elements* (Elementos del Proyecto)	--AID 1989--			--AID LOP--			GOOD LC/ (ML)	Donations LC/ (ML)	ISA LC/IK (ML)	TOTAL	[MUCIA Contrib.]
	US\$	LC (ML)	TOTAL	US\$	LC (ML)	TOTAL					
Technical Assistance (Asistencia Tecnica)	\$1,250		\$1,250							\$7,475	
L-T Advisors				5,758		5,758					
S-T Advisors				1,717		1,717					
Commodities (Productos)	782		782							782	
Vehicles				280		280					
Equip/Supplies				502		502					
Training (Adiestramiento)	210		210							1,611	
Long-Term				627		627					
Short-Term				984		984					
Project Office Support (Apoyo:Ofic.del Proyecto)	140	417	557							1,135	
At ISA					725	725					
At MUCIA				410		410					
ISA Budget Support (Apoyo:Presupuesto ISA)		726	726							2,629	
Transition Period					474	474					
Development Office Personnel					277	277			238 ** 1,640		
Endowment Fund (Fondo en Fideicomiso)										3,200	
GOOD Contribution							2,400				
Private Donation								800			
Project Monitoring (Seguimiento del Proyecto)	75		75							246	
Evaluation Design				50		50					
Evaluation				136		136					
Audit				60		60					
MUCIA Contribution											7,010
SUBTOTAL	\$2,457	\$1,143	\$3,600								
PROJECT TOTALS				\$10,524	\$1,476	\$12,000	\$2,400	\$800	\$1,878	\$17,078	\$7,010
PERCENTAGE (PORCENTAJE)						70%	14%	5%	11%	100%	

[RD\$6.25 = US\$1.00]

**Includes Development Office Fund Raising activities which may not be financed by AID

*LC/ML - Local Currency/Moneda Local
 IK - In Kind (En Especie)

Table 20: Projections of Disbursements/Contributed Resources by Year -
Project 517-0243

(US\$ 000)

Year	AID	GODR	PVT SECTOR	ISA	TOTAL	PERCENT
89/90	2,853	100	33	0	2,986	17%
90/91	1,991	200	67	119	2,377	14%
91/92	1,800	300	100	297	2,497	15%
92/93	1,897	400	133	340	2,770	16%
93/94	1,540	400	133	360	2,433	14%
94/95	1,300	500	167	407	2,374	14%
95/96	619	500	167	457	1,743	10%
TOTALS	12,000	2,400	800	1,980	17,180	100%

Table 21: Estimated ISA Contribution to Project 517-0243*
(US\$ 000)

Year of Project	1	2	3	4	5	6	7	TOTAL
(A)* Salary Contribution								
- With Project (RD\$000)		2062	3031	3122	3216	3313	3412	
- W/o Project (RD\$000)		1319	1319	1319	1319	1319	1319	
Net ISA Contribution (RD\$000)		743	1712	1803	1897	1994	2093	
@ 6.25 = 1.00 (US\$000)		119	274	289	304	319	335	1640
(B) Dev. Office Contribution								
- With Project (US\$000)	-	-	17	37	38	61	85	
- W/o Project (US\$000)	0	0	0	0	0	0	0	
Net ISA Contribution (US\$000)			17	37	38	61	85	238
Total ISA Contribution LOP (A & B) (US\$000)		119	291	326	342	380	420	1,878

*Source: Sensitivity Analysis Project Budget.

TABLE 22

SUMMARY COST ESTIMATES-PROJECT 517-0243

COMPONENT/ACTIVITY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	USAID GRANT	
								F X	L C
TECHNICAL ASSISTANCE									
LONG TERM	\$900,000	945,000	992,250	1,041,863	911,630	765,769	201,014	\$5,757,525	
SHORT TERM	343,750	301,875	313,523	300,259	197,520	159,535	100,507	1,716,970	
TOTAL TA	\$1,243,750	1,246,875	1,305,773	1,342,121	1,109,149	925,304	301,522	\$7,474,495	
COMMODITIES									
Motorized	\$280,000							\$280,000	
Equipment	\$253,500							\$253,500	
Library	\$61,000							\$61,000	
Miscellaneous	\$187,000							\$187,000	
TOTAL COMMODITIES	\$781,500							\$781,500	
TRAINING ABROAD									
Long Term	\$80,000	126,000	121,275	138,915	109,396	51,051	0	\$626,637	
Short Term	132,000	172,200	143,325	175,959	128,844	142,944	88,446	983,718	
TOTAL TRAINING ABROAD	\$212,000	298,200	264,600	314,874	238,239	193,995	88,446	\$1,610,354	
Assistance with Salary Transition and Forest Protection (Years 1, 2)									
Salary Assistance, pesos	1,761,078	880,539							
Forest Protection, pesos	219,800	248,500							
Assumed exchange rate:	6.28	7.10							
Dollars converted:	\$315,426	\$159,020							\$474,446
Development Office SDQ	63,250	66,413	52,300	36,610	38,440	20,181	0		277,194
Project Support at ISA	90,950	95,498	100,272	103,853	107,612	111,559	115,704		725,448
Contract Support in USA	69,951	73,448	77,121	44,077	46,281	48,595	51,025	410,498	
Monitoring, Evaluation & Procurement Services	76,373	41,344		45,581			52,766	216,065	
Special Audit Studies		10,000		10,000			10,000	30,000	
PROJECT TOTALS	\$2,853,200	1,990,797	1,800,067	1,897,117	1,539,722	1,299,635	619,463	10,522,912	1,477,088
Dollars for peso costs								1,477,088	
PROJECT GRAND TOTAL								\$12,000,000	

TABLE 23

 COST ESTIMATE-COMMODITIES-PROJECT 517-0243
 (All procured in 1st two years)

TYPE	HORTICULTURE	LIVESTOCK	FORESTRY	CADER	ADMINISTRATON	TOTAL
Motorized						
Tractors	\$40,000		30,000			\$70,000
Trucks	45,000	30,000	30,000			105,000
Automobiles				45,000	30,000	75,000
School bus					30,000	30,000
Subtotal	\$85,000	30,000	60,000	45,000	60,000	\$280,000
Equipment						
Laboratory	100,000	25,000	20,000			\$145,000
Field	12,500	2,500	15,000			30,000
Teaching	4,500	2,000		10,000	5,000	21,500
Computers	8,000	5,000	8,000	15,000	9,000	45,000
Software					2,000	2,000
Desktop Publishing					10,000	10,000
Subtotal	125,000	34,500	43,000	25,000	26,000	\$253,500
Library						
Reference books & docs.					14,000	\$14,000
Journals & bibl.svcs.					7,000	7,000
Copying machines (2)				10,000	10,000	20,000
Textbook Revolving Fund					20,000	20,000
Subtotal				10,000	51,000	\$61,000
Miscellaneous						
Livestock and Seeds	5,000	5,000				\$10,000
Supplies		2,000			2,000	4,000
Air conditioners					10,000	10,000
Fax machine (advisors)					3,000	3,000
Maint. tools, parts					10,000	10,000
Power Generators/ Water System					150,000	150,000
Subtotal	\$5,000	7,000			175,000	\$187,000
TOTAL, COMMODITIES:	\$215,000	71,500	103,000	80,000	312,000	\$781,500

TABLE 24

COST ESTIMATE-TECHNICAL ASSISTANCE-PROJECT 517-0243

	CATEGORY	UNIT COST	UNIT	INFLATED AT % AFTER 1ST YEAR				
	LONG TERM	\$150,000	YEAR	5.00%				
	SHORT TERM	\$12,500	MONTH	5.00%				

NUMBER OF PERSON-YEARS BY AREA AND PROJECT YEAR								
LONG TERM	YEAR 1	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	TOTALS
HORTICULTURE	2.0	2.0	2.0	2.0	2.0	2.0	0.0	12.0
LIVESTOCK	1.0	1.0	1.0	1.0	0.0	0.0	0.0	4.0
FORESTRY	1.0	1.0	1.0	1.0	1.0	1.0	0.0	6.0
CADER	1.5	1.5	1.5	1.5	1.5	0.5	0.5	8.5
CENTRAL ADMINISTRATION**	0.5	0.5	0.5	0.5	0.5	0.5	0.5	3.5
TOTALS (IN PERSON-YEARS)	6.0	6.0	6.0	6.0	5.0	4.0	1.0	34.0

SHORT TERM NUMBER OF PERSON-WEEKS BY AREA AND PROJECT YEAR								
HORTICULTURE	12	14	26	18	11	7	2	90
LIVESTOCK	18	24	9	27	5	5	2	90
FORESTRY	14	14	14	10	10	10	10	82
CADER	32	32	32	20	16	16	8	156
CENTRAL ADMIN.	34	8	10	8	10	2	2	74
TOTALS (IN PERSON-WEEKS)	110	92	91	83	52	40	24	492

BUDGETED COSTS:								
	LONG TERM							
HORTICULTURE	\$300,000	315,000	330,750	347,288	364,652	382,884	0	\$2,040,574
LIVESTOCK	150,000	157,500	165,375	173,644	0	0	0	646,519
FORESTRY	150,000	157,500	165,375	173,644	182,326	191,442	0	1,020,287
CADER	225,000	236,250	248,063	260,466	273,489	95,721	100,507	1,439,495
CENTRAL ADMIN.**	75,000	78,750	82,688	86,822	91,163	95,721	100,507	610,651
TOTALS *	\$900,000	\$945,000	\$992,250	\$1,041,863	\$911,630	\$765,769	\$201,014	\$5,757,525

SHORT TERM								
HORTICULTURE	\$37,500	\$45,938	\$89,578	\$65,116	\$41,783	\$27,919	\$8,376	\$316,209
LIVESTOCK	\$56,250	\$78,750	\$31,008	\$97,675	\$18,992	\$19,942	\$8,376	\$310,992
FORESTRY	\$43,750	\$45,938	\$48,234	\$36,176	\$37,985	\$39,884	\$41,878	\$293,844
CADER	\$100,000	\$105,000	\$110,250	\$72,352	\$60,775	\$63,814	\$33,502	\$545,693
CENTRAL ADMIN.	\$106,250	\$26,250	\$34,453	\$28,941	\$37,985	\$7,977	\$8,376	\$250,231
TOTALS *	\$343,750	\$301,875	\$313,523	\$300,259	\$197,520	\$159,535	\$100,507	\$1,716,970
TOTAL T. A. *	\$1,243,750	\$1,246,875	\$1,305,773	\$1,342,121	\$1,109,149	\$925,304	\$301,522	\$7,474,495

* In Current Dollars of Each Year

** One of the CADER long term advisors will provide half-time advisory function to ISA administration.

TABLE 25

COST ESTIMATE-TRAINING ABROAD-PROJECT 517-0243

UNIT COST (LONG TERM)	\$20,000 PER YEAR		INFLATION RATE ASSUMED					5.00%
UNIT COST (SHORT TERM)	\$2,000 PER WEEK							
LONG TERM (PERSON YEARS)	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTALS
Horticulture	1.0	1.0	1.0	1.0	1.0			5.0
Animal Husbandry	2.0	2.0	1.5		0.5			6.0
Forestry		1.0	1.0	2.0	1.0	1.0		6.0
Agribusiness (CADER)	1.0	1.0	1.0	2.0	1.0	1.0		7.0
Central Administration		1.0	1.0	1.0	1.0			4.0
Total	4.0	6.0	5.5	6.0	4.5	2.0	0.0	28.0
SHORT TERM (PERSON WEEKS)	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTALS
Horticulture	4	28	10	12	10	10	6	80
Animal Husbandry	6	16	21	17	15	11	7	93
Forestry	23	7	8	23	8	23	8	100
Agribusiness (CADER)	8	8	12	12	12	8	8	68
Central Administration	25	23	14	12	8	4	4	90
Total	66	82	65	76	53	56	33	431
TRAINING ABROAD COST:	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTALS
LONG TERM PRACTICAL TRAINING								
Horticulture	\$20,000	21,000	22,050	23,153	24,310	0	0	\$110,513
Animal Husbandry	40,000	42,000	33,075	0	12,155	0	0	127,230
Forestry	0	21,000	22,050	46,305	24,310	25,526	0	139,191
Agribusiness (CADER)	20,000	21,000	22,050	46,305	24,310	25,526	0	159,191
Central Administration	0	21,000	22,050	23,153	24,310	0	0	90,513
Total	80,000	126,000	121,275	138,915	109,396	51,051	0	\$626,637
SHORT TERM (COURSES, CONFERENCES)	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTALS
Horticulture	\$8,000	58,800	22,050	27,783	24,310	25,526	16,081	\$182,550
Animal Husbandry	12,000	33,600	46,305	39,359	36,465	28,078	18,761	\$214,569
Forestry	46,000	14,700	17,640	53,251	19,448	58,709	21,442	\$231,189
Agribusiness (CADER)	16,000	16,800	26,460	27,783	29,172	20,421	21,442	\$158,077
Central Administration	50,000	48,300	30,870	27,783	19,448	10,210	10,721	\$197,332
Total	\$132,000	172,200	143,325	175,959	128,844	142,944	88,446	\$983,718
TOTAL TRAINING ABROAD	\$212,000	\$298,200	\$264,600	\$314,874	\$238,239	\$193,995	\$88,446	\$1,610,354

TABLE 27

COST ESTIMATE-OTHER COMPONENTS-PROJECT 517-0243

DEVELOPMENT OFFICE: (PESO EXPENDITURES) (Inflated at 5% / year. Continuance past Year 2 on sharing basis.)

Assumptions:

- Development Officer, salary+fringe benefits RD\$ = to US\$ 26,000.00
- Assistant, RD \$ equal to US\$800 x 13 months (including fringes)
- Bilingual Secretary, RD \$ equal to US\$300 x 13 months (incl. fringes)
- Messenger/janitor, RD \$ equal to US\$ 150 x 13 months (incl. fringes)
- Office rental, supplies, communications as noted below.
- Vehicle and office equipment are included in Central Administration, Table 22.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTALS
Development Officer	\$26,000	27,300	28,665	30,098	31,603	33,183	34,842	211,692
Assistant	10,400	10,920	11,466	12,039	12,641	13,273	13,937	84,677
Bilingual Secretary	3,900	4,095	4,300	4,515	4,740	4,977	5,226	31,754
Messenger/janitor	1,950	2,048	2,150	2,257	2,370	2,489	2,613	15,877
Office rental	10,000	10,500	11,025	11,576	12,155	12,763	13,401	81,420
Supplies, communications	11,000	11,550	12,128	12,734	13,371	14,039	14,741	89,562
Totals	\$63,250	\$66,413	\$69,733	\$73,220	\$76,881	\$80,725	\$84,761	\$514,982
Percentage Supported	100%	100%	75%	50%	50%	25%	0%	N/A
Net Support	\$63,250	66,413	52,300	36,610	38,440	20,181	0	\$277,194

TABLE 28

PROJECT SUPPORT AT ISA-PROJECT 517-0243

UNIT COSTS

COORDINATOR	\$2,000 PER MONTH	DRIVERS (2)	\$200 PER MONTH
BILINGUAL SECYS (2)	\$600 PER MONTH	MESSENGER/JANITOR	\$150 PER MONTH
INFLATED AT:	5.00% PER YEAR	13 MONTHS' SALARY FOR THESE POSITIONS (DOMINICAN LAW)	

NOTE: A vehicle for this office has been added to Central Administration in the Commodity purchases above (Table 22). 3).Amount: \$12,500

BUDGET

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTALS
COORDINATOR	\$26,000	27,300	28,665	28,665	28,665	28,665	28,665	\$196,625
BILINGUAL SECYS	7,800	8,190	8,600	9,029	9,481	9,955	10,453	63,508
DRIVERS	5,200	5,460	5,733	6,020	6,321	6,637	6,968	42,338
MESSENGER/JANITOR	1,950	2,048	2,150	2,257	2,370	2,489	2,613	15,877
COMMUNICATIONS	5,000	5,250	5,513	5,788	6,078	6,381	6,700	40,710
PER DIEMS, TRAVEL	11,000	11,550	12,128	12,734	13,371	14,039	14,741	89,562
SUPPLIES & REPAIRS	34,000	35,700	37,485	39,359	41,327	43,394	45,563	276,828
TOTALS	\$90,950	\$95,498	\$100,272	\$103,853	\$107,612	\$111,559	\$115,704	\$725,448

TABLE 29

COST ESTIMATE-CONTRACT SUPPORT AT U.S. CAMPUSES-PROJECT 517-0243

UNIT COSTS		OTHER COST FACTORS						
CONTRACT COORDINATOR	\$22,500 PER YEAR (1/2 TIME)	INFLATED AT:	FRINGES	23.00%				
ASSISTANT	\$10,000 PER YEAR (1/2 TIME)	5.00% PER YEAR						
SECRETARY	\$4,000 PER YEAR (1/2 TIME)							
(All three drop to: project year:	0.25 time, as of 4	Indirect Costs:	42%					
EXECUTIVE VISITS	2 PER YEAR, LOP	(On campus personnel costs only. Indirect costs for expenses off campus are included in unit costs of advisors, Table 21.)						
Travel: Unit cost	\$600 PER ROUND TRIP							
Average per diem:	\$50.00							
Avg. days/trip:	10							

BUDGET	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	TOTALS
CONTRACT COORDINATOR	\$22,500	\$23,625	\$24,806	\$13,023	\$13,674	\$14,358	\$15,076	127,063
ASSISTANT	10,000	\$10,500	\$11,025	\$5,788	\$6,078	\$6,381	\$6,700	56,473
SECRETARY	4,000	\$4,200	\$4,410	\$2,315	\$2,431	\$2,553	\$2,680	22,589
SUBTOTAL, SALARIES	\$36,500	\$38,325	\$40,241	\$21,127	\$22,183	\$23,292	\$24,457	206,125
FRINGE BENEFITS	8,395	\$8,815	\$9,255	\$4,859	\$5,102	\$5,357	\$5,625	47,409
INDIRECT COSTS	18,856	\$19,799	\$20,789	\$10,914	\$11,460	\$12,033	\$12,634	106,484
SUBTOTAL, PERSONNEL	\$63,751	\$66,938	\$70,285	\$36,900	\$38,745	\$40,682	\$42,716	360,018
EXECUTION VISITS	2,200	\$2,310	\$2,426	\$2,547	\$2,674	\$2,808	\$2,948	17,912
COMMUNICATIONS	2,500	\$2,625	\$2,756	\$2,894	\$3,039	\$3,191	\$3,350	20,355
MATERIALS, SUPPLIES	1,500	\$1,575	\$1,654	\$1,736	\$1,823	\$1,914	\$2,010	12,213
TOTAL COSTS:	\$69,951	\$73,448	\$77,121	\$44,077	\$46,281	\$48,595	\$51,025	410,498

TABLE 30

COST ESTIMATE-MONITORING AND EVALUATION-PROJECT 517-0243

The project will be evaluated after year 1, year 3 and year 7.
An evaluation and monitoring data gathering system will be established during year 1 of the project.

Audits will be conducted yearly at an estimated cost of \$10,000/yr.
Each Evaluation Team will include 3 consultants, working one month,

The budgeted amount is based on the \$12,500/person/month suggested by the Controller's Office, with allowance for inflation of 5% per year.

	Year 1	Year 2	Year 4	Year 7	Total
Evaluation & Monitoring	\$76,373	\$41,344	\$45,581	\$52,766	\$216,065
Audits		\$10,000	\$10,000	\$10,000	\$30,000

VII. CONDITIONS AND COVENANTS

The following conditions and covenants will be included in the grant agreement with ISA.

A. Conditions Precedent

1. Condition Precedent to Disbursement for Procurement

As a Condition Precedent for disbursements to ISA for procurement other than the Title XII contract, ISA will provide in form and substance satisfactory to AID unless otherwise indicated in writing, a detailed and time-phased plan for procurement, which shows how ISA will handle the procurement of all commodities in such a way that will ensure timely arrival of commodities and full compliance with the standard provisions of the grant agreement.

2. Condition Precedent to Disbursement for Institutional Support

As a Condition Precedent for disbursement to ISA for Institutional Support after December 30, 1990 (or 6 months after signing of the Grant Agreement, whichever date is later), ISA will provide in form and substance satisfactory to AID unless otherwise indicated in writing, a project implementation action plan which includes, among other things, revenue enhancement measures; how project-provided data processing and software systems will be continue to be applied to attain project objectives; improvements in financial management personnel; and enhancements to the organization of the financial management function and the budgetary approval and control process.

B. Covenants

1. ISA agrees to conduct an assessment after the first 12 months of the project, to measure progress to date in procurement and financial management enhancements. The assessment will be made by an independent firm of Certified Public Accountants satisfactory to AID.

2. ISA agrees that AID will participate in setting the scopes of work and reporting requirements for periodic audits of ISA.

3. ISA agrees to continue to address the issue of Student Loan collections and make the maximum effort to collect all outstanding loans.

UNIVERSITY AGRIBUSINESS PARTNERSHIP PROJECT

ANNEXES
USAID/Dominican Republic

517-0243

June 5, 1989

ANNEXES

	Page
I. Logical Framework	
II. Approval Cable	
III. Statutory Checklist	
IV. Request for Assistance	
V. Environmental Impact Statement	
VI. Project Committee Approval (Action Memorandum)	
VII. Project Analyses	
A. Economic Analyses.....	1
1. Introduction.....	1
2. Objectives of the Project.....	1
3. ISA's Assets.....	2
4. Shadow Prices are not Especially Relevant.....	2
5. The Endowment Fund.....	4
6. Alternative Approaches.....	4
7. Resources From Other Sources.....	5
B. Financial Analysis.....	6
1. Financial Management at ISA.....	6
2. Financial Management and the Development Office.....	7
3. Implementing the Salary Increases.....	8
4. ISA's Present and Projected Cash Flows.....	9
a. ISA's System of Accounts and Financial Statements.....	9
b. The Consequences of Inadequate Financial Management Tools.....	10
c. Auditing and Evaluations.....	11
d. Funding Needs and the Prospects for Self-Sufficiency.....	11
5. Results of the Self-Sufficiency Study.....	11
6. Implementation and Protection of the Endowment Fund.....	12
7. Assumption in the Sensitivity Analysis.....	14
a. Best Guess Case.....	14
b. Pessimistic Case.....	16
c. Optimistic Case.....	17
C. Social Soundness Analysis.....	17
1. Introduction.....	17
2. Socio-cultural Feasibility.....	17
3. Spread Effects.....	21
4. Social Consequences and Benefit Incidence.....	23
D. Administrative Analysis and Program.....	26
1. Background.....	26
2. Current and Proposed Activities.....	27

a.	Rector's Office.....	27
b.	Academic Affairs Office.....	27
c.	Administrative Affairs Office.....	28
d.	Center for Economic and Food Research (CIEA).....	29
e.	Agricultural and Forestry Information Center (CIAF).....	29
f.	Center for Rural Development Administration (CADER).....	30
3.	Technical Assistance, Training and Infrastructure Needs.....	31
a.	Technical Assistance.....	31
b.	Long Term Training.....	35
c.	Short Term Training.....	36
d.	ISA/Central Infrastructure Requirements.....	39
4.	Fund Raising Methodologies.....	41
a.	The Context of University Development in the Dominican Republic.....	41
b.	Background for Development at ISA.....	42
c.	Factors Necessary for a Successful Fund Drive.....	43
d.	Making the Case for ISA.....	44
e.	Considerations for an Endowment Campaign.....	45
f.	Development Office.....	46
g.	Staffing the Office.....	46
h.	Conditions of Employment.....	47
i.	Line of Authority.....	47
j.	Office Functions.....	47
k.	Sequence of Events.....	48
5.	ISA/Private Sector Linkage Survey.....	50
a.	Description of Firms Surveyed.....	50
b.	Private Sector Feedback about ISA Graduates.....	51
c.	Private Sector Demand for ISA Services.....	52
d.	Potential Contributions to ISA.....	53
e.	Individual Qualitative Comments from Executives.....	54
E.	Horticulture/Agronomy Program.....	55
1.	Background and Goals.....	55
2.	Current and Proposed Activities.....	56
a.	Teaching.....	56
b.	Research.....	58
c.	Outreach.....	63
3.	Technical Assistance, Training and Infrastructure Needs.....	63
a.	Long Term Technical Assistance.....	63
b.	Terms of Reference and Qualifications.....	65
b.	Short-Term Technical Assistance.....	68
c.	Long-Term Non-Degree Training.....	69
d.	Short-Term Training.....	69
e.	Horticulture/Agronomy Infrastructure.....	71

F.	Animal Production Program.....	71
1.	Background.....	71
2.	Current and Proposed Activities.....	74
a.	Teaching.....	74
b.	Research.....	76
c.	Outreach.....	79
3.	Technical Assistance, Training and Infrastructure Needs.....	80
a.	Long-Term Technical Assistance.....	80
b.	Short-Term Technical Assistance.....	83
c.	Long-Term Non-degree Training Requirements.....	86
d.	Short-Term Training.....	86
e.	Animal Production Infrastructure.....	88
G.	Forestry/Natural Resources Program.....	91
1.	Background.....	91
2.	Current and Proposed Activities.....	92
a.	Teaching.....	92
b.	Research.....	93
c.	Outreach.....	94
3.	Project Implementation Requirements.....	95
a.	Teaching.....	95
b.	Research.....	95
c.	Outreach.....	96
4.	Technical Assistance, Training and Infrastructure Needs.....	96
a.	Long-Term Technical Assistance.....	96
b.	Short-Term Technical Assistance.....	100
c.	Long-Term Non-degree Training.....	101
d.	Short-Term Training.....	101
e.	Forestry/Natural Resources Infrastructure.....	102
H.	CADER Agribusiness Program.....	104
1.	Background and Objectives for CADER Program.....	104
a.	Summary of the Problem.....	104
b.	Summary of CADER's Mission and Project Objectives.....	105
c.	CADER's Strategy: Target Markets.....	106
d.	CADER's Strategy: Strategic Thrusts.....	107
e.	Additional Strategic Issues.....	109
2.	Current and Proposed Activities.....	111
a.	Available Human Resources.....	111
b.	Teaching.....	112
c.	Research.....	114
d.	Outreach: Private and Public Sector Services...	117
3.	Technical Assistance, Training and Infrastructure Needs.....	120
a.	Long-Term Technical Assistance.....	120
b.	Short-Term Technical Assistance.....	123
c.	Long-Term Non-degree Training.....	125
d.	Short-Term Training Activities.....	125
e.	CADER's Infrastructure Requirements.....	126

I.	Women in Development.....	127
1.	The Context for Integrating Women at ISA/CADER.....	127
2.	Key Gender Issues at ISA.....	128
a.	Higher Costs for Female Students.....	128
b.	Low Involvement of Professional Women.....	129
c.	Lack of Sex-Disaggregated Student Data.....	129
d.	Inadequate Female Student Field Experience.....	129
e.	Need for Faculty Training.....	130
f.	WID Integration into Curriculum.....	130
g.	No Placement Assistance.....	131
h.	Institutional Endowment Support for Women.....	131
3.	Recommendations for Project Activity.....	132
a.	Support On-Campus Housing for Female Students..	132
b.	Short-Term WID Technical Assistance.....	133
c.	Guarantee Minimal Funding for WID Committee Activities.....	134
4.	Conclusion.....	135
J.	Relevant Table of the Economic Analysis	
VIII.	Supporting Documentation	
A.	Project Waiver for International Transportation Costs	
B.	Contributed Resources from MUCIA	
C.	Debt for Development Cable	
D.	Sensitivity Analysis Tables	
E.	Training Costs Analysis (On File in USAID)	
IX.	Survey Analysis of Agricultural Universities	
X.	Reference Documents	

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title and Number: University Agribusiness Partnership Project (517-0243)

Life of Project: FY 1989-96
PAC :
Date Prepared : February 1988
Date Revised : March 1988

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>	<u>Means of Verification</u>	<u>Important Assumptions</u>
<p><u>Program or Sector Goal:</u> To increase non-traditional commodity-based rural incomes.</p>	<p><u>Measure of Goal Achievement:</u> Increased non-traditional crop production, as indicated in Action Plans during period.</p> <p>Increased employment of outgrowers and day laborers, as indicated in Action Plans during period.</p> <p>Increased incomes of rural farm and non-farm residents, as indicated in Action Plans during period.</p>	<p>National ag production and export statistics.</p> <p>Surveys of outgrowers and agribusinesses.</p> <p>Regional employment statistics.</p> <p>GNP accounts and other national/regional economic statistics.</p>	<p>Market opportunities for agricultural exports continue to be available and effectively exploited.</p> <p>The sector can produce non-traditional commodities at competitive prices.</p> <p>GODR price and tax policies do not create disincentives for investment in non-traditional commodity production.</p>
<p><u>Project Purpose:</u> To provide the expanding agribusiness and agro-industrial community with increased mid-level manpower by institutionally strengthening ISA and CADER.</p>	<p><u>End of Project Status (EOPS):</u> Increased and improved preparation of mid-level technicians specialized in agribusiness and agroindustrial applications to non-traditional commodities.</p> <p>Improved management of ISA/CADER sufficient to meet institutional development goals through year 2010.</p> <p>Fully functioning Endowment Fund with increased value of no less than RD\$20 M and established mechanisms to ensure its growth sufficient to meet future core cost needs.</p> <p>Self-sustaining Development Office established implementing fund raising activities, promoting alumni and community relations and donor coordination.</p>	<p>Project records, case analyses, surveys, project implementation monitoring and reports.</p>	<p>Continued effective administration of ISA/CADER and dedication of faculty/staff to achieving project purpose.</p> <p>Full project support by ISA Board of Directors to achievement of project purpose.</p>

75

Project Title and Number: University Agribusiness Partnership Project (517-0243)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
	<p><u>End of Project Status (EOPS):</u> (Continued from previous page)</p> <p>Establishment of BS Degrees in Horticulture and Forestry and a technical degree level in Forestry.</p> <p>Faculty/staff salaries and supplementary income opportunities will equal or exceed equivalent private sector levels.</p> <p>Productive university units under modern private sector management, while providing research/teaching opportunities to ISA/CADER personnel and students.</p>	<p>Curricula developed and increased number of courses offered in these fields.</p> <p>Record of faculty/staff faculties and supplemental income opportunities compared to equivalent private sector levels.</p> <p>Productive units operating at profit, utilizing modern agribusiness in agroindustrial methods.</p>	

Project Title and Number: University Agribusiness Partnership Project (S17-0243)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>Outputs:</u> At least 40 full time faculty trained in the preparation of improved applied research, teaching and non-traditional commodity production, with increased awareness of gender issue impacts on research, education, extension and adoption of technology.</p>	<p><u>Output Indicator:</u> 40 trained faculty and staff and record of applied research/teaching output. Inclusion of gender impact in all research and extension research. 35% of women students enrolled at ISA; 20 % of women on ISA faculty</p>	<p>Project records, case studies, surveys, project implementation monitoring and reports.</p>	<p>Total commitment of ISA/CADER faculty and staff to development plans. Effective and efficient project implementation by contractor. Effective selection of appropriate LT technical assistance.</p>
<p>At least 10 full time staff and faculty trained to manage the business/development administration of ISA/CADER.</p>	<p>10 trained staff and record of ISA/CADER expansion.</p>		<p>Appropriate placement of LT trainees (non degree) at host institutions.</p>
<p>Completion of at least 15 major policy workshops focused upon non-traditional commodities.</p>	<p>15 major Policy Workshop findings published.</p>		
<p>Completion of 60 policy seminars focused upon non-traditional commodities.</p>	<p>60 major Policy Seminar findings published.</p>		
<p>Completion of 50 weeks of short cycle training for agribusinessmen.</p>	<p>50 weeks of short cycle training completed for agribusinessmen.</p>		
<p>Introduction of 3,000 farmers to non-traditional crop and/or livestock improved practices.</p>	<p>3,000 farmers introduced to non-traditional crop and/or livestock improved practices.</p>		
<p>Publication and dissemination of 250 research monographs relating to non-traditional crops, agribusiness, and watershed/irrigation management.</p>	<p>250 research monographs published and disseminated by subject matter.</p>		

40

Project Title and Number: University Agribusiness Partnership Project (517-0243)

<u>Narrative Summary</u>	<u>Objectively Verifiable Indicators</u>			<u>Means of Verification</u>	<u>Important Assumptions</u>
<u>Inputs:</u>	<u>(US\$ Millions)</u>	<u>(RD\$ Million)</u>			
Technical Assistance:	<u>AID Grant</u>	<u>GODR</u>	<u>Private</u>	<u>ISA</u>	
-Long Term	5.758				Controller records, Contractor Records, Foundation and ISA/CADER Financial Statements.
-Short Term	1.717				
Training:					Funds available. Timely disbursements.
-Long Term (non degree)	.627				
-Short Term	.984				
Commodities:					
-Vehicles	.280				
-Equipment and Library	.335				
-Laboratory Equipment	.037				
-Generator, Water System	.150				
Operating Expenses	1.836			12.375	
Trust Fund		15		5	
Evaluation, Monitoring and Audit	.246				
Total	<u>12.000</u>	<u>15</u>	<u>5</u>	<u>12.375</u>	

81

FY 1988

Annex II

517-0246 - RURAL YOUTH LEADERSHIP (LOP-DOLS 680,000 GRANT) THE MISSION AGREES TO RECONSIDER INTEGRATING THIS ACTIVITY WITH PVO COFINANCING PROJECT ACTIVITIES. IF THIS IS NOT POSSIBLE, THE BUREAU CONCURS WITH MISSION DELEGATION OF AUTHORITY FOR AUTHORIZATION OF THE PROJECT.

517-0250 - AIDS SUPPORT PROJECT (LOP-DOLS 800,000 GRANT). THE MISSION WILL SUBMIT AN NPD TO AID/W FOR REVIEW.

517-0245 PRIVATE SECTOR HEALTH CARE (LOP-DOLS 8 MILLION). THE MISSION WILL SUBMIT A REVISED NPD AS A BASIS FOR A DELEGATION DECISION.

FY 1989

517-2190 - AGRIBUSINESS PROMOTION AMENDMENT (LOP DOLS 4.0 MILLION GRANT). DRAFT AMENDMENT TO BE PASSED TO AID/W FOR CONSULTATION PRIOR TO MISSION AUTHORIZATION.

517-0243 - AGRIBUSINESS TRAINING (LOP-DOLS 12 MILLION GRANT). BUREAU CONCURS IN DELEGATION OF AUTHORITY TO MISSION DIRECTOR TO APPROVE PID/PP SUBJECT TO GUIDANCE IN THIS CABLE.

517-0247 - PVO CO-FINANCING (LOP-DOLS 3.0 MILLION GRANT). PID TO BE REVIEWED IN AID/W.

517-0248 - EMPLOYMENT-RELATED TRAINING (LOP-DOLS 4.5 MILLION GRANT). BUREAU CONCURS IN DELEGATION OF AUTHORITY TO MISSION DIRECTOR TO APPROVE PID/PP.

517-0190 - EXPORT AND INVESTMENT PROMOTION AMENDMENT (LOP-DOLS 6.0 MILLION GRANT). BUREAU CONCURS IN DELEGATION OF AUTHORITY TO THE MISSION DIRECTOR TO APPROVE THE AMENDMENT SUBJECT TO GUIDANCE IN THIS CABLE.

517-0252 - INDUSTRIAL LINKAGES/FTZ DEVELOPMENT (LOP-DOLS 5.0 MILLION GRANT). BUREAU CONCURS IN DELEGATION OF AUTHORITY TO MISSION DIRECTOR TO APPROVE PID/PP.

FY 1989 EBF - A CONCEPT PAPER WILL BE REVIEWED IN AID/W.

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83

 517-0249 - AGRICULTURAL DATA SYSTEMS (LOP-DOLS. 5.0 MILLION GRANT AND DOLS 6.0 MILLION LOAN). APPROVED TO BE INCLUDED IN FY 1990 ABS. MISSION AGREES TO REVIEW THE FUNDING LEVEL REQUIREMENTS, PARTICULARLY IN RELATION TO LIMITED RESOURCES AND OTHER NEEDS.

517-0251 - PRIVATE PRIMARY EDUCATION (LOP-DOLS. 4.0 MILLION GRANT AND DOLS 6.0 MILLION LOAN). APPROVED TO BE INCLUDED IN THE FY 1990 ABS. THE NPD TO BE INCLUDED IN THE FY 1990/91 AP SHOULD SPECIFICALLY ADDRESS THE EQUITY ISSUE.

517-0254 - MICRO AND SMALL ENTERPRISE DEVELOPMENT (LCP- DOLS 1.5 MILLION GRANT). APPROVED TO BE INCLUDED IN THE FY 1990 ABS.

4. CROSS-CUTTING ISSUES

A. ISSUE

IS THE MISSION'S PROGRAM STRATEGY STILL VIABLE IN VIEW OF RECENT CHANGES IN THE LEVELS OF RESOURCES?

DISCUSSION: THE MISSION FACES THE LOSS OF ALL ESF RESOURCES IN FY 1993, LESS THAN IDEAL LEVELS OF ESF EXPECTED IN FY 1989, AND A TITLE I ARREARS PROBLEM WHICH COULD HAVE MAJOR CONSEQUENCES FOR AVAILABILITY OF PL-480 TITLE I RESOURCES. WITH THESE POTENTIAL RESOURCE GAPS, THE PROPOSED POLICY DIALOGUE AND PROGRAM OBJECTIVES WILL BE DIFFICULT TO ACHIEVE.

DECISION:

THE MISSION SHOULD FOLLOW ITS CURRENT STRATEGY IN FY 1989, BUT IT SHOULD BE MOVING TOWARD GREATER SECTORAL EMPHASES AS QUICKLY AS IS PRUDENT. THIS SHOULD NOT BE ABRUPT AND SHOULD BE UNDERTAKEN IN LIGHT OF PREVAILING CONDITIONS, EFFORTS OF MULTILATERAL INSTITUTIONS (E.G., THE IMF AND THE IPRD) AND OTHER DONORS, AS WELL AS AVAILABILITY OF ESF RESOURCES. IN ADDITION, THE MISSION SHOULD EXPLORE THE EXTENT TO WHICH PL 480 TITLE I RESOURCES AND DA-FINANCED ANALYSIS AND TECHNICAL ASSISTANCE COULD BE USED TO SUPPORT MACROECONOMIC POLICY DIALOGUE.

B. ISSUE:

WHAT SHOULD BE THE USG POSITION ON SETTLEMENT OF ALL PL-480 ARREARAGES AS A CONDITION FOR PROCEEDING WITH AUTHORIZATION OF A TITLE I AGREEMENT?

DISCUSSION: GDR DEBT ARREARS ON PL-480 TOTALED DOLS 27.5 MILLION AS OF DEC. 31, 1987. BECAUSE THE GDR

WANTED TO COMPLY WITH A RESCHEDULING PLAN DEVELOPED IN FY 1987, THE INTERAGENCY ECC HAS TAKEN A FIRM POSITION THAT THE CODR MUST BE CURRENT ON ALL ARREARS BEFORE A PL-488 TITLE I AGREEMENT FOR FY 1988 CAN BE SIGNED. THE ELIMINATION OF TITLE I WOULD IMPACT NOT ONLY ON THE CODR FOREIGN EXCHANGE SITUATION, BUT ALSO THE AVAILABILITY OF LOCAL CURRENCY WHICH SUPPORTS AID AND OTHER DDCNR PROJECTS.

DECISION:

 THE MISSION AND FVA WILL TRY TO GAIN CODR COMMITMENT TO, AND ECC APPROVAL FOR, A COMPROMISE SOLUTION TO THE ARREARAGES PROBLEM. IT WOULD CONSIST OF A DOLS 5.4 MILLION PAYMENT BY 31 MARCH 1988 ON LAST YEAR'S RESCHEDULING, DOLS 3.8 MILLION AGAINST NEW ARREARAGES ACCUMULATED THROUGH DECEMBER 31, 1987, AND PAYMENT OF THE FIRST INSTALLMENT DUE ON THE CURRENT YEAR'S PAYMENTS (APPROXIMATELY DOLS 182,000) FOR A TOTAL

PAYMENT OF APPROXIMATELY DOLS 9.4 MILLION. THE CODR MUST KEEP CURRENT THEREAFTER.

5. ISSUES BY OBJECTIVE:

A. OBJECTIVE 1: INCREASE AGRICULTURAL PRODUCTION

 DECISIONS

 THE AGRICULTURAL DATA SYSTEMS PROJECT IS APPROVED TO BE INCLUDED IN THE FY 1988 ABS. HOWEVER, GIVEN THE SCARCITY OF ARDN RESOURCES, THE DOLS 5.0 MILLION LCP WAS QUESTIONED. THE MISSION SHOULD SEEK TO SCALE DOWN THE ACTIVITY SUBSTANTIALLY.

" GIVEN AID/W UNDERSTANDING OF THE MISSION'S INTENT AND STRUCTURE OF THE PVO CO-FINANCING PROJECT, A NORMAL PID/PP/AUTHORIZATION PROCESS SHOULD BE FOLLOWED. LACK OF DEFINITION OF KEY ELEMENTS OF THE PROJECT IN THE NPD INDICATE AN AID/W PID REVIEW.

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B. OBJECTIVE 3: STABILIZE FINANCIAL STRUCTURES

DECISION:

GIVEN THE RESOURCE AND POLICY DIALOGUE ISSUES, THE FY 1989 ESF CONCEPT PAPER WILL BE REVIEWED IN AID/W. THE MISSION SHOULD PROVIDE AID/W WITH A COPY OF THE FINALIZED MISSION OPERATIONS MANUAL ORDER REGARDING LOCAL CURRENCY MANAGEMENT. A THOROUGH DISCUSSION OF MISSION INTENTIONS IN THIS AREA MUST BE INCLUDED IN THE CONCEPTS PAPER.

C. OBJECTIVE 5: PROMOTE EXPORTS

ISSUE:

SHOULD THE PROPOSED INDUSTRIAL LINKAGES/FREE ZONE DEVELOPMENT PROJECT BE COMBINED WITH THE AMENDMENT TO THE EXPORT AND INVESTMENT PROMOTION PROJECT?

DISCUSSION: THE MISSION ARGUED THAT THESE PROJECTS HAVE TWO DISTINCT OBJECTIVES, BENEFICIARY TARGET GROUPS, AND IMPLEMENTING AGENCIES.

DECISIONS:

- THE BUREAU CONCURS WITH THE DELEGATION OF

AUTORITY TO THE MISSION DIRECTOR TO APPROVE THE PID FOR INDUSTRIAL LINKAGES/FTE DEVELOPMENT AND THE AMENDMENT FOR EXPORT AND INVESTMENT PROMOTION. THE MISSION MUST ADDRESS THE ISSUE OF FINANCIAL SUSTAINABILITY IN THE PID FOR THE NEW PROJECT AND PP AMENDMENT, AS WELL AS TAKE INTO ACCOUNT THE IMPACT OF LITTLE LOW LEVELS OF SEA FUNDING.

- SINCE THE NPD IS LACKING IN ADDITIONAL INFORMATION TO CLARIFY THE EXPECTED OUTPUTS OF THE AMENDMENT AND THIS HAS BEEN A PROBLEM PROJECT IN THE PAST, THE AMENDMENT TO THE AGRIBUSINESS PROMOTION PROJECT WILL BE SUBMITTED TO AID/W FOR CONSULTATION PRIOR TO MISSION APPROVAL.

D. OBJECTIVE 6: MANAGE AND PRESERVE NATURAL RESOURCES

ISSUE:

THE ACTION PLAN DOES NOT RESPOND TO AGENCY GUIDANCE ON NATURAL RESOURCES MANAGEMENT.

DISCUSSION: THE STRATEGY ADDRESSES THE PRODUCTIVITY AND FOOD AVAILABILITY CONCERNS, BUT FAILS TO RESPOND TO ENHANCEMENT OF THE NATURAL RESOURCES BASE PROVISION OF THE AGENCY'S FOCUS STATEMENT ON ARDN

PROGRAMS AS ADVISED IN STATE 131187. THE ACTION PLAN ALSO DOES NOT INCLUDE THE REQUIRED SECTIONS ON BIODIVERSITY AND TROPICAL FORESTRY.

Annex II

DECISION:

THE MISSION WILL SUBMIT THE REQUIRED SECTION 113 AND 119 ANALYSES TO AID/W TO BE INCLUDED AS REVISIONS TO THE ACTION PLAN BY JULY 31, 1988. THE MISSION SHOULD ALSO REPORT ON HOW IT WILL LEVERAGE RESOURCES, INCREASE PUBLIC AWARENESS, AND SENSITIZE LEADERS TO THE ISSUES WITHIN EXISTING AND PROJECTED PROGRAMS. AID/W WILL SUPPLY GUIDANCE ON PREPARATION OF REQUIRED BIODIVERSITY/TROPICAL FORESTRY ANALYSES AND WILL ASSIST IN IDENTIFYING APPROPRIATE TECHNICAL ASSISTANCE RESOURCES FOR PREPARATION OF THE ANALYSES, BUT MISSION WILL FUND NECESSARY COSTS.

H. OBJECTIVE 7: EXPAND AND IMPROVE INFRASTRUCTURE

ISSUE:

ECES PERFORMANCE TO DATE DEMONSTRATE ADEQUATE PROGRESS TOWARD ACHIEVING THIS OBJECTIVE?

DISCUSSION: SINCE ONLY 150 KM. OF ROADS WERE RECONSTRUCTED IN THE LAST TWO YEARS COMPARED TO 600 KMS. PROJECTED IN THE ACTION PLAN, TARGETS FOR 1988 AND 1989 MAY HAVE TO BE REVISED. THE QUESTION ALSO ARISES WHETHER A MAINTENANCE PROGRAM MAY BE MORE ECONOMICAL THAN AN IMPROVEMENT PROGRAM.

DECISION:

THE MISSION WILL INCLUDE A BRIEF STATUS REPORT ON PROGRESS IN ACHIEVING BENCHMARKS ESTABLISHED FOR THIS OBJECTIVE IN THE NEXT SEMI-ANNUAL REVIEW.

I. OBJECTIVE 9: IMPROVE HEALTH AND HEALTH SERVICES

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STATE 089397/03

DECISIONS:

--- BECAUSE THE PROPOSED PRIVATE SECTOR HEALTH CARE PROJECT NOW DIFFERS SUBSTANTIVELY FROM THE NPD FOR SELF-FINANCING HEALTH CARE APPROVED IN LAST YEAR'S ACTION PLAN, THE MISSION WILL SUBMIT A REVISED NPD TO AID/W FOR REVIEW AND A DELEGATION DECISION.

--- SINCE FUNDS WERE ALLOCATED FOR THE AIDS PROJECT AFTER THE ACTION PLAN WAS COMPLETED, THE MISSION WILL SUBMIT AN NPD FOR THE AIDS SUPPORT PROJECT TO WASHINGTON AS THE BASIS FOR A DELEGATION DECISION:

G. OBJECTIVE 12: IMPROVE EDUCATIONAL OPPORTUNITIES

DECISION:

THE BUREAU CONCURS WITH THE MISSION DIRECTOR'S DELEGATION OF AUTHORITY TO APPROVE THE PID FOR THE AGRIBUSINESS TRAINING PROJECT, SUBJECT TO THE FOLLOWING:

IN BOTH SEMIANNUAL PORTFOLIO REVIEWS OF FY 1987, LAC EXPRESSED CONCERN TO USAID/DR THAT PRIVATE SECTOR SUPPORT OF THE ENDOWMENT FUND OF THE RURAL DEVELOPMENT MANAGEMENT PROJECT HAS BEEN WEAK DURING THE LIFE OF THE PROJECT. SINCE THE AGRIBUSINESS TRAINING PROJECT (517-8243) IS PROPOSED AS A FOLLOW-ON TO THE RURAL DEVELOPMENT MANAGEMENT PROJECT (5170125), THE BUREAU STRONGLY SUGGESTS THAT THE MISSION CAREFULLY ANALYZE THE ISSUE OF BOTH SUSTAINABILITY OF THE ISA/CADER INSTITUTION, AND WHETHER CONTRIBUTIONS OF THE DOMINICAN PRIVATE SECTOR TO THE ENDOWMENT FUND WILL BE SUFFICIENT TO ACHIEVE SALARY LEVELS HIGH ENOUGH TO DRAW AND MAINTAIN HIGH CALIBER STAFF. THE MISSION SHOULD EXAMINE WHETHER THERE ARE OTHER ARRANGEMENTS NEEDED BESIDES THE ENDOWMENT FUND TO ENSURE LONG TERM VIABILITY OF THE INSTITUTION BENEFITTING FROM THE PROJECT

ISSUE:

SHOULD THE MISSION BEGIN A NEW PROJECT, RURAL YOUTH LEADERSHIP TRAINING, DURING THIS ACTION PLAN PERIOD?

DISCUSSION: THE NPD LEAVES A GAP BETWEEN THE STRATEGY AND HOW THIS PROPOSED PROJECT RELATES TO IT. THE MISSION HAS AN AMBITIOUS LIST OF NEW PROJECTS AND THIS WILL CREATE ANOTHER MANAGEMENT UNIT LEADING TO THE QUESTION WHETHER THIS ACTIVITY COULD BE FOLDED INTO SOME OTHER PROJECT.

DECISION:

THE MISSION WILL INTEGRATE THIS ACTIVITY, IF IT CAN, INTO THE NEW PVO CO-FINANCING PROJECT; BUT THE FINAL

DECISION ON THIS IS LEFT UP TO THE MISSION. THE BUREAU CONCURS WITH MISSION DELEGATION OF AUTHORITY FOR AUTHORIZATION OF THE RURAL YOUTH LEADERSHIP PROJECT.

H. OBJECTIVE 13: INCREASE PARTICIPANT TRAINING

ISSUE:

GIVEN BUDGET CONSTRAINTS IN THE EHRD ACCOUNT, IS IT POSSIBLE TO ACCOMMODATE THE TWO NEW START-UPS PROPOSED FOR FY89 AND FY90?

DISCUSSION: THE TWO PROJECTS PROPOSED ARE FY89 EMPLOYMENT-RELATED TRAINING PROJECT (OBJ. 13) AND FY89 PRIVATE PRIMARY EDUCATION (OBJ. 12). THE ACTION PLAN ASSUMED THAT THE EHRD BUDGET WOULD INCREASE, BUT CURRENT PROJECTIONS INDICATE A DECLINE IN FY 1989.

DECISION:

THE MISSION WILL LOOK AT THE POTENTIAL FOR JUSTIFYING SPLIT FUNDING OF THE EMPLOYMENT-RELATED TRAINING

PROJECT IN ORDER TO REDUCE THE LEVEL OF EHRD FUNDING REQUIRED FOR THIS PROJECT. THIS COULD PROVIDE GREATER ASSURANCE THAT SUFFICIENT EHRD FUNDS WILL BE AVAILABLE FOR THE PRIVATE PRIMARY EDUCATION PROJECT. THE MISSION WILL NOTIFY OF ITS INTENTIONS IN THIS REGARD IN THE NED TO BE INCLUDED IN THE FY 1990/91 ACTION PLAN.

I. OBJECTIVE 14: STRENGTHEN DEMOCRATIC INSTITUTIONS

ISSUE:

SHOULD THE MISSION MOVE AHEAD WITH AOJ ACTIVITIES SINCE STRENGTHENING OF DEMOCRATIC INSTITUTIONS IS NOT A PRIORITY IN ITS STRATEGY?

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STATE 089397/04

DECISION

 AOJ ACTIVITIES WILL BE KEPT UNDER REGIONAL PROJECTS UNTIL THE DOMINICAN REPUBLIC SHOWS A STRONG INTEREST IN BROADER DEMOCRATIC INITIATIVES. THE MISSION WILL ATTEMPT TO INCLUDE DISCRETE DEMOCRATIC INITIATIVES ACTIVITIES IN THE PROPOSED PVO COFINANCING PROJECT, IF POSSIBLE. HOWEVER, LAC/DI WILL NOT NOW PLAN ON INITIATING A BILATERAL PROJECT IN THE DR IN FY 1989.

C. RESOURCES AND MANAGEMENT ISSUES:

A. ISSUE:

 WHAT CAN THE MISSION DO TO IMPROVE LOCAL CURRENCY MANAGEMENT, AND WILL THE ACTIONS TAKEN SATISFY IG AUDIT RECOMMENDATIONS?

DISCUSSION: THE MISSION STATED THAT THE FUNDAMENTAL ISSUE WITH THE IG AUDIT ON HOST COUNTRY OWNED LOCAL CURRENCY MANAGEMENT IS THE DEFINITION OF ACCOUNTABILITY. THE AUDIT IS BASED ON A VIEW THAT HOST COUNTRY OWNED LOCAL CURRENCY SHOULD BE TREATED AS APPROPRIATED FUNDS. THE MISSION'S VIEW IS THAT LC IS A GODP RESOURCE, AND WHILE THE USG MAINTAINS THE RIGHT TO JOINT PROGRAMMING, THE MISSION'S RESPONSIBILITY IS LIMITED TO THAT REQUIRED BY THE AGENCY'S REVISED LOCAL CURRENCY MANAGEMENT GUIDANCE ISSUED IN STATE 327424. THE LACK OF THE GODR CAPABILITY IN THE FINANCIAL MANAGEMENT AREA IS PART OF THE LARGER PROBLEM RESULTING FROM THE LACK OF A CAREER CIVIL SERVICE IN THE GODR. THIS PROBLEM IS ONE WHICH THE MISSION WILL CONTINUE TO REGARD AS A

PRIORITY AREA OF NEED; AT THE SAME TIME, IT IS AN AREA REQUIRING SENSITIZATION OF THE GODR TO ITS IMPORTANCE.

THE MISSION IS COMMENDED FOR UNDERTAKING SEVERAL INITIATIVES TO ADDRESS THE PROBLEMS IDENTIFIED ABOVE. OF SPECIAL NOTE ARE THE FOLLOWING:

- (I) THE MISSION HAS FUNDED TECHNICAL ASSISTANCE TO -- IMPROVE THE GODR LOCAL CURRENCY MANAGEMENT CAPABILITY;
- (II) THE MISSION HAS ALLOCATED UP TO 5 PERCENT OF - LOCAL CURRENCY FOR AUDIT PURPOSES; AND
- (III) THE MISSION HAS PROPOSED A COMPONENT TO BE -- INCLUDED IN THE LAC REGIONAL FINANCIAL - MANAGEMENT PROJECT (598-0058) TO PROVIDE ASSISTANCE IN THIS AREA.

DECISIONS:

... THE HIGHEST LEVELS OF THE GODR, THE MISSION SHOULD CONTINUE TO STRESS THE IMPORTANCE OF FINANCIAL MANAGEMENT CAPABILITY AND APPROPRIATE AUDIT SYSTEMS IN THE UTILIZATION OF BOTH DOLLAR AND LOCAL CURRENCY ECONOMIC ASSISTANCE RESOURCES. ALSO, THE MISSION SHOULD INDICATE ITS WILLINGNESS TO PROVIDE RESOURCES, TO THE EXTENT THEY ARE AVAILABLE, TO ASSIST THE GODR IN THE DEVELOPMENT OF AN EFFICIENT AND COMPETENT CIVIL SERVICE, AT LEAST IN CERTAIN AREAS.

THE MISSION SHOULD FINALIZE ITS MISSION OPERATIONS MANUAL ON LOCAL CURRENCY USES AND MANAGEMENT AS SOON AS POSSIBLE AND SUBMIT A DRAFT TO AID/W FOR COMMENT NO LATER THAN MAY 31, 1988.

THE MISSION SHOULD SUBMIT A COPY OF ITS RESPONSE TO THE 1987 AUDIT REPORT TO THE LAC BUREAU FOR REVIEW, IDENTIFYING PARTICULAR AREAS WHERE THE BUREAU COULD PROVIDE SUPPORT, GUIDANCE, OR ASSISTANCE IN CLARIFYING LOCAL CURRENCY MANAGEMENT AND USES POLICY.

F. CLARIFICATION

GIVEN THE ABSENCE OF ESF GENERATED TRUST FUNDS, HOW WILL THE MISSION MANAGE WITHIN THEIR APPROVED OE LEVEL?

DISCUSSION: IF THE DOLE 13.835 MILLION ESF OBLIGATION DEFERRED FROM FY87 IS MADE, THE TRUST FUND WILL GAIN RD 3 MILLION. THE MISSION ALSO HAS INTEREST INCOME FROM THE BUILDING FUND WHICH NOW STANDS AT APPROXIMATELY RD 10 MILLION AND EARNS 22 PERCENT P.A. HIGH FAAS COSTS ARE A CONCERN TO LAC BUREAU MANAGEMENT, WHICH NOTES THAT THE DOMINICAN REPUBLIC FAAS COSTS ARE ONE OF THE HIGHEST IN THE BUREAU.

DECISIONS:

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STATE 089397/05

 -- THE MISSION WILL CONTINUE TO LOOK FOR OPPORTUNITIES TO SWITCH MORE COSTS TO LOCAL CURRENCY. THE MISSION WILL ADVISE LAC/CONT BY CABLE OF PROGRESS IN THIS AREA AS OF JUNE 30, 1988.

"- WITH RESPECT TO THE MISSION'S DIFFICULTY IN OBTAINING TREASURY AUTHORIZATION FOR THE USDO TO TRANSFER APPROXIMATELY RD 6.3 MILLION IN LOCAL CURRENCY TO AN INTEREST BEARING ACCOUNT IN THE DOMINICAN REPUBLIC, AID/IM HAS ADVISED THAT TREASURY HAS PREPARED THE JOURNAL VOUCHER, WHICH WILL BE INCLUDED IN THE END OF MONTH REPORT TO THE USDO IN MEXICO CITY. THE USDO SHOULD RECEIVE THIS REPORT BEFORE THE END OF MARCH. THE MISSION CONTROLLER SHOULD FOLLOW UP WITH THE USDO TO ENSURE THE FUNDS ARE DEPOSITED IN THE APPROPRIATE ACCOUNT IN THE DOMINICAN REPUBLIC.

- LAC/CONT WILL PREPARE A MEMORANDUM FOR AA/LAC TO SEND TO AA/M CONCERNING THE MISSION DEPUTY CONTROLLER POSITION, ADDRESSING THE ISSUE OF THE ONE-YEAR DELAY IN FILLING THIS POSITION AND THE DIFFICULTIES OF RESPONDING TO IG RECOMMENDATIONS WITH RESPECT TO LOCAL CURRENCY MANAGEMENT WITH LESS THAN MINIMUM STAFFING LEVELS. THE MEMORANDUM WILL BE PREPARED BEFORE MARCH 15, 1988.

C. ISSUE

HOW DOES THE MISSION JUSTIFY AN INCREASE IN USPSCS AND SHOULD THE MISSION REDUCE ONE USDH POSITION?

DISCUSSION: THERE IS AN APPARENT INCREASE IN OE FUNDED USPSCS IN FY 1988 BY NEARLY TWO PERSON YEARS

AND AN ADDITIONAL TWO IN FY 1989. THE MISSION EXPLAINED THAT THE NUMBERS ARE NOT INCREASING, BUT RATHER, REFLECT A SWITCH FROM PD&S FUNDING TO OE:

DECISION

THE MISSION IS INSTRUCTED TO CAREFULLY REVIEW HOW IT IS DOING BUSINESS, AND IN LIGHT OF DECLINING OE AND PROGRAM RESOURCES TO DEVELOP ALTERNATIVE IMPLEMENTING MECHANISMS WHICH WOULD CONSERVE SCARCE OPERATING RESOURCES. THE MISSION SHOULD ADVISE THE BUREAU BY JULY 15, 1988, OF WHAT ACTIONS IT HAS TAKEN AND INTENDS TO TAKE IN THIS REGARD. THE MISSION SHOULD SPECIFY AREAS IN WHICH AID/W CAN BE OF ASSISTANCE.

?.. OTHER ISSUES

A. COUNTRY TRAINING PLAN

ANNEX 12 (FY89 CTP UPDATE) IS APPROVED. MINOR INCONSISTENCIES IN DATA REPORTED IN OBJECTIVE 13 AND ANNEX 12 WILL BE DISCUSSED IN A POUCHED MEMORANDUM.

Annex II

B. WOMEN IN DEVELOPMENT

PPC/WID HAS NO ISSUES OR CONCERNS CONCERNING THE ACTION PLAN. FOR THE RECORD, PPC/WID NOTES THAT THE FY 1989/90 ACTION PLAN REFLECTS WELL THE INTEREST AND ACTIONS OF THE USAID/PR STAFF, PARTICULARLY THE EFFORTS OF PDO MCFARLAND, WHO IS COMMENDED. IT IS FURTHER NOTED THAT THE MISSION'S DECISION TO IMPROVE BASELINE INFORMATION THROUGH THE USE OF GENDER DISAGGREGATED DATA AND THE FOLLOW-UP WORK BEING DONE ON GENDER ISSUES IN THE INDUSTRIAL FREE TRADE ZONE. THE MISSION IS ADVISED THAT A SUBSTANTIAL NUMBER OF AID DOCUMENTS THAT DEAL WITH WOMEN IN DEVELOPMENT ISSUES HAVE BEEN RECENTLY CATALOGUED BY PPC/WID INTO THE CIE INFORMATION SYSTEM. FOR EXAMPLE, MORE THAN TWENTY-FIVE DOCUMENTS DEALING SPECIFICALLY WITH WID ISSUES IN THE DOMINICAN REPUBLIC HAVE BEEN CATALOGUED. DESIGN OFFICERS AND TECHNICAL OFFICERS CAN ACCESS THE AVAILABLE INFORMATION DIRECTLY FROM CIE OR WITH THE WID OFFICE.

C. TRACKING OF ACTION PLAN FOLLOW-UP ACTIONS AND PERFORMANCE

LAC/DP WILL PREPARE A MATRIX OF THE MISSION AND WASHINGTON FOLLOW-UP ACTIONS SET FORTH ABOVE TO FACILITATE TRACKING OF COMPLETION. THE MATRIX WILL BE PROVIDED TO THE MISSION AND WILL BE REVIEWED AT THE SEMIANNUAL REVIEWS AND THE NEXT ACTION PLAN REVIEW.

PERFORMANCE INDICATORS WILL BE INCLUDED IN THE BUREAU MANAGEMENT INFORMATION SYSTEM FOR SYSTEMATIC UPDATING AND MONITORING. SHULTZ

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5C(1) - COUNTRY CHECKLIST

Listed below are statutory criteria applicable to: (A) FAA funds generally; (B)(1) Development Assistance funds only; or (B)(2) the Economic Support Fund only.

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

1. FY 1989 Appropriations Act Sec. 578(b). Has the President certified to the Congress that the government of the recipient country is failing to take adequate measures to prevent narcotic drugs or other controlled substances which are cultivated, produced or processed illicitly, in whole or in part, in such country or transported through such country, from being sold illegally within the jurisdiction of such country to United States Government personnel or their dependents or from entering the United States unlawfully? NO

2. FAA Sec. 481(h); FY 1989 Appropriations Act Sec. 578; 1988 Drug Act Secs. 4405-07. (These provisions apply to assistance of any kind provided by grant, sale, loan, lease, credit, guaranty, or insurance, except assistance from the Child Survival Fund or relating to international narcotics control, disaster and refugee relief, narcotics education and awareness, or the provision of food or medicine.) If the recipient is a "major illicit drug producing country" (defined as a country producing during a fiscal year at least five metric tons of opium or 500 metric tons of coca or marijuana) or a "major drug-transit country" (defined as a country that is a significant direct source of illicit drugs significantly affecting the United States, through which such drugs are transported, or through which significant sums of drug-related profits are NO

95

laundered with the knowledge or complicity of the government): (a) Does the country have in place a bilateral narcotics agreement with the United States, or a multilateral narcotics agreement? and (b) Has the President in the March 1 International Narcotics Control Strategy Report (INSCR) determined and certified to the Congress (without Congressional enactment, within 45 days of continuous session, of a resolution disapproving such a certification), or has the President determined and certified to the Congress on any other date (with enactment by Congress of a resolution approving such certification), that (1) during the previous year the country has cooperated fully with the United States or taken adequate steps on its own to satisfy the goals agreed to in a bilateral narcotics agreement with the United States or in a multilateral agreement, to prevent illicit drugs produced or processed in or transported through such country from being transported into the United States, to prevent and punish drug profit laundering in the country, and to prevent and punish bribery and other forms of public corruption which facilitate production or shipment of illicit drugs or discourage prosecution of such acts, or that (2) the vital national interests of the United States require the provision of such assistance?

3. 1986 Drug Act Sec. 2013; 1988 Drug Act Sec. 4404. (This section applies to the same categories of assistance subject to the restrictions in FAA Sec. 481(h), above.) If recipient country is a "major illicit drug producing country" or "major drug-transit country" (as defined for the purpose of FAA Sec 481(h)), has the President submitted a report to Congress listing such country as one (a) which, as a matter of government policy, encourages or facilitates the production or distribution of illicit drugs; (b) in which any senior official of the

NO

as'

government engages in, encourages, or facilitates the production or distribution of illegal drugs; (c) in which any member of a U.S. Government agency has suffered or been threatened with violence inflicted by or with the complicity of any government officer; or (d) which fails to provide reasonable cooperation to lawful activities of U.S. drug enforcement agents, unless the President has provided the required certification to Congress pertaining to U.S. national interests and the drug control and criminal prosecution efforts of that country?

4. FAA Sec. 620(c). If assistance is to a government, is the government indebted to any U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies, (b) the debt is not denied or contested by such government, or (c) the indebtedness arises under an unconditional guaranty of payment given by such government or controlled entity? NO

5. FAA Sec. 620(e)(1). If assistance is to a government, has it (including any government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? NO

6. FAA Secs. 620(a), 620(f), 620D; FY 1989 Appropriations Act Secs. 512, 550, 592. Is recipient country a Communist country? If so, has the President determined that assistance to the country is vital to the security of the United States, that the recipient country is not controlled by the international Communist conspiracy, and that such assistance will further promote the independence of the recipient country from international communism? Will assistance be provided NO

either directly or indirectly to Angola, Cambodia, Cuba, Iraq, Libya, Vietnam, South Yemen, Iran or Syria? Will assistance be provided to Afghanistan without a certification, or will assistance be provided inside Afghanistan through the Soviet-controlled government of Afghanistan?

7. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, damage or destruction by mob action of U.S. property? NO
8. FAA Sec. 620(l). Has the country failed to enter into an investment guaranty agreement with OPIC? NO
9. FAA Sec. 620(o); Fishermen's Protective Act of 1967 (as amended) Sec. 5. (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel because of fishing activities in international waters? (b) If so, has any deduction required by the Fishermen's Protective Act been made? NO
10. FAA Sec. 620(q); FY 1989 Appropriations Act Sec. 518. (a) Has the government of the recipient country been in default for more than six months on interest or principal of any loan to the country under the FAA? (b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the FY 1989 Appropriations Act appropriates funds? (a)NO
(b)NO
11. FAA Sec. 620(s). If contemplated assistance is development loan or to come from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget and amount of the country's foreign exchange or other resources spent on military equipment? (Reference may be made to the annual "Taking Into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of YES

Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)

12. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have relations been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? No, Diplomatic relations have not been severed.
13. FAA Sec. 620(u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the A.I.D. Administrator in determining the current A.I.D. Operational Year Budget? (Reference may be made to the "Taking into Consideration" memo.) GODR is current on UN obligations.
14. FAA Sec. 620A. Has the President determined that the recipient country grants sanctuary from prosecution to any individual or group which has committed an act of international terrorism or otherwise supports international terrorism? NO
15. FY 1989 Appropriations Act Sec. 568. Has the country been placed on the list provided for in Section 6(j) of the Export Administration Act of 1979 (currently Libya, Iran, South Yemen, Syria, Cuba, or North Korea)? NO
16. ISDCA of 1985 Sec. 552(b). Has the Secretary of State determined that the country is a high terrorist threat country after the Secretary of Transportation has determined, pursuant to section 1115(e)(2) of the Federal Aviation Act of 1958, that an airport in the country does not maintain and administer effective security measures? NO

17. FAA Sec. 666(b). Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA? NO
18. FAA Secs. 669, 670. Has the country, after August 3, 1977, delivered to any other country or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards, and without special certification by the President? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.) NO
19. FAA Sec. 670. If the country is a non-nuclear weapon state, has it, on or after August 8, 1985, exported (or attempted to export) illegally from the United States any material, equipment, or technology which would contribute significantly to the ability of a country to manufacture a nuclear explosive device? NO
20. ISDCA of 1981 Sec. 720. Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Assembly of the U.N. on Sept. 25 and 28, 1981, and did it fail to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the "Taking into Consideration" memo.) NO
21. FY 1989 Appropriations Act Sec. 527. Has the recipient country been determined by the President to have engaged in a consistent pattern of opposition to the foreign policy of the United States? NO

22. FY 1989 Appropriations Act Sec. 513. Has the duly elected Head of Government of the country been deposed by military coup or decree? If assistance has been terminated, has the President notified Congress that a democratically elected government has taken office prior to the resumption of assistance? NO
23. FY 1989 Appropriations Act Sec. 540. Does the recipient country fully cooperate with the international refugee assistance organizations, the United States, and other governments in facilitating lasting solutions to refugee situations, including resettlement without respect to race, sex, religion, or national origin? YES

100

B. FUNDING SOURCE CRITERIA FOR COUNTRY
ELIGIBILITY

1. Development Assistance Country Criteria

FAA Sec. 116. Has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy? NO

FY 1989 Appropriations Act Sec. 536. Has the President certified that use of DA funds by this country would violate any of the prohibitions against use of funds to pay for the performance of abortions as a method of family planning, to motivate or coerce any person to practice abortions, to pay for the performance of involuntary sterilization as a method of family planning, to coerce or provide any financial incentive to any person to undergo sterilizations, to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? NO

2. Economic Support Fund Country Criteria

FAA Sec. 502B. Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the President found that the country made such significant improvement in its human rights record that furnishing such assistance is in the U.S. national interest? NO

FY 1989 Appropriations Act Sec. 578(d). Has this country met its drug eradication targets or otherwise taken significant steps to halt illicit drug production or trafficking? N/A

5C(2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A includes criteria applicable to all projects. Part B applies to projects funded from specific sources only: B(1) applies to all projects funded with Development Assistance; B(2) applies to projects funded with Development Assistance loans; and B(3) applies to projects funded from ESF.

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

A. GENERAL CRITERIA FOR PROJECT

1. FY 1989 Appropriations Act Sec. 523; FAA Sec. 634A. If money is sought to obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified? N/A
2. FAA Sec. 611(a)(1). Prior to an obligation in excess of \$500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance, and (b) a reasonably firm estimate of the cost to the U.S. of the assistance? YES
3. FAA Sec. 611(a)(2). If legislative action is required within recipient country, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance? N/A

102

4. FAA Sec. 611(b); FY 1989 Appropriations Act Sec. 501. If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.) N/A
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively? N/A
6. FAA Sec. 209. Is project susceptible to 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. NO
7. FAA Sec. 601(a). Information and conclusions on whether projects 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. Project will indirectly increase flow of international trade by encouraging increased agricultural production. Project will foster private initiative and competition by improving agricultural technology and expertise.
8. FAA Sec. 601(b). Information and conclusions 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). Participation of U.S. universities and firms under a Title XIII contract will further encourage private U.S. participation in foreign assistance programs.

9. FAA Secs. 612(b), 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 in lieu of dollars. The grant agreement will require that counterpart contribution (GODR, Dominican private sector and grantee) be used in the implementation of project activities.
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? There is no excess U.S. owned local currency available for this program.
11. FY 1989 Appropriations Act Sec. 521. 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? N/A
12. FY 1989 Appropriations Act Sec. 549. Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel? N/A
13. FAA Sec. 119(g)(4)-(6) & (10). Will the assistance (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other Training and technical assistance in agricultural curricula will improve capacity to prevent loss of biological diversity. The Forestry interventions of the project will support efforts to protect this natural resources.

wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?

14. FAA Sec. 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (either dollars or local currency generated therefrom)? N/A
15. FY 1989 Appropriations Act. If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government? N/A
16. FY 1989 Appropriations Act Sec. 538. If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.? N/A
17. FY 1989 Appropriations Act Sec. 514. If funds are being obligated under an appropriation account to which they were not appropriated, has prior approval of the Appropriations Committees of Congress been obtained? N/A
18. State Authorization Sec. 139 (as interpreted by conference report). Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision). Per H Zablo proje to th becau bilat b) is milli the d Agree revie

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

- a. FY 1989 Appropriations Act Sec. 548
(as interpreted by conference report for original enactment). If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities (a) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (b) in support of research that is intended primarily to benefit U.S. producers?

a) NO
b) NO

- b. FAA Secs. 102(b), 111, 113, 281(a). Describe 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, dispersing investment from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life, and otherwise encourage democratic private and local governmental

This project will increase the use of appropriate technology in agriculture which will ensure wide participation of poor, rural farmers in the benefits of development, through access to improved ag. practices. This will be accomplished through training in U.S. institutions & technical assistance exchanges from the U.S. This project encourages strengthening of a democratic, private institution and supports the self-help efforts of this country in ag. Integration of women will receive special attention in this project, with a goal of improving and increasing the role of women in agricultural research and agribusiness.

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.

- c. FAA Secs. 103, 103A, 104, 105, 106, 120-21; FY 1989 Appropriations Act (Development Fund for Africa). Does the project fit the criteria for the source of funds (functional account) being used? YES
- d. FAA Sec. 107. Is emphasis placed on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)? YES
- e. FAA Secs. 110, 124(d). Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)? 30 percent of the costs of this project will be provided through GODR, local private sector and ISA contributions to the project.
- f. FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority? YES

g. 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 processes essential to self-government.

This project addresses an important sector of the Dominican economy, agriculture. The proportion of the Dominican Labor Force in agriculture is approximately 45%. Training Dominicans will help meet the needs of this sector.

h. FY 1989 Appropriations Act Sec. 536. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions?

NO

Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations?

Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?

i. FY 1989 Appropriations Act. Is the assistance being made available to any organization or program which has been determined to support or participate in the management of a program of coercive abortion or involuntary sterilization?

NO

If assistance is from the population functional account, are any of the funds to be made available to voluntary family planning projects which do not offer, either directly or through referral to or information about access to, a broad range of family planning methods and services?

107

- j. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?
- Yes (Title XII collaborative assistance mode was utilized for project design.
- k. FY 1989 Appropriations Act. What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?
- The main contractor, the Midwest Universities Consortium for International Activities (MUCIA) routinely involves its associated HBCU's in its activities. Preference will be given for utilization of the minority business set-asides (8a).
- l. FAA Sec. 118(c). Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (a) stress the importance of conserving and sustainably managing forest resources; (b) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (c) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (d) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (e) help conserve forests which have not yet been degraded by helping to increase
- Yes. The project supports training, research, and institutional strengthening to improve forest management, environmentally sound practices for timber activities, and identification of alternatives which will prevent forest destruction, loss or degradation, which in turn will help conserve forests.

production on lands already cleared or degraded; (f) conserve forested watersheds and rehabilitate those which have been deforested; (g) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (h) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (i) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (j) seek to increase the awareness of U.S. government agencies and other donors of the immediate and long-term value of tropical forests; and (k) utilize the resources and abilities of all relevant U.S. government agencies?

- m. FAA Sec. 118(c)(13). If the assistance will support a program or project significantly affecting tropical forests (including projects involving the planting of exotic plant species), will the program or project (a) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land, and (b) take full account of the environmental impacts of the proposed activities on biological diversity?

Assistance does not directly support tropical forests planting programs, but training research and conservation activities in forestry.

- n. FAA Sec. 118(c)(14). Will assistance be used for (a) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; or (b) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas? NO
- o. FAA Sec. 118(c)(15). Will assistance be used for (a) activities which would result in the conversion of forest lands to the rearing of livestock; (b) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undergraded forest lands; (c) the colonization of forest lands; or (d) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development? NO
- p. FY 1989 Appropriations Act. If assistance will come from the Sub-Saharan Africa DA account, is it (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) being provided in accordance with the policies contained in section 102 of the FAA; N/A

(c) being provided, when consistent with the objectives of such assistance, through African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa;

(d) being used to help overcome shorter-term constraints to long-term development, to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development, and to take into account, in assisted policy reforms, the need to protect vulnerable groups;

(e) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks, to maintain and restore the renewable natural resource base in ways that increase agricultural production, to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide increased access to voluntary family planning services, to improve basic literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and underemployed in urban and rural areas?

- q. FY 1989 Appropriations Act Sec. 515.
If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same general region as originally obligated, and have the Appropriations Committees of both Houses of Congress been properly notified?

For purposes of this project, which is completely DA grant-funded, Sections 2, "Development Assistance Project Criteria (Loan Only)" and 3, "Economic Support Fund Criteria" are not applicable.



10 de abril 1989

RECEIVED
AID C&R

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Señor
 Tomas Stukel
 Director
 Agencia para el Desarrollo
 Internacional (AID)
 Santo Domingo, D. N.

Estimado señor Stukel:

El Instituto Superior de Agricultura (ISA) al cumplir sus primeros 25 años de labor continua en favor del sector agrícola dominicano, esta inmerso en un amplio programa de fortalecimiento y desarrollo institucional que le permita responder de una manera más efectiva y rápida a las crecientes necesidades de investigaciones, entrenamiento y apoyo a los sectores productivos, principalmente nuestro sector privado. En ese sentido estamos interesados en desarrollar un proyecto que consolide las áreas que a nuestro juicio responden a las expectativas de nuestros productores; a saber, la producción hortícola, producción animal, recursos forestales y los servicios técnicos gerenciales que continuará ofreciendo nuestro Centro de Administración del Desarrollo Rural (CADER). En cada una de esas áreas se hará énfasis en la investigación, el contacto con los productores, mayores contactos de nuestros estudiantes con la realidad rural, y fortalecimiento de otros servicios a los productores.

Para desarrollar todo lo expuesto anteriormente, necesitaremos de asistencia técnica de reconocidos profesores e investigadores de prestigiosas universidades norteamericanas que se incorporen, junto al personal nacional, a las labores docentes y de investigación de manera que sus experiencias y sugerencias puedan ser adoptadas para beneficios de todos. De igual manera, el proyecto contempla el fortalecimiento financiero de la institución para dar continuidad a los programas desarrollados, retener personal altamente calificado y hacer menos dependiente la institución del soporte económico del sector público.

Por este medio, solicito, a la Agencia para el Desarrollo Internacional (AID), en nombre del Consejo de Directores del ISA, la donación de US\$12 millones (DOCE MILLONES DE DOLARES) para ser utilizados durante un período de siete (7) años en la contratación de los servicios de asistencia técnica, financiamiento de entrenamiento y la adquisición de materiales indispensables para el desarrollo del mismo. Para el fortalecimiento financiero del ISA, solicito también la asignación, previo acuerdo con el Secretariado Técnico de la Presidencia, de RD\$15 millones (QUINCE MILLONES DE PESOS), proveniente de fondo de la PL-480, como aportes para la consolidación del fondo patrimonial ya existente.

114



Sr. Tomas Stukel

-2-

4/4/89

El ISA, por su parte, gestionará en el sector privado nacional y organismos internacionales la obtención de RD\$5 millones de pesos (CINCO MILLONES DE PESOS) para colocarlos de contrapartida a la asignación realizada por el Gobierno Dominicano. Con esta partida se constituirá un fondo de no menos de RD\$20 millones de pesos (VEINTE MILLONES DE PESOS) que serán utilizados para generar beneficios, los cuales serán dedicados por el ISA para cubrir sus necesidades operacionales.

Espero, al igual que en otras ocasiones, la generosa colaboración de la AID.

Sin otro particular, le saluda,

Muy atentamente,

Dr. Frank J. Thomén
Presidente del Consejo.

FJT/er.
299

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D C 20523

LAC-IEE-89-34

ENVIRONMENTAL THRESHOLD DECISION

Project Location : Dominican Republic

Project Title : University Agribusiness Partnership

Project Number : 517-0243

Funding : \$12,000,000 (G)
\$15,000,000 (LC)

Life of Project : 7 years FY 89-95

IEE Prepared by : Kenneth Wiegand
USAID/Santo Domingo

Recommended Threshold Decision : Negative Determination

Bureau Threshold Decision : Concur with Recommendation

Comments : Concurrence based on restrictions stated in IEE on the use of agricultural chemicals being followed in the execution of the project.

Copy to : Thomas W. Stukel, Director
USAID/Santo Domingo

Copy to : Mary Beth Allen,
USAID/Santo Domingo

Copy to : George Hazel, LAC/DR/CAR

Copy to : Andre DeGeorges, RDO/C

Copy to : IEE File

James S. Hester Date MAR 10 1989

James S. Hester
Chief Environmental Officer
Bureau for Latin America
and the Caribbean

AGRIBUSINESS TRAINING PROJECT

(PID)

Initial Environmental Examination

Project Location : Dominican Republic
Project Title : Agribusiness Training
Project Number : 517-0243
Funding : \$12 Million Grant
RD\$15 Million IC Contribution
Life of Project : 7 Years - FY 89-95
IEE Prepared by: : Kenneth B. Wiegand
USAID/DR
Agricultural and Rural Development
Division
Environmental Action Recommended : Negative Determination

Approved:

William K. Smith
William Smith
Chief Engineer, USAID/DR and
Mission Environmental Officer

4/12/88
Date

Concurrence:

Thomas W. Stukel
Thomas W. Stukel
Director

4/18/88
Date

Agribusiness Training Project

Project Description

The project's objective is to firmly establish Instituto Superior de Agricultura (ISA) and its Center for Rural Development Administration (CADER) as the preeminent regional source of agribusiness technical personnel. This is needed to meet the increasing demand for assistance in non-traditional crop production, management and marketing. A major constraint to ISA/CADER's full-fledged development has been their inability to retain a highly qualified faculty. The project will provide: (1) up to fifty man-years of exchange faculty and staff with U.S. institutions through the title XII program, (2) increased private sector research opportunities for faculty and staff, and (3) mechanisms to strengthen a permanent endowment fund. The endowment would effectively solve the faculty/staff retention problem by providing income that will enable ISA/CADER to pay competitive salaries. The training and research support component of the project will contain the development and execution of some crop experiments both in the laboratory and in the field.

Modest commodity procurements would be limited to data processing, publishing equipment, laboratory supplies, vehicles, pesticides, and small agricultural machinery for research plots.

Technology support services and development activities will use experienced U.S. commodity production specialists and technology packages acceptable under U.S. environmental regulations. The testing and demonstration use of chemical inputs will, therefore, be under careful supervision. Pesticides and other agricultural chemicals will only be used in demonstration conditions, or for controlled experimentation of limited scope.

Potential Environmental Impacts

Negative environmental effects are expected to be minimal. The bulk of the project is training and endowment strengthening. Only pesticides approved by the Environmental Protection Agency for use without restriction in the United States will be used. The use of pesticides will be limited as described above, and in particular EPA guidelines will be followed. One of the potential environmental benefits of the project will be the demonstration of the proper use of pesticides.

RECOMMENDATION FOR ENVIRONMENTAL ACTION

A negative determination is recommended. Section 216.3 (b)(2)(iii), Exceptions to Pesticide Procedures, states that the preparation of an EA, which is normally required when pesticides are a project component, is not required if the following conditions are met: (1) the procurement or use of pesticides is for research or limited field evaluation purposes by or under the supervision of project personnel, and (2) that A.I.D. ensures that the manufacturers of the pesticides provide toxicological and environmental data necessary to safeguard the health of research personnel and the quality of the local environment, and (3) that treated crops will not be used for human or animal consumption unless appropriate tolerances have been established by EPA or recommended by FAO/WHO, and the rates and frequency of application together with the prescribed preharvest intervals do not result in residues exceeding such tolerances. All three of these conditions will be met in this project.

ACTION MEMORANDUM FOR THE ACTING DIRECTOR

memorandum

DATE: May 24, 1989

REPLY TO
ATTN OF: Robert Mathia, ^{RM} Chief PDS

SUBJECT: University Agribusiness Partnership Project

TO: Raymond F. Rifenburg, Acting Director

Annex VI
Page 1 of 3

ACTION: Your approval is requested for a grant of US\$12 million from Section 103 of the ARDN appropriation to the Dominican Republic for the University Agribusiness Partnership Project - 517-0243. It is planned that a total of \$3.6 million will be obligated in FY 1989.

DISCUSSION: The project goal is to increase non-traditional commodity based rural incomes. The project purpose is to provide the Dominican Republic's expanding agribusiness and agro-industrial community with increased trained manpower by institutionally strengthening the Superior Institute for Agriculture (ISA) and its Center for Rural Development and Administration (CADER).

The Project has been designed to institutionally strengthen ISA and CADER to supply agricultural and livestock professionals, trained both academically and empirically, with sufficient technical and management skills to meet the growing demand among agribusinesses and industries producing non-traditional crops.

To strengthen ISA financially, the Project will establish a Development Office to generate matching donations to an Endowment Fund, which will be significantly expanded through Local Currency program contributions and possibly Debt for Development activities. The Development Office will be tasked with the objective of establishing a broad range of mechanisms (in addition to the Endowment Fund) to maximize ISA's ability to meet the cost-revenue gap associated with providing a modern and efficient research and academic environment.

To strengthen the faculty, a seven year collaborative assistance agreement has been undertaken with a consortium of educational institutions composed of the six land-grant universities of the Midwest Universities Consortium for International Activities (MUCIA) and the University of California/Davis, Texas A&M University, the Academy for Educational Development, and J.E. Austin Associates (hereafter referred to as the Consortium). The Consortium will provide technical assistance through long-term resident faculty and staff, while

selected ISA/CADER faculty and staff will receive long-term, non-degree training (e.g., 12-24 months) at these, and other, identified institutions. Long-term graduate degree training will continue to be addressed through the Development Training Project - 517-0216, wherein funding for 45 M.S. degrees in the agricultural sector is provided, both for public sector and non-profit institutions (through FUNDAPEC) like ISA, and for private sector candidates (i.e., CADER graduates) through the CNHE. Likewise, short-term resources for both training and technical assistance will be provided.

During the Project, ISA will develop a plan to restructure the institution's crop and food processing facilities (i.e., slaughter house, dairy plant, feed mill, etc.). This may be accomplished in part through the sale or long-term lease of these facilities to private operators or groups who are willing to maintain their teaching/research function while introducing commercial procedures. Mechanisms to equate tuition more in keeping with the cost and real value of an ISA degree will be established within the Institute's admissions policy, which is currently based strictly upon merit without regard to financial need. The electronic data processing systems will be expanded to provide students, faculty and staff with increased access to modern equipment and to enable the timely preparation and publication of documents. Resources will be provided to more fully incorporate the satellite research forests and other teaching/research opportunities into the curriculum. Coordination with several governmental and private organizations such as CENDA (soil testing) and CIMPA (livestock research and extension) will be sought in an attempt to avoid duplication of facilities within the Santiago region. Through both the Project, and coordination among other donors, additional resources for the acquisition of essential equipment, laboratories, publications, infrastructure and long-term advisors will be provided.

WAIVERS: In authorizing this project, you will be granting a waiver to allow for AID financing of International Airfare for participants financed under the Project per Handbook 10, Chapter 4. The justification and your authority to grant this waiver is elaborated in Annex VIII of the PP.

JUSTIFICATION TO THE CONGRESS: This project was presented to Congress in the 1989 Congressional Presentation.

AUTHORITIES: In accordance with Redelegations to the Field for Latin America and the Caribbean, dated December 16, 1988, section II.A., you have "authority to authorize a project if the project: 1) Does not exceed \$20 million over the approved life of project; 2) Does not present significant policy issues; 3) Does not require issuance of waivers that may only be approved by the Administrator or an Assistant Administrator, or if such waivers are required they are gained prior to such authorization; and 4) Does not have a life of project in excess of ten years.

171

Per State 089397 (1988), para 3, (presented as Annex II to the Project Paper) the LAC Bureau concurred in delegation of authority to the Mission Director to approve the PID/PP for this project.

RECOMMENDATION: That you sign the attached Project Authorization and Project Data Sheet.

Attachments:

1. Project Authorization
2. Project Paper
4. Waiver for which approval is requested

Clearance:

A/DD: D. Steen 10/26/15
 ARD: K. Wiegand 1/15/15
 PDS: M.B. Allen 1/15/15
 PRG: T. Cornell 8/16
 CONT: L. Asselin 1/15/15
 LAC/GC: K. Hansen (In draft)
 RLA: G. Davidson (In Final)

122

A. Economic Analysis

1. Introduction

The Project is designed to strengthen an educational institution. As such, the appropriate economic analysis is not entirely the same as it would be for a highway or a rural credit project. This Project seeks to upgrade ISA's institutional capability, in both teaching and research. A major Project objective is to increase the degree to which ISA is self-supporting. However, the Project also seeks to enhance ISA's contribution to growth in Dominican agriculture, including both greater efficiency in traditional crops and the introduction and efficient handling of new, non-traditional crops for export as well as domestic markets.

The FY 1990/91 Action Plan Worksheet indicates an expectation that the growth rate in value added in the agricultural sector may have been negative in 1988, but should turn positive for 1989 and thereafter. This growth would presumably be led by non-traditional agricultural products, and ISA, with assistance from this Project, can make a significant contribution to that growth in coming years.

2. Objectives of the Project

The proposed investment will finance the training of students at the University and Technical (3-year university course) levels. However, far more important to the success of the Project will be the retention and upgrading of ISA's faculty. Through the Project, ISA will take strides to insure the retention of teaching, research and outreach staff that are well-motivated, experienced and entrepreneurial in developing research projects and obtaining funding for them. At the same time, and with the advice of private sector employers, ISA's curriculum will be modified and deepened so that ISA graduates have the skills the Dominican Republic needs (and will pay reasonable salaries to employ).

The specific objectives of this Project of greatest relevance to the economic analysis are listed below; each will be subject to monitoring and evaluation during Project implementation and upon completion:

- a. Strengthen private sector belief in the value of an ISA degree, expressed in significant private gifts and support to the institution;
- b. Impart training of a quality worthy of designation as a "center of excellence" in the region, enabling its graduates to obtain and perform in jobs that now require expatriates, or at least training abroad, before Dominican employers are willing to hire them for responsible jobs;

c. Impart training of such quality that employers are willing to pay salaries considerably higher than present levels, which will in turn increase the demand for admission to ISA and the level of tuition that can be charged;

d. Build a Faculty of Agriculture whose staff increasingly perform research of internationally-recognized quality, and who obtain significant external as well as domestic funding for their research, as do researchers at U. S. universities; and,

e. Demonstrate principles of sound organization and management in practice as well as in theory, with a faculty imbued with a sense of participation and excitement about the development process at ISA, and with clear accountability to domestic and external supporters.

3. ISA's Assets

The present ISA program is far from achieving any of these goals with its current human and financial resources. However, ISA does have assets lacking at most other university campuses in the Dominican Republic. It has a spacious campus, an operating, diversified farm and forests, a 25-year tradition of admissions and promotion based upon merit and academic excellence, and graduates in important positions in both the private sector and government. Despite losses to better-paid employment elsewhere, the ISA faculty still has the highest percentage of U. S. graduate degree holders of any university in the country. It also has a regional prestige and a physical setting suitable for a modern agricultural university. These are solid assets on which ISA can build in order to make giant steps toward achievement of the goals listed above.

No other Dominican university, agricultural degree program begins to approach ISA's assets. For various reasons, sometimes political, it is even doubtful that any other university in the region can do so either. Thus success at ISA may well create a significant new asset to development for the region, and not only for the Dominican Republic.

4. Shadow Prices are Not Especially Relevant

A financial analysis reviews the financial planning and implementation arrangements for a project. Few of the resources involved in this Project have shadow prices (opportunity costs) sharply different from their current market prices, mainly because there are institutional reasons or laws that prevent the use of these resources for other purposes. For example:

a. Local currency resources in the Project cannot legally be converted into foreign exchange, and they will be allocated specifically to this Project by the GODR and USAID. That is, a

determination will already have been made by both parties that this is a better use for these resources than other possible uses that the parties are contemplating, but that will not be funded.

b. Salaries to be paid under the Project will be modestly lower than salaries in the private sector, as is usually the case in leading academic institutions, but they will be much higher than most salaries for well-qualified professionals in the public agricultural sector. The projected salary levels, as well as the greater learning opportunities and improved working conditions at ISA under the Project, are likely to attract some professionals from public sector positions. However, it is likely that their productivity will be higher at ISA than in the public agricultural sector positions they leave. While necessarily subjective, this appreciation suggests that such moves would enhance the social product, rather than reduce it.

c. The campus and farms were donated by the Santiago Development Association for the specific purpose of operating an agricultural school. It is unclear whether they could legally be rented out or auctioned off for other uses; it is clear that the Association has no intention of doing so. The farm lands are producing food and fiber at average levels of productivity now, and hence their sale would not be likely to raise the economic welfare of the nation. The campus is quite specialized, with most of the buildings well-suited to an agricultural school, although many need repair or upgrading.

d. In the event of bankruptcy and an auction, the only likely buyers are church-based academic institutions or public sector ones. The potential buyers already have physical plants suited to their present needs (e.g., the Seventh Day Adventist Church vocational agricultural program, the "Madre y Maestra" Catholic University [PUCMM], and the training program facilities of the Dominican Land Reform Institute [IAD] and the Irrigation Agency [INDRHI] in the Santiago area). Thus it is not likely that any potential buyer would achieve a higher net social product with these buildings than ISA will achieve under the Project. Thus there is no need to adjust the Financial Analysis to reflect a social opportunity cost for the campus.

e. Dollar outlays in the Project will mainly go to cover dollar expenses. The only major conversion of foreign exchange into local currency in the Project will be for expenses in the first transition years, and USAID and ISA are not at liberty to convert those dollars outside the legal market. In any event, the shadow exchange rate at present appears to be little above the legal rate; the black market appears to be only 5 or 10 percent above the legal exchange rate, and the Central Bank claims to be supplying exchange requests by importers without severe restrictions or delays.

5. The Endowment Fund

Implementation of the Project could also help promote significant improvement in the Dominican economy in the future. A key element of Project implementation is the strengthening of an Endowment Fund and the stimulation of local funding of ISA operating expenses. This component seeks to reduce the future needs of ISA and of the Dominican Republic for external assistance, which would clearly be a positive economic step. A successful example of the Dominican private sector accepting full responsibility for funding an institution which serves it efficiently, would also bode well for other programs that help promote development, but which all too often are supported mainly by the GODR or other external agencies.

In addition, the Endowment Fund will need to be invested wisely. In the course of Project design, the Board of Directors of ISA has become aware of the importance of seeking financial investments that will achieve a positive real rate of return in the face of rampant inflation. At a time when Miami financial institutions are offering yields of 6 to 8 percent on dollar certificates of deposit, with a U. S. Government guarantee, it is difficult for Dominicans to settle for nominal yields of 20 to 24 percent while inflation is running at a rate of about 60 percent a year. The result is reportedly that bankers pay bonuses in cash, off the books, for large deposits, and borrowers make similar payments, or alternatively are required to maintain large compensating balances, which in effect force them to pay interest on more money than they are effectively allowed to use. Either way, the borrowers are forced to pay interest rates that are higher than the legal or regulatory maximum, or they do not get the loans.

At least one mechanism (described in Section B-6-b of this Annex) has been identified that should lead ISA, donors, the GODR, and the banking community to try to achieve positive real returns in spite of present legal restraints that keep savings and lending rates of interest well below the expected levels of inflation. Wider awareness of this problem, and of the fact that there are legal ways to approach positive real interest rates, should help improve the allocation of Dominican financial savings among potential users. This in turn should help move the policy dialogue toward the achieving of other economic policy goals important to the future growth of the country's economy.

6. Alternative Approaches - Least Cost Method

Since the economic analysis of this Project must necessarily be centered on whether the proposed approach is the Least-Cost Method of reaching the Project goals, that issue will now be analyzed.

If there were role models in the Dominican Republic, of university faculties already approaching financial self-sufficiency while training students at highly acceptable (and employable) skill levels, one could attempt to hire them instead of expatriate advisors. This would presumably lower the Project costs. However, such universities do not exist, at least in the agricultural sciences broadly defined.

If there were regional (Caribbean) role models, it would be cheaper to send the Dominican faculty members to establish networking and learn how to be entrepreneurial researchers there. However, for various reasons, the few existing Caribbean universities do not appear to have strong records of their own in the research and grantsmanship enterprise. Puerto Rico is an obvious exception, but there are political aspects that make it difficult for Dominicans to accept Puerto Rican institutions as role models. The increasing debate in Puerto Rico about its own long-term political future may also reduce the degree to which ISA can obtain significant support there, at least in the short run.

7. Resources From Other Sources

ISA has received substantial resources in the past from the Ford and Kellogg Foundations. Neither seems likely to be a significant donor in the near future, however, with their present program emphases. German assistance through a Save The Children program and Misereor has been extremely helpful in the livestock programs at ISA, but is not by itself of the magnitude needed. There are reports that Italian donors may help support work in aquaculture, but nothing tangible has materialized as yet. In time, there may be resources available from non-traditional sources, such as the Japanese. However, at present there are no active prospects for assistance from external sources other than USAID, and one activity during Project implementation will be the search for other external resources to complement those raised by domestic fund raising.

An example of this type of activity was identified during the Project Design phase. It appears that there are financial resources controlled by the Government of the Commonwealth of Puerto Rico that may be available to help finance research at ISA. These are called Section 937 funds, after the IRS Code provisions that make them tax-exempt, and they are available for projects and programs in the Caribbean as a result of the last U. S. income tax reforms. ISA and researchers at one of the Consortium institutions (Wisconsin) have already begun pursuing that possibility as one of the several avenues for funding research beyond what can be financed in this Project.

Another area in which the Project may have positive social and economic effects, is the possibility of Debt for Development swaps. During implementation, MUCIA will actively pursue potential donors of Dominican external debt, again taking advantage of recent Internal Revenue Service rulings and statutory changes. Project implementation may thus have highly positive economic effects for the Dominican Republic, by reducing the amount and the burden of its external debt.

Finally, ISA staff and the Project Design Team assume that ISA graduates, as well as the faculty, will be much more productive by the end of the Project. They will be trained more closely to the actual needs of

the private agricultural sector, and will be more productive as well as better paid. As a result, the competitiveness of the Dominican Republic in, for example, non-traditional agricultural export crops should be increased. Diversification out of traditional but uncompetitive sugar production will also be promoted. Thus the Project should make a positive, if unquantifiable, contribution to improving the balance of payments, national income, and welfare of the nation.

B. Financial Analysis

1. Financial Management at ISA

The general accounting system appears to have adequately met ISA's needs in the past. However, in a series of years of acute financial stress, a more personalistic, highly-centralized control of the funds by the ISA leadership appears to have developed in order to "cope" with funds availability from year to year. This system is now being depersonalized and returned to a point where it is providing better information to management in support of ISA's objective of becoming more financially independent. Efforts to strengthen effective budget systems and controls, modify and modernize the accounting systems, and attend to separating procurement from accounting are currently being carried out. These efforts will be reinforced under the project.

Currently, the Rector and staff may not exceed any budget figure without explicit approval by the Board. (In effect, the Board will amend the budget, approving both the increased amount to be spent and the proposed source of the resources to be used.) The accounting personnel at ISA currently includes an Accountant, an Assistance Accountant and a Secretary. An additional professional accountant will be hired immediately. This will improve segregation of duties, timeliness of accounting processing and reporting and improve the quality of financial reporting to management. Under the Project, the accounts will be transferred from an antiquated System 34 to more modern software on one of the IBM PS/2 model 80 computers recently donated under the USAID's Rural Development Management project. The accounting manual will also need to be updated to reflect the changes. In addition, immediate technical assistance will be provided by USAID to assist ISA in developing a plan to modify the accounting system to record and report transactions related to the Project. This plan will require an analysis of ISA's financial information requirements and possibly modification of ISA's chart of account structure.

Effective budget systems and controls provide the very backbone of a well run institution. Through the use of AID-funded resources, technical assistance will be provided to strengthen ISA's budgetary process. Prior to signing the agreement, technical assistance will be provided to assist ISA in developing plans for implementing budget versus actual reporting on a disaggregated basis for separate organizational units such as departments and programs. Once the project begins, the long-term advisors and the short-term consultants will assist ISA in implementing these budgetary execution plans. All Departments/Programs will establish definite budgets, with the authority to spend monies assigned to the Department but subject to controls that effectively prevent them from overspending.

The ISA Board, in turn, will review and authorize the entire budget both on the disaggregated and aggregated levels. The Board will receive timely and detailed reporting from the Rector on budget execution, and the Board will decide on a margin by which the Rector and staff may not exceed any budget figure without explicit approval by the Board.

ISA has done a good job in handling commodities procured under other USAID projects. The procurement function will continue to be strengthened under the new project and technical assistance will be provided in order to formalize the documentation and procedures for this area. With assistance from MUCIA, ISA will provide in form and substance satisfactory to USAID, a detailed and time-phased plan for procurement, which shows how ISA will handle the procurement of all commodities in such a way that will ensure timely arrival of commodities and compliance with the guidelines in Handbook 13, and Standard Provisions to the Grant Agreement.

2. Financial Management and the Development Office

The Board will also study and determine rules for the new Development Office in Santo Domingo. In addition to promoting seminars, contracts and research, the Director of Development will seek to raise money for both the Current Giving (Annual) campaign and for the Endowment Fund. It would be counterproductive if prospective donors thought gifts were just going to pay the salary of the Director of Development, so pains will be taken to avoid even the appearance of that. All gifts will be made in the name of ISA and deposited in an ISA account. Receipts and letters of appreciation will go to all donors; they could be prepared in Santo Domingo but will be signed and postmarked in Santiago.

To cover its own costs, the Office itself will have a budget, just like any other Department/Program of ISA, and major items such as rent and paychecks will come from ISA. On the other hand, because of the nature of the work and the fact that it is in another city, the Petty Cash fund and the check-writing authority of the Director of Development may well be larger than those needed by the Departments at ISA.

3. Implementing the Salary Increases

The significant salary "catch-up" is an opportunity for ISA's leadership to motivate faculty members strongly in the direction of a career in research and teaching. As the Project is implemented, this subject will be discussed openly with the faculty. For instance, the existing norms for evaluation were adopted several years ago by the Board. Some of the younger faculty members may not even be familiar with them.

Since the results of the merit evaluation will be expressed in significant amounts of money, it is important that there be no mystery about how it is done, and no concern that it reflect personalities rather than actual merit. It is possible the criteria used in the past were more academic and less oriented toward entrepreneurship and service to the private sector than will now be the case. It is recommended that ISA's Board, Rector and Department heads discuss the salary process, and that the discussion be extended to all faculty members before the actual raises are determined and approved by the Rector and Board. If ISA so requests, the Consortium can supply short-term technical assistance to assist in this process, as a neutral and disinterested party.

During the financial crisis of the last five years, ISA leadership has not often felt able to be very forthright with the faculty about the current financial situation and the future prospects of the institution. Feeling excluded, the faculty understandably were even more lured to the private sector, and to viewing work at ISA as something that one does after returning from U. S. graduate training, but only until a job with a reasonable salary and a sense of full professional collegueship could be found.

With sounder basic financial resources, ISA's leadership will feel more able to inform the faculty and the public, and to invite both faculty and the private agricultural sector to comment on and make suggestions for ISA. The presence of the long-term advisors, accustomed to U. S. university practices, and the fact that most ISA faculty have been trained in the USA should do much to help increase the sense among faculty they are full participants in an exciting future.

There are many healthy changes the Project will enable ISA's leadership to accomplish. For instance, ISA staff have long suffered with a central telephone system that makes it a major effort to call Santo Domingo or the USA. Centralized control and even advance approvals may have been appropriate when funds were extremely tight; an enterprising faculty bent on grantsmanship will need a direct line in every department, with internal controls in the Department to keep costs down. Alternatively, the central plant will be replaced to allow Department/Program heads and regular faculty members to dial directly, without waiting for an ISA operator to handle every call. If control is needed, a computerized plant can supply it with ease for after-the-fact review by appropriate authorities.

In the Administrative Analysis (see below) is a section entitled "Fund Raising Methodologies" which addresses annual giving and endowment funds. The last section in this financial analysis refers specifically to suggested methods of protecting the latter under conditions found today in the Dominican Republic. It is drawn from experience in a variety of Latin American nations that have experienced inflation ranging from 5 to 5,000 percent per year, sometimes for many years in a row.

4. ISA'S Present and Projected Cash Flows

A key question in the financial analysis is the project's impact on the recurrent costs of the grantee. Simulations have been prepared for ISA, for the seven years of the Project and for two years following the PACD. To understand the findings, however, it will help to review the way ISA accounts are organized.

a. ISA's System of Accounts and Financial Statements

ISA'S financial statements are organized along lines that were quite suitable for a much smaller organization but which need overhauling to provide management with timely and accurate financial information. At the Rector's request the Project includes a significant amount of short-term technical assistance and training abroad for ISA management, in addition to the advisors provided for each major academic/research area.

In various instances, ISA's accounting practices respond to practical experience. The Dominican Republic has many things in its favor for development, but financial management is a challenge for almost all institutions. It is difficult to predict the actual arrival of promised resources. Budgets are formulated, but in an inflation currently running near 60 percent a year, this sometimes seems a "symbolic" effort that must be redone every few months.

Both law and donor requirements require ISA to keep track of what has actually occurred in each fiscal year. The present accounting system mainly seeks to do this, rather than provide management with an effective planning tool. With the Project, however, ISA will add staff and reorganize to permit the Rector and Board to do effective planning, and to have timely information on performance. This will require more staff, as well as the redefinition of budgeting procedures and controls.

Because of its growth to full university status, ISA will also need to adopt formalities that were hardly required for a secondary school program. For example, much of the financial reporting and study of budget matters, and signing of larger checks, could be handled by a Treasurer who visits ISA regularly. The Rector would deal directly with the Treasurer on such matters, freeing the Board Chairman for tasks that only he can really handle, such as leadership in fund-raising.

ISA follows a modified cash basis, rather than an accrual basis, because cash flow has been the most critical problem facing ISA management for the last five years. Former ISA management usually centered its efforts on coping with crises, and had little energy left to create processes that would bring in modest but steady revenue increases over the years. The aim of ISA and the Project to improve the accounting system will address this area.

Most ISA students are poor; the average student in the three-year program (Technical) pays about 40 percent of the stated tuition and fees in cash, signing papers promising to pay the balance after graduation. However, salaries received by ISA graduates, especially those working in the public sector or at private sector jobs below the management level, are so low that loan repayments come in very slowly if at all. Inflation in turn greatly reduces the purchasing power of the payments received, compared to the value of money at the time the student was at ISA. ISA shows as income only those amounts actually received each year, because this is the money actually available to run the program.

b. The Consequences of Inadequate Financial Management Tools

Though understandable, there are some negative results of not using accrual accounting. They are especially obvious in two areas: Accounts Receivable and Maintenance.

(1) Failure to Collect Student Loans

The focus on cash flow leads management to give relatively little attention to the actual collection of these receivables. (This problem refers to the Technical Program; students in the five-year program deal with the Catholic University for student loans, though a few have loans from ISA for room and board.)

Efforts to turn the collection job over to the Fondo de Credito Educativo have been going on for at least a year; it has the legal power to require employers to help collect student loans by making payroll deductions. It is unclear whether the papers signed by ISA students have all the legalistic formalities needed to make them enforceable by payroll deduction through employers. ISA is currently working on the problem.

(2) Maintenance

Depreciation, an accrual item, has been underestimated, and parts of the ISA physical plant are badly run down because maintenance has been deferred for lack of ready cash. This problem will be addressed very early in the Project, both in bringing the plant back into shape and in giving management timely reporting on what is needed to keep it in good order.

102

(3) Inflation

Unlike Argentines, Brazilians or Chileans, Dominicans do not have over a century of experience with inflation. There are no financial instruments indexed to the cost of living. Yet inflation ran between 50 and 60 percent in 1988.

Because this was not fully understood, ISA accounts show the nominal interest paid by banks on the CADER endowment fund as income, even though none of it was income in the economic sense of the word. (That is, the amount the banks paid, though the legal maximum, was insufficient to maintain the purchasing power of the capital.) The penultimate section to this analysis suggests ways to obtain a positive real rate of return on the Endowment Fund in spite of inflation.

c. Auditing and Evaluations

ISA's books are audited each year by a Dominican firm that is one of the best in the country; USAID retains the same firm for some of its own purposes. However, the financial management questions at ISA are so important, and the auditing firm's experience with such institutions so limited, that the Project contemplates special attention to these issues at the outset of the project as well as during each of the Project evaluations. As part of AID's requirement for non-federal audit of Development Assistance projects, the Mission will ask that the Regional Inspector General's office conduct a non-federal audit after the project's first year. Such an audit would be designed to review not only ISA's books, but also the most recent audit done by the Dominican firm. The Regional General will then make recommendations to all three parties: ISA, the Dominican auditing firm, and USAID.

d. Funding Needs and the Prospects for Self-Sufficiency

Based upon a long and intimate knowledge of ISA and on the actual financial records, the Project design team prepared spreadsheets to show the major flows of ISA resources at present and as envisioned under the Project.

Those resources actually received and managed by ISA are shown along the cash flow lines used in present ISA accounts. The Project will update the asset accounts to current values, in order to make a more realistic estimate of depreciation charges and hence of the resources needed to maintain the physical plant, vehicles and equipment without relying on replenishment by external donors.

5. Results of the Self-Sufficiency Study:

Overall, the financial projections show that ISA is likely to be close to self-sufficiency by Year 8, the first post-PAGD year. (See annex VIII. D. for charts which illustrate Sensitivity Analysis). Under the "best guess" assumptions, ISA's Year 8 operating results will be a

deficit of about RD\$290,000 (about 4 percent of total expenses including non-cash expenses such as depreciation). However, excluding depreciation, the cash flow deficit will be positive -- about RD\$400,000. That is, ISA would not have enough current income to replace all capital equipment as it wore out, but it would not be in any difficulty to meet the payroll.

Under more pessimistic assumptions (for example, that net farm revenue rises 1 percent a year instead of 5 percent, local giving is lower and foreign donations other than USAID stay at present low levels), the shortfalls are greater. In PACD + 1, the operating deficit is RD\$2.7 million, about a third of revenues. The cash flow is also in deficit, at about RD\$2 million.

Under more optimistic assumptions (for example, more giving, farm net profits rising at 8 percent a year with diversification into high-technology agricultural specialties, etc.), the shortfall disappears, with an operating surplus of RD\$ 179,000 in the first year after the Project ends (PACD + 1) and RD \$ 420,000 in PACD + 2. The cash flow is better yet, at RD\$ 882,000 and \$1,158,000.

The sensitivity/self-sufficiency analysis shows the critical need for an Endowment Fund, preferably even larger than RD\$20,000,000. Another RD\$20 million (total of RD\$40 million) would meet the shortfall under most assumptions. Better yet, a significant contribution to the Fund (say, about US\$ 5 million) through a Debt-for-Development operation would quickly convert all the scenarios to a positive cash flow and operating balance for Post-Project years.

6. Implementation and Protection of the Endowment Fund

The risks to any endowment fund are that it will be looted through dishonest or incompetent investing or that it will be decapitalized by withdrawing current income without increasing the nominal value of the capital fund to keep abreast of inflation.

In a country subject to high inflation, it is more difficult to achieve adequate investing, i.e. a return that is greater than the rate of inflation. Therefore, the Board of ISA will have to vigorously explore channels to ensure competent investing while seeking to maintain the nominal value of the Fund. Close supervision of withdrawals for current operations will be required.

In order to accomplish this, three fairly simple rules are suggested, which should go a long way toward avoiding these predictable risks:

- a. In most cases, ISA will invest the Fund solely in Bank Certificates of Deposit, in which the return of principal and interest is guaranteed by a bank which in turn is in sound financial condition. Unfortunately, the Dominican Government does not guarantee bank deposits and therefore, use of Banks in sound financial condition will be imperative.

This rule will exclude "sweetheart" loans such as were used to plunder some pension funds in the U.S. The Board will establish written policies as to the quorum and formalities needed for approval of any investments other than in Bank Certificates of Deposit. The Board will also determine and implement procedures to prevent self-dealing (i.e., the Fund cannot be invested in companies or ventures of Board members.) The Board should rule out personal loans to anyone, including ISA staff. Prudent rules will eliminate most of the pressure on whoever has the decision power, to make any particular investment.

Once the Fund exceeds a certain amount of capital, large enough to bargain effectively with banks, no more than 1/4 or 1/3 of the Fund should be invested in any one bank (including all its branch offices).

b. ISA should seek to invest in Certificates of Deposit only in those banks which agree to simultaneously make a donation to ISA, of the amount of money needed so that on maturity, the certificate is worth the amount ISA invests, plus the expected rate of inflation, plus a reasonable rate of interest, such as 5 percent. This donation would be added to the face value of the certificate on the day of investment, and would lead to a value on maturity that would cover expected inflation, plus the actual interest rate agreed upon.

An example of this assumes an expected inflation of 60 percent and a nominal interest rate of 20 percent. In this case the Bank would need to make a donation' of RD\$ 400,000 for every RD\$ 1,000,000 that ISA invests. On the resulting CD of RD\$1,400,000, 20 percent interest for one year will produce the required value on maturity of RD\$ 1,680,000, which is enough to maintain the real value of the CD (1 million pesos a year before) plus 5 percent. (Note that since the interest is paid on maturity, it needs to be 8 percent in nominal pesos -- 5 percent raised by the inflation of 60 percent.)

c. ISA should eventually limit itself to use only those amounts of earnings which exceed inflation. While attempting to achieve this, it is recommended the Board instruct its auditors to inform it yearly as to how close to reaching this goal ISA is, and the Board will decide if any funds can be transferred to ISA as part of its revenues for the next year's program.

Inflation in the U.S. is an additional consideration, with the current U.S. commercial and fiscal deficits, there is no reason to think it will soon decline. It is customary to insist in the U.S. that an endowment fund must also be increased by about 5 percent a year just to keep abreast of inflation, and that only earnings above that figure should be disbursed and used for current programs.

To Dominicans, the dollar looks stable. In this regard, it would be acceptable if the Board of ISA accepts the principle of simply reinvesting enough pesos to keep abreast of peso inflation. This in itself would be a giant step in protecting the Endowment Fund, and is the best the Project could expect under present circumstances.

A final consideration is that all of these suggestions are intended to protect the purchasing power and integrity of the Endowment Fund. However, it is essential above all else that ISA get out and find donations, for both annual giving and the Endowment Fund, and then develop an ongoing grantsmanship capability among its faculty and leadership.

7. Assumptions in the Sensitivity Analysis (See also charts in Annex VIII. D.)

a. Best Guess Case

(1) The Central Government budget contribution will be increased by 20 percent, in partial compensation for the inflation of 1988. However, after that each year's budget contribution will be at 5 percent less than the inflation rate, so the value of the GODR contribution in 1989 pesos will fall 5 percent a year indefinitely.

(2) Public Sector enterprises and institutions contract for RD\$40,000 in Year 1, \$60,000 in Year 2, and thereafter the annual amount rises 5 percent a year in real terms, responding to ISA's improved ability to provide needed service.

(3) Private business firms provide RD\$200,000 for scholarships in Year 1, three times current giving, thanks to the efforts of the new Development Office and ISA's leadership and Board. The figure rises to RD\$300,000 in Year 2, and thereafter rises more slowly, at 5 percent a year.

(4) Research funded by business firms is RD\$30,000 in Year 1, 50,000 in Year 2, and then rises at 10 percent a year in response to ISA's much-improved ability to provide useful research services.

(5) Dominican NGO's contract with ISA for RD\$2,000 in the current year budget; this will rise to 4,000 in Year 1, 5,000 in Year 2, and thereafter it will rise 5 percent a year.

(6) USAID contributes RD\$ 3 million to operating expenses (mostly salaries and forest protection) between Years 1 and 2.

(7) Thereafter, USAID funds new projects or services it desires from ISA, in the amount of RD\$400,000 per year, growing at 5 percent a year. These services will often be for other USAID Projects.

(8) Other foreign donors start out at RD\$50,000 in Year 1 (down from RD\$130,000 in 1987/88), rise to RD\$ 400,000 in Year 2, and to RD\$ 800,000 in Year 3 and RD\$1,200,000 in Year 4. Thereafter other foreign donors rise at 5 percent a year. We call this the Japanese assumption, though the EEC is likely to be involved too. The Development Office will have a mandate to diversify ISA's funding by actively pursuing other foreign donor sources.

(9) Individual gifts were only RD\$5,093 in 1987/88. We assume that the new Development Office will quickly get that to RD\$15,000 in Year 1, twice that in Year 2, and thereafter that this item will rise 10 percent a year.

(10) CADER seminars account for RD\$80,000 in the current budget. We project them at RD\$120,000 in Year 1, RD\$ 160,000 in Year 2, RD\$ 200,000 in Year 3, and thence a 10 percent annual increase.

(11) We do not assume increased tuition from any new programs, such as an M.S. in Forestry or an M.B.A. program scheduled to suit needs of graduate students with weekend classes. They would be justified and funded separately.

(12) Tuition is assumed to rise slowly, however, between recent increases announced at PUCMM and the fact that ISA will add the third year to the Technician course this fall. This item is RD\$60,000 in the current budget; we put it at RD\$80,000 in Year 1, though we would like to see it higher. We project it rising at 5 percent a year, and dorm fees rising 10 percent a year as the secondary students leave and more technical and university students move in, demanding better service.

(13) Consulting revenues are projected at RD\$300,000 for Year 1, up slightly from the current budget of RD\$237,400. Then we project them at RD\$400,000 for Year 2, and rising at 4 percent a year.

(14) Interest earnings are assumed to be 5 percent in real terms. The Cash infusion to the Endowment is RD\$1 million in Year 1, rising to \$4 million in Year 2, RD\$8 million in Year 3, RD\$12 million in Year 4, and the full \$20 million in Year 5.

(15) Collections of past student loans (technical and boarding costs for secondary and university students) are projected at only RD\$2,000 per year for years 1-5. Thereafter, we assume the rest is written off (by then, inflation will have cut its value close to zero).

(16) Miscellaneous revenues, RD\$143,000 in the current budget, are assumed to be RD\$200,000 in Year 1 and then rise at 5 percent a year.

(17) Personnel expenditures are as projected for pay raises in Years 1 and 2. Thereafter, they rise at 3 percent a year in constant purchasing power terms. Some faculty receive larger raises, but others are let go as unproductive, and are replaced by younger persons at lower salaries.

(18) Services and supplies are assumed to rise 8 percent in Year 1, to get ISA restocked, but thereafter to rise at about 5 percent and to be flat for the last year of the Project, and the two years after it.

(19) The projected costs of the Development Office will be fully assumed by ISA in year 7.

(20) Depreciation is set arbitrarily at RD\$500,000 for Year 1, on the assumption that the buildings and equipment (but not land) are worth about RD\$ 5 million, and depreciate at 10 percent a year, with no scrap value. This will be adjusted after a proper valuation. Depreciation is assumed to rise 5 percent a year, especially with the new equipment brought under the Project.

b. Pessimistic Case

The assumptions are similar in most cases, but:

(1) Farm net profits are assumed to rise at 1 percent, not 5 percent.

(2) Japanese and European donations are assumed to stagnate at the present levels (about RD\$100,000 a year).

(3) Consulting stagnates near present levels.

(4) Business donations for scholarships are half the level assumed above.

(5) The GODR does not increase its contribution at all in nominal peso terms over 1988/1989, and thereafter cuts it 10 percent a year in real terms.

c. Optimistic Case

The assumptions resemble the first case, except that:

- 1) The Farm profits rise at 8 percent a year.
- 2) Japanese and European donors materialize more rapidly.
- 3) Business firms give 50% more for scholarships than in Case I.

C. Social Soundness Analysis

1. Introduction

Social soundness analyses evaluate the social dimension of projects. The following analysis will address three general questions regarding the University Agribusiness Partnership Project. First, is the Project compatible with its social and cultural context (socio-cultural feasibility)? Second, will it facilitate the spread of innovations which it introduces to Dominican society (spread effects)? And third, will it have the desired impact on different segments of society (social consequences and benefit incidence)?

The goal of the Project is to increase non-traditional, commodity-based rural incomes. An important subgoal is to increase the capacity of agricultural agencies and businesses to manage financial, human, and material resources allocated to rural development. The goal will be attained by strengthening an in-country institutional capability to provide training opportunities to upgrade management and technical skills of public and private officials working in agricultural.

2. Socio-cultural Feasibility

a. Issue: ISA/Project goal compatibility

Are the Project goals compatible with ISA's goals?

The Project is designed to accomplish goals that have been articulated over the years by members of ISA's Board of Directors. ISA was established as a technical vocational agriculture school by the Santiago

Development Association (SDA). Its founders were concerned about the need to modernize Dominican agriculture and the lack of trained agronomists in the country after the assassination of Trujillo. Two rural social conditions of great concern in the Santiago region were identified by ISA's governing Board as critical problems to be addressed. These were the profound and pervasive rural poverty in the area and the region's rapid natural resource degradation, largely a consequence of the rural poverty.

SDA members were particularly concerned about these conditions in the mountain ranges bordering the Cibao valley. In response to their concern, they conceived a rural development program to address these problems in the central mountain range. "Plan Sierra" was developed with heavy inputs from ISA and funding from the Secretariat of Agriculture. The plan provided for the integration of ISA into its activities. Faculty were to provide technical contributions to the project and students were to participate as part of the curriculum.

The SDA was also concerned about the paucity of appropriate, modern agricultural technologies required to increase the levels of agricultural productivity. Early adaptive research efforts by ISA staff, initially in coordination with resident advisors from Texas A&M University, generated important technological inputs for basic and non-traditional crops such as rice and tomatoes.

The Dominican government, with assistance from international donors, particularly USAID, rapidly expanded its development activities during the 1960's. Most ISA graduates sought employment with new and/or expanded government agencies being created at the time. These agencies were intended to modernize Dominican agriculture; and a substantial portfolio of their activities was designed to address the needs of the rural poor. As a result, most ISA graduates found initial employment in the public sector. Some sought private sector employment after gaining experience working for a government agency and/or receiving further training in the U.S. or elsewhere.

The Project will help meet ISA's goals by increasing the levels of agricultural technology and management capacity of employees of state and private institutions. The Project's increased emphasis on direct contributions to the agribusiness community is consistent with a general trend among major donors away from state directed development to private sector directed programs. This trend is also evident in the Dominican Republic and is illustrated by several recent USAID-funded projects, such as the Sugar Diversification Project and the Commercial Farming Systems Project.

In sum, the Project will help generate new jobs through new technology generation and transfer to the private sector. This activity will impact favorably on ISA's instructional program and will yield graduates who are better prepared to promote increased agricultural production. They will contribute to the generation and transfer of new technology and will better manage projects designed to increase agricultural productivity.

b. Issue: SDA versus Private Sector Linkages

The Project contemplates increasing linkages between ISA and the private sector. Can they be created in ways which do not reduce the key role of the SDA in ISA's governance?

The SDA is a major force in Santiago society, including the Cibao Valley and its major watersheds. It reflects a commitment by the Santiago community to promote local development. Over the years, it has initiated various development-related projects in addition to ISA. These projects have resulted in benefits to all social classes in the region. Members of the SDA have mentored ISA faculty members and many ISA graduates.

The SDA will continue to provide leadership and guidance to ISA. Members of ISA's Board of Directors are also members of the SDA. However, increased emphasis on service and the need to garner greater financial support from the private sector will require that the Board be expanded, either through the creation of several technical advisory committees, or through the creation of new Board positions. If ISA intends to expand its sphere of influence and prestige to the entire Caribbean region, its advisory sources must be expanded to include representatives from other countries. The key is to permit and encourage the participation of others in ISA's programs without reducing the influence of the Santiago dominated Board.

The Board of Directors provides overall guidance to ISA. In the past, the SDA occupied the role of the Board and there is still considerable overlap in the composition of both groups. Currently, the Board does not have advisory committees, nor does ISA. This may limit ISA's ability to respond effectively to perceived needs in the private sector. Although some of the Board members are directly involved in agricultural production processes, most are not. ISA's capacity to respond rapidly to private sector technological and manpower needs would be increased if greater communication linkages were established between this sector and the Institution.

A major feature of the Project is the strengthening of an endowment fund for ISA. The success of this fund will depend in large measure on expanding the involvement of potential donors in ISA's activities. This will be accomplished in part if the Board is expanded to include more members from the agribusiness sector in Santiago and elsewhere.

c. Issue: Faculty Retention

The Project assumes that upgrading ISA's programs will depend, in part, on increased faculty retention. Will the Project result in this increased retention?

Two principal reasons have been identified for the tendency of faculty to leave ISA; insufficient salaries, and insufficient participation in ISA's governance processes. The Project assumes the endowment will provide sufficient income generation to increase salaries to the point where an academic career becomes competitive with a career in the commercial sector. Long-term resident advisors will act as role models and mentors for ISA faculty and will promote participatory decision making.

Increased faculty involvement in decision making processes will increase commitment to the institution. By inference, it will give them a greater sense of proprietorship over ISA, and will increase faculty retention. The Project will provide faculty with greater professional growth opportunities, including sabbaticals, internships abroad, opportunities to participate in professional meetings, and to network with colleagues having similar professional interests.

d. Issue: Endowment Fund Contributions

The Endowment Fund is vital to Project success. It assumes that elements of the private sector will contribute substantially to ISA. Can it be assumed that these contributions will be forthcoming?

A fundamental principle of university development is reciprocity. Individuals give if they receive something in return. ISA needs to adapt and transfer technologies which are perceived as useful by the private sector. The university has begun this process by providing services through CADER, whose short courses and seminars have had positive, tangible impacts on agricultural policy and agribusinesses. ISA has also developed and disseminated important technological breakthroughs for rice, beans, tobacco, oil palm and other important crops. In recent years, it has provided these inputs through direct contracts with the government, as well as with private sector firms.

The Project will provide long-and short-term technical assistance and training designed to expose ISA faculty to the most recently developed technologies and to foment appropriate adaptive research. These inputs will improve the research infrastructure, increase the amount of research being conducted, and facilitate the extension of results to the private sector. Indirectly, research will impact favorably on the training received by ISA students, thereby improving their opportunities for productive employment in the private sector.

The Project will facilitate creation of a Development Office to work directly with the private sector. The Office will be supported by ISA's Rector, who has already begun to inform the public about ISA and its contributions to agricultural production and agribusiness. The Office will be supported by the Board of Directors through its subcommittee for fund raising activities.

10/2

e. Issue: Recruitment and Commitment of ISA Students

Will the Project improve ISA's ability to attract students and provide them with a greater sense of commitment to the institution after graduation?

ISA's Office of Academic Affairs is responsible for overseeing most aspects of student life on campus. The Project will provide technical assistance to broaden and increase the quality of student services provided. This assistance will take into account ISA's limited resource base and the norms of student life at Dominican universities. Extra-curricular activities are important components of the overall undergraduate program and contribute to the professional formation of students. Creation of competitive, intra-mural sports programs, governance units for the dorms, debate teams, etc., will enhance professional competence and increase student loyalty.

The Project will address curriculum deficiencies. Technical assistance and infrastructure improvements will increase ISA's capacity to link theory and practice through increased and improved hands-on learning experiences. If curriculum improvements lead to better job opportunities, other students will be more inclined to attend ISA and to support it after graduation.

f. Issue: Responsiveness to Private Sector - Needs Assessments

The Project will attempt to improve ISA responsiveness to the private sector. Is it structured to bring this about?

ISA needs to be well informed about current and projected needs of clientele in the private sector. ISA's intention to increase private sector participation in evaluation and planning activities is discussed above. Several manpower and technical needs assessments in the private sector have been conducted. A need remains for more detailed surveys of this type. The surveys will be national in scope, involve large samples of actual and potential employers of ISA graduates, use structured interviews, and consider the potential demand for ISA faculty as consultants. The surveys will be conducted throughout the life-of-Project, but will be emphasized more during the first year.

3. Spread Effects

There are two principal levels of innovation addressed by the Project. The first is a model of higher agricultural education, which includes instructional and research programs highly interactive with the private sector. The second is an endowment fund, which no other Dominican institutions of higher education have created.

a. Issue: Adoption of ISA Model

Will other institutions have the capacity to adopt the ISA model given their limited funding bases?

Most Dominican institutions of higher education, including those with undergraduate degrees in agriculture, suffer from inadequate funding. Without additional funding, they may be unable to copy the ISA model. The creation of the new ISA model presupposes that its Development Office will significantly increase its contributions from the private sector. If other institutions solicit greater contributions from the same sector, this will result in increased competition for limited funds. The Project will address this problem by creating a mechanism to strengthen ISA's capacity to avoid undo competition by broadening the donor base. Also, the Project will help ISA around the problem by providing significant resources in the first two years to get the institution off to an early start in fund raising.

b. Issue: Communication Networks - Dissemination of Findings

Will the Project create sufficient additional communication with the private sector and science networks to ensure the attainment of Project goals?

ISA uses several methods to communicate with its clientele. Appropriate agricultural technologies are disseminated through the mass media, publications, and consulting, in addition to CADER short-courses and seminars. Additional communication strategies will facilitate attainment of Project goals. The active engagement of clientele in ISA's planning and evaluation activities will increase the relevance of ISA's activities for users of its services. ISA will invite agricultural producers and merchants to participate directly in the curriculum through lectures and seminars. This will represent an expansion of their current involvement through CADER seminars. Indirect participation will be encouraged by expanding internships for ISA students with agribusiness industries. ISA will increase outreach through promotion of more field days on the main campus and its satellite facilities.

Faculty need to be current with changing agricultural technologies in their field in order to perform relevant research. This implies adapting appropriate technologies to Dominican conditions in addition to networking with research scientists and research centers, both in-country and overseas. The Project will provide funding for faculty to attend professional meetings, short courses and demonstration activities.

The Project will provide inputs to facilitate communication with clientele and research networks. The creation of a data information system will facilitate access to current research publications and faculty publishing. The latter will also be facilitated by the creation of a desk top publishing' capability within ISA.

c. Issue: Leadership

Will ISA leadership have sufficient skills and authority to ensure Project success?

The Santiago Development Association is a respected civic-minded group of businessmen and professionals. It has sponsored many innovative development programs in the Santiago region. This Association and its interests are represented on ISA's Board of Directors whose energetic chairman is a prominent member of the Association. ISA is also fortunate to have a dedicated, hard working Rector, assisted by equally dedicated Vice-Rectors. These individuals are capable of learning and growing with the institution.

Past accomplishments and contributions of ISA have created a reservoir of good will and recognized leadership in higher agricultural education. This has been the result of research contributions and innovations, such as undergraduate degree majors, which have been adopted by other similar programs. Over the years, ISA graduates have represented a high percentage of individuals selected for graduate programs in agriculture in the U.S. and elsewhere.

The Project design recognizes these strengths and will build on them. It will use the leadership structure of the institution to plan, program and implement project activities.

4. Social Consequences and Benefit Incidence

The Project is designed to increase contributions by ISA to Dominican society, and particularly to its agricultural sector. These benefits will be distributed among different recipient groups, including (a) students, (b) faculty, (c) agribusinesses, (d) commercial producers, (e) medium and small farmers, and (f) rural laborers. The degree of Project benefit from technology generation and transfer may correlate with the size of farm enterprise, depending on the scale of the technology.

a. Issue: Benefit Incidence and Tuition Repayments

Will all students benefit equally from Project activities?

(1) Social Class

ISA has a rigorous program of student recruitment. Annually, it administers admissions tests at various high schools throughout the country. As a result, ISA's student body consists of the brightest students available. They are selected regardless of social background and their ability to pay. Most students depend on grants and/or student loans to finance their studies. The social mobility opportunities provided by ISA for bright, rural youth, many of whom are poor, is a major contribution to Dominican society.

Tuition payments for ISA students vary depending on their level of education. Students in the high school program, which is currently being phased out, are provided a tuition free education. ISA determines the tuition charged to students in the recently inaugurated technical degree

program. Students typically cover these fees with loans from the Educational Credit Fund (FCE). PUCMM awards degrees at the B.S. level and determines the tuition level for courses taught at ISA through that program. These tuition levels vary by incomes expected to be generated by graduates according to each professional category. Students majoring in the agricultural sciences are expected to be among the lowest paid professionals during their careers; agriculture is classified in the lowest tuition category.

One of the Project objectives is to make ISA financially self-sufficient. In addition to the Endowment Fund and income from its production units, it has been suggested that ISA can increase its revenues by charging higher tuition fees. As explained in the previous paragraph, this would only be possible for the technical degree program, because this is the only program for which ISA has tuition setting authority. In addition, ISA students depend almost totally on loans for their education. If tuition rates were to be increased, the amount of student loan funds available would have to increase proportionately. Assuming these funds were available, they would also have to be repaid. A recent university graduate in agriculture can expect to earn RD\$750 a month working for the Secretariat of Agriculture, and a recent technical degree graduate can earn only RD\$700 a month. Given these salaries, it is virtually impossible for graduates to pay the interest, much less the principle, on their education loans. It would be even more difficult for them to do so if the size of the loans were increased.

The number of undergraduate agricultural degree programs has increased greatly throughout the country during the current decade. While these programs are academically weaker than ISA's program, they are also less expensive. Furthermore, many students reduce costs by residing at home or with relatives. They may prefer to attend universities near their homes in order to minimize maintenance costs. Alternative educational programs may be more attractive to potential students, particularly if ISA's tuition costs are increased.

(2) Gender

Three major gender issues must be addressed by the Project, namely, differences in the cost of education, differences in employment opportunities between male and female students, and the impact of gender in the design of research methodologies and recommended practices.

The percentage of women studying at ISA has increased substantially during the 1980's. Women now represent 15 percent of students in the B.S. program and 35 percent of those in the technical degree program. In part, these numbers reflect increased participation by women in the secondary schools.

However, women pay more for their education. Additional costs are attributed to the unavailability of on-campus boarding facilities for women. Most off-campus boarding is more expensive than on-campus boarding. Off-campus boarding also results in additional daily transportation costs to and from the campus. ISA provides women students with additional loans to help cover these costs. The Board has approved the conversion of a male dormitory to a female dormitory.

Women are discriminated against in the job market because, all things equal, employers prefer to hire males. One way to alleviate this problem is to increase the number of professional women mentors to which the students are exposed. This will be accomplished in several ways. First, more women faculty members will be hired. Women currently represent only 15 percent of the faculty, although two current program chairpersons are women. Secondly, CADER will give greater attention to gender issues, particularly those related to job market participation through its case studies, short courses, and seminars. Third, ISA will bring more women graduates to campus for student orientation. A useful mechanism to promote this participation is through ISA's alumni organization, AGISA. Women students will benefit from direct contact with former graduates who are working in the agricultural labor market.

The impact of gender bias in research design and promulgation of recommended technical practices is just beginning to be more fully understood. The Project will provide short term technical assistance and training opportunities to increase gender awareness among faculty and students in the development of curriculum, research methodologies, and outreach programs.

b. Issue: Rural Labor Beneficiaries

Will the Project benefit rural labor classes to the same degree as rural agricultural producers?

The Project is mainly oriented toward increasing the production of non-traditional agricultural crops. Agricultural producers will benefit from this reorientation through the introduction of new appropriate technologies and the availability of better trained ISA graduates.

Much of this increased and modified output from ISA will be oriented directly to the private sector as opposed to state agricultural support agencies which serve the marginal agricultural sectors. Thus, the relationship to these sectors and provision of benefits to them is less clear. However, the Dominican agricultural sector is changing rapidly; its crops and production activities are being increasingly diversified. This is perhaps best illustrated by the diversification of the State run sugar cane operations which are labor intensive. As the Government moves out of sugar production, it will be unable to offer alternative employment to field

laborers. However, many non-traditional crops are labor intensive. This is particularly true of fruits, floral, and vegetable crops, whose exports receive most favored status under the Caribbean Basin Initiative. Thus, agricultural laborers will benefit indirectly from these activities.

D. Administrative Analysis and Program

1. Background

Effective and efficient administrative practices and procedures are essential to the attainment of ISA's long-range development goals as well as Project goals. The Project will entail considerable expansion and consolidation of ISA's programs. This will occur within the context of establishing more direct linkages between its instructional and research programs and the private sector.

ISA's structure and administration have not sufficiently adapted to changes which have occurred over time at the Institute and in the agricultural sector. An early concentrated focus on them is essential if the Project's technical inputs are to result in maximum payoff. Inputs should address general issues such as a redefinition of ISA's mission statement, leadership and appropriate governance methods, and institutional linkages with major clientele groups. This general review and redefinition of institutional structure and operation should be premised on the need for ISA to provide relevant and timely services to the agricultural sector.

As expressed by ISA's Rector, the Institute has never formally evaluated its organizational structure. This type of self-evaluation will be an important priority during the first years of the Project. Proper organizational structure assumes that a long range development plan with a clearly articulated relationship between ISA's program and the agricultural sector has been established. A development plan has been prepared, but may need to be revised in consideration of transformations which are presently occurring in the agricultural sector. This exercise in strategic planning will integrally involve ISA's administrators, including the Rector and the Vice-Rectors, and the Board of Directors.

Simultaneous attention to specific aspects of ISA's structure and support of instruction, research and outreach activities will also be required. The Project anticipates a substantial increase in the volume of activities, all of which will need to be accommodated by the Institute through its existing administrative structure. This implies review and potential reorganization. Technical assistance inputs can facilitate these activities. However, they will also be greatly facilitated by exposure of ISA's administrative and support staff to alternative models of administration and support services. Even with substantial increases in budget, ISA will continue to function under rather severe resource

148

constraints. The adaptation of alternative principles of administration and support services will best be accomplished by ISA personnel who are aware of the social and economic constraints faced by the organization. This principle will guide resource inputs in administration and support services to be provided by the Project.

Technical assistance and training inputs will be programmed for administration and support services in the same way as the technical disciplinary areas. They are designed to foster long term, highly active linkages between ISA staff and counterparts at other institutions of higher agricultural education. It is important that ISA staff remain current about recent innovations in order to test their potential applicability. This will be facilitated by continuous networking with colleagues at other institutions, through administrative sabbaticals, refresher short-courses, internships, and outside reviews and evaluations.

2. Current and Proposed Activities

a. Rector's Office

The Rector is the chief executive officer of ISA. In that role, he is responsible for the execution of its program. He is also responsible for representing ISA to its private and public sector clientele.

Policy for ISA is made by the Board of Directors in consultation with the Institute's administrative staff and outside advisors. Plans and programs which emerge from policy are developed by the administrative staff. The Rector who is responsible for this process, presents them to the Board of Directors for approval.

In representing the Institute with its clientele, the Rector is responsible for articulating the mission of the institution which embodies its programs and aspirations. This mission provides a rationale for the clientele to support ISA's program. The school's actual and potential sense of mission makes explicit its contributions to its clientele, the region, and more generally to society. Through this representation, the Rector plays a vital role in garnering outside public and private sector support for the institution.

b. Academic Affairs Office

The Academic Affairs Office is responsible for all activities related to student life on campus. ISA currently offers three training programs. The first is the high school program which has been in operation since ISA's creation. This program is in the process of being phased out and will terminate in June, 1989. The second is a three year, technical program in agriculture, inaugurated in 1987, equivalent to a Junior College degree. It will eventually be expanded to include majors within agriculture such as animal science, horticulture and forestry. The third is an

1089

undergraduate, bachelor's degree program in agriculture, which is currently being granted jointly with "Madre y Maestra" Catholic University (PUCMM). Students are offered four areas of specialization: horticulture, forestry, animal production, and rural development administration. ISA intends to convert this degree program into several specialized B.S. programs corresponding to the majors currently offered, with an emphasis on agribusiness administration.

The Academic Affairs Office undertakes activities related to recruitment and admissions, curriculum design, and student services. Student recruitment and admissions refers to advertising ISA's academic programs, the administration of entrance examinations at various locations throughout the nation, admission and documentation of academic performance. Curriculum design refers to the modification of existing academic programs and the elaboration of new ones. Over time, ISA has changed its specialization areas in response to changing demands in the job market. It intends to continue this policy in order to ensure a good job market for its graduates and a steady stream of good students for its programs. Student services refers to services provided to students on campus. These services include financial credit for tuition, fees, and room and board, dormitory services, sports programs, and health services.

c. Administrative Affairs Office

The Administrative Affairs Office is responsible for basic support services, including financial controls and accounting, transportation, provision and use of materials and supplies, provision of support services to the staff and students, management of the experimental farm, and the maintenance of the physical plant.

Most financial controls and accounting are managed by assistants to the Vice-Rector for Administrative Affairs. The procedures are only partially computerized. An accountant is responsible for overseeing the purchase and disbursement of materials and supplies.

This Vice-Rector's office maintains the pool of vehicles, including a bus which transports undergraduate students to and from classes at the Catholic University.

Support services provided to staff and students include potable water, operation of the cafeteria, and the student dormitories.

A farm manager responsible to this office oversees the operation of the experimental farm and manages the crops and animals grown on the farm, the dairy herd, the slaughterhouse, and other operations.

Maintenance of the grounds includes repairs to the campus buildings and roads, and maintenance of lawns and foliage. ISA has several buildings which house research and teaching activities, but several are currently unused. A decision will have to be made whether to re-equip them, modify them for alternative use and/or to rent them to private sector interests.

150

The Office oversees the use and repair of implements used for farm operations and equipment used for instructional programs. This includes supervising an assistant responsible for maintenance of the research and instructional laboratories.

d. Center for Economic and Food Research (CIEA)

The position of the Director of this Center is filled by the current Vice-Rector for Research. The Center coordinates all research experiments carried out on the farm, student undergraduate thesis research and evaluation, the preparation of research proposals, and all consulting conducted by ISA staff in the name of the institution.

ISA is conducting research experiments on several important commodities. Rice breeding is the longest continuing research activity. This includes maintenance of a nursery (in which important characteristics of different varieties are observed), seed multiplication, and the continued adaptive breeding of ISA-21 and ISA-40 varieties.

African oil palm, plantain and other tubers have been reproduced in the modest tissue culture laboratory managed by the Center. Research on the adaptation of different cotton varieties has been undertaken in contract with Productora Nacional de Algodon, CxA. Forest product use and conservation has also been the object of research. This has included the continuation of experiments initiated under a major research project on energy farms sponsored by the National Energy Policy Commission, as well as research on dry forest species.

CIEA oversees research conducted by seniors in its undergraduate program. All graduates are required to complete a thesis. Many of the theses are based on research conducted at the Institute's farm, while others are researched at CENDA or on privately owned lands. More recently, theses have been researched through CADER. The Center is responsible for organizing and overseeing the activity of the various examination committees for theses.

CIEA works closely with ISA faculty in the preparation and submission of research proposals to funding agencies. It is responsible for interface between ISA and these potential funding agencies.

The Center oversees the professional consulting activities of ISA staff. This includes the preparation of proposals for faculty consulting activities, monitoring activities undertaken by the faculty, and the evaluation of their reports.

e. Agricultural and Forestry Information Center (CIAF)

The Agricultural and Forestry Information Center is responsible for all computer information and documentation in support of ISA's research and instructional programs. This includes the library, the publication of printed materials on campus, the entry of data into computer systems, and the presentation of short courses on computer applications.

The library is the main repository of materials used for teaching and research activities and is heavily used by ISA faculty and staff. It is managed by a full time librarian who works under the supervision of the CIAF Director. New library materials are acquired on recommendations from faculty and staff. New acquisitions are limited by the availability of funding and physical space to house them.

ISA possesses two photo-copying machines. Faculty have limited access to these machines for reproduction of class materials. The high cost of paper and supplies has resulted in the close supervision of their use. Copying services are provided to other institutions for a fee.

The Center is responsible for storing data related to research undertaken at ISA, the identification of documentation in the library by key words, and the more efficient use of documents in the library system.

The Director of CIAF provides training to ISA faculty, staff and students in the use of computer technology. Training includes programming techniques and the use of software programs, such as word processing. The Center offers consulting services to regional agribusinesses on the application of computer technology to their operations.

f. Center for Rural Development and Administration (CADER)

CADER was created in response to a need for training in agricultural and rural development planning and administration. It is modeled after INCAE and most of its activities are based on case studies of development problems in the Dominican Republic. Since its creation, it has trained over 1,500 individuals and organizations. Its major activities are the presentation of seminars on major development problems and issues, four to five week short courses on agribusiness management for individuals working in the public and private sectors, other management short courses and consulting with public and private sector institutions.

Activities undertaken by CADER, and the programming of project activities in support of its program are described elsewhere in Section H of this Annex.

3. Technical Assistance, Training and Infrastructure Needs

a. Technical Assistance

Although the Chief-of-Party will provide half time technical assistance to the ISA administration, most technical assistance at this level will primarily be short-term. Such assistance will be targeted to each of the administrative units mentioned above, with the exception of CADER, which is discussed in Section H. Most of the assistance will involve periodic inputs by U.S. advisors. A goal of this activity is to establish long term linkages among ISA and specific U.S. administrators and increased networking with general larger communities of professionals.

ISA's development will require additional specialization and reorganization of its functions. Those currently assigned to a particular administrative office may need to be reassigned, depending on the outcome of planning exercises of the current administrative structure and environmental factors impinging on ISA, including funding and personnel availability. A general strategy in programming this assistance will be to initiate planning and evaluation activities early in the Project.

Technical assistance inputs described below are found in Table 1. The Project Chief-of-Party will draft detailed scopes of work for all short term advisors.

(1) Institutional Evaluation/Planning

One of the first tasks to be accomplished under the Project will be a comprehensive review of the existing organizational, administrative and support service structures at ISA. This review will analyze the existing structure of administration, the interrelationship among the various offices, how they relate to the technical programs and students, and the functions performed by each office. It will recommend desirable changes in the structure, changes in activities assigned to each office, and where appropriate, new functions for the different offices.

153

TABLE 1: Short-Term Technical Assistance to Administrative Program
Project 517-0243

Areas of Expertise	Project Year							LOP
	1	2	3	4	5	6	7	
	----- (Person Weeks) -----							
Long-term Planning	4	2	-	-	-	-	-	6
Development Office	10	2	2	2	2	2	2	22
Academic Affairs								
- Admissions	2	-	-	-	-	-	-	2
- Registrar Functions	-	2	-	-	-	-	-	2
- Student Services	-	2	-	2	-	-	-	4
Computer Applications								
- Administration	4	-	-	2	-	-	-	6
- Data Systems	2	-	2	-	2	-	-	6
Administration								
- Budget Preparation	2	-	-	-	-	-	-	2
- Accounting	2	-	2	-	2	-	-	6
ISA Farm Management	2	-	-	2	-	-	-	4
Equipment Maintenance	2	-	2	-	2	-	-	6
Library Development	2	-	2	-	2	-	-	6
Gender Issues	2	-	-	-	-	-	-	2
Total	34	8	10	8	10	2	2	74

This activity will be related to updating ISA's long range development plan. Given the important recent transformations in the agricultural sector, this document will be revised to reflect the changing demands being placed on the institution. The short term advisors will work closely with all ISA participants, including the Board of Directors, the administration, students, and clients in the public and private sectors. The exercise will include a review of the Institute's mission statement, internal regulations, and linkages with funding sources and clientele, and its research, instructional and outreach programs.

(2) Development Office

A Development Office will be created through the Project. It will have various responsibilities including alumni and public relations, and fund raising. The Director of this office will receive periodic short term assistance from experienced university fund raisers. Ten person weeks of technical assistance are programmed during the first year to organize the office, identify its major functions and to establish accounting, record keeping and other systems in support of its activities. The advisor will initiate the preparation of a strategy for the endowment campaign and for meeting annual fund raising goals. The office will need approximately two weeks of additional short term technical assistance each year thereafter.

(3) Academic Affairs Office

Technical assistance to this office has been programmed for three different sets of functions attributed to it. This assistance has been staggered in order to avoid overloading the office staff with recommended changes.

- Admissions - The system for recruiting and admitting students to the technical and B.S. degree programs will be reviewed and recommendations made for modifications. This will include advertising campaigns carried out throughout the country, student selection, and the on-campus admissions process. Attention will also be given to computer applications.

- Registrar Functions - The systematic storage of student biodata and their academic programs will be reviewed. Recommendations will be offered regarding modification of the existing system, including the application of computer technology to this process, and facilitating access to these records by students and others.

- Student Services - Services provided to students will be reviewed and recommendations made regarding changes in these services. Where feasible, these changes will imply greater involvement of students in extracurricular activities which complement classroom instruction, particularly those which provide students with opportunities to acquire leadership, organizational, and analytical skills.

(4) Computer Applications

ISA plans to incorporate existing computer technology into its administrative, research and instructional programs. Short-term technical assistance will be programmed to attend to specific administrative applications and to more general data system applications.

- Administration - Technical assistance will be provided to the academic affairs and administrative offices to improve and update their existing data bases and applications of computers. This will include accounting and financial control systems in addition to the maintenance of data bases on students and their academic programs. This assistance will be provided taking into account the technology available to ISA and the utility constraints faced by the institution.

- Data Systems - Technical assistance will be provided to the CIAF. This assistance will be programmed in coordination with short term training provided to the Director of this office. It will consider functions currently performed by the Center in addition to others to be identified.

(5) Administration

The Administrative Office will receive technical assistance to analyze the institution's budgeting processes and accounting procedures.

- Budget Preparation - ISA's programming is severely constrained by limited financing. It is imperative the Institute accurately budget annually for critical instructional and research related activities. The advisor will review existing budgetary procedures and recommend alternative programs, including the use of computers.

- Accounting - Technical assistance will be provided to review ISA's current accounting and financial control systems. The advisor will review the current system and recommend changes appropriate to ISA's operation. As in the case of budgeting, recommendations will include alternative computer applications, particularly those compatible with proposed changes in existing computer hardware.

(6) ISA Farm Management

ISA depends on income from its farm to help sustain its overall program. In addition, the farm is used for faculty research and for practical training. It has not always been profitable and the technology used in several of its activities is not state-of-the art. The advisor will review the existing farm operation, including farm operations and farm management techniques, including labor management, record keeping, the purchasing of farm inputs, and the sale of farm outputs. The advisor will propose alternative models based on this review. This activity will be coordinated with short term training to be provided to the farm manager at one of the Consortium university experiment stations.

(7) Equipment Maintenance

Short-term assistance will be provided for the maintenance, upgrading and repair of laboratory, instructional and farm equipment. The advisor will review the state of the current equipment and the procedures used to maintain it. The advisor will recommend purchases to upgrade the tissue culture, and other research and teaching laboratories. The advisor will also recommend alternative models that could be used to maintain the farm equipment and vehicles. These recommendations will include mechanisms (e.g. motor pool) to service ISA's inventory of vehicles.

(8) Library Development

Technical assistance will be provided to the ISA library. It will include a review of the existing library system, acquisitions, cataloging, storage, and the application of modern computer technology to these processes. The advisor will propose changes in the

existing system based on this review, and will collaborate with the librarian in preparing a separate proposal for library support which will be submitted to other donor agencies. This activity will be combined with short term training in the U.S. for the librarian.

(9) Gender Issues

Technical assistance will be provided during the first year of the Project to assist ISA in their effort to analyze the impact of gender issues within the school and design strategies to provide more effective integration of women's issues into the curriculum, research methodologies and administration of the Institute.

b. Long-Term Training

Long-term non-degree training at MUCIA universities will be made available to the ISA Rector and the three Vice-Rectors. All training programs will be for a period of twelve months and will be scheduled in separate years to minimize the absence of these administrative leaders at any one time. Table 2 presents the long term training needs in administration.

TABLE 2: Long-Term Training in Administration - Project 517-0243

Position	Project Year							Disciplines
	1	2	3	4	5	6	7	
	(Person Months)							
Rector	0	12	0	0	0	0	0	University Admin.
Academic Affairs	0	0	12	0	0	0	0	Admissions, Student Services
Administration	0	0	0	12	0	0	0	Data Sys., Accounting, Mgt.
Research	0	0	0	0	12	0	0	Research Admin.
Total	0	12	12	12	12	0	0	48 Person Month

c. Short-Term Training

The technical assistance to ISA administration will be complemented by opportunities for its administrative staff to visit U.S. and other universities for short term internships and relevant short courses. These activities are designed to facilitate networking with other institutions in addition to acquiring appropriate technologies for their work at ISA. Support for these activities is detailed in Table 3 and is divided into internships and short courses.

Internships:

(1) Executive Training

An opportunity will be provided to ISA's Rector to attend a summer short course for university executives. This will provide him an opportunity to reflect on the principles of university administration, apply them to problems which ISA faces, and network with colleagues from U.S. and Third World nations.

(2) Computer Applications

An ISA staff member will visit appropriate MUCIA institution(s) to review existing computer applications to college administration and to become acquainted with new appropriate data system software. These activities may be programmed separately for the first year or they may be combined. Provision is made for a later visit during Year 4 of the Project to review new software which will have emerged by then.

(3) Development Office

An internship will be programmed for the Director of the Development Office. It will be coordinated with recurrent visits by the short term advisors in this area. The purpose of the internship will be to review the structure and operations of development offices at other universities. Visitation programmed during the Second Year will include contacts with potential U.S. donors to ISA.

(4) Academic Affairs

Short-term visitations to MUCIA universities will be programmed for the Vice-Rector for Academic Affairs. These will be coordinated with the short term technical assistance to this office. The purpose of these visits will be to review procedures used by offices with similar functions at MUCIA universities. Visitations will include interchange with staff in university admissions, registrar and student services offices.

TABLE 3: Short-Term Training for Administration - Project 517-0243

Category	Project Year							LOP
	1	2	3	4	5	6	7	
(Person Weeks)								
A. Internships:								
Executive Training	10	0	0	0	0	0	0	10
Computer Applications	0	0	4	0	4	0	0	8
* Administration	2	2	0	0	0	0	0	4
* Data Systems	2	0	0	2	0	0	0	4
Development Office	2	4	4	4	4	4	4	26
Academic Affairs	0	2	0	0	0	0	0	2
Budgeting/Accounting	0	2	0	0	0	0	0	2
Farm Management	0	2	0	0	0	0	0	2
Research Admin.	0	2	0	0	0	0	0	2
Library Admin.	1	2	0	0	0	0	0	3
Gender Issues	2	0	0	0	0	0	0	2
Subtotal	19	16	8	6	8	4	4	65
B. Professional Meetings and Short Courses:								
Computer Applications	2	2	2	2	0	0	0	8
Univer. Admin.	3	3	3	3	0	0	0	12
Research Administration	1	1	1	1	0	0	0	4
Library Sciences	0	1	0	0	0	0	0	1
Subtotal	6	7	6	6	0	0	0	25
Total (A+B)	25	23	14	12	8	4	4	90

(5) Budgeting/Accounting

It is anticipated the Vice-Rector for Administration will visit MUCIA universities during Year Two of the Project. This visit will build on the short term technical assistance received during Year 1. The general purpose of the visit will be to review the structure and operation of counterpart offices at these universities.

(6) ISA Farm Management

The ISA Farm Manager will visit a MUCIA university experiment farm to review the operation of the farm, the management of faculty research experiments, the interface with extension agents,

109

relationships between the main farm and branch farms, equipment maintenance, the purchase and management of production inputs, the sale of farm products, and the use of the farms for instructional purposes. The relative emphasis to be given to specific aspects of the farm operation will be determined by the technical assistance received at ISA's farm during the previous year.

(7) Research Administration

Visitation by the Vice-Rector for Research to a university experiment station is programmed for Year Two of the Project. This visit will follow the technical assistance received during Year One. The visitation will emphasize the development of long and medium range research plans for the experiment station, the programming of research based on these plans, research reporting, and the administration of research budgets. The relative emphasis given to individual topics will depend on the outcome of the short term technical assistance received the previous year.

(8) Library Administration

The head librarian will visit a MUCIA university during Year Two. The visit will include attention to the cataloging of new materials, the use of computer technology for the cataloging and retrieval of materials, and accessing reference materials through computer sharing systems. Specific objectives of the visit will be identified upon completion of the short term technical assistance received during Year One.

(9) Gender Issues

The Rector and Vice Rector for Academic Affairs will participate in several workshops designed to address Gender Issues in educational and training institutions, preferably during the Project's first year.

(10) Professional Meetings and Short Courses:

Periodic two-week visits to the U.S. are programmed for the Director of ISA's information and documentation office (CIAF). The purpose of these visits will be to familiarize this person with the use of new appropriate computer hard and software. The programming of specific activities will be done by the Chief-of-Party in consultation with ISA's administration and other team members.

Thirteen trips to attend professional meetings are also programmed for ISA administrators. This travel will facilitate their familiarization with administrative practices and techniques, as well as promote networking with colleagues from U.S. and other Third World institutions of higher agricultural learning. While attending the professional meetings, ISA and CADER administrators will participate in Gender Issue workshops and colloquiums.

d. ISA/Central Infrastructure Requirements

Most equipment and supplies required for the Project are detailed in the description of program activities for the technical areas. Those listed in Table 4 refer specifically to general support functions provided by the central administration.

TABLE 4: Infrastructure Requirements - Administration - Project 517-0243

Category	Amount
Vehicles (2 jeeps, 1 bus)	\$60,000
Teaching Equipment	5,000
Computers	9,000
Software	2,000
Desk top Publishing	10,000
Reference Books, Docs.	14,000
Journals, Bibl. Svcs.	7,000
Copying Machines (2)	10,000
Textbook Revolving Fund	20,000
Office Supplies	2,000
Air Conditioners	10,000
Fax Machine	3,000
Maint. Tools, Parts	10,000
Generators Water System	150,000
Total	\$312,000

(1) Office Remodeling

An average of 6 long term advisors per year are programmed for the life of the Project. These individuals will require adequate office space and support. To make room for these advisors, ISA plans to remodel currently empty space what was formerly the dairy processing facility. Faculty from the Animal Production Program will be transferred there, freeing up several offices for the long term advisors. Funds will be used to install a direct telephone line of sufficient quality for voice, facsimile and computer communications between the Project, USAID, and the U.S. campuses involved.

(2) Photo Copiers

Funds have been budgeted for the purchase of 2 photo copying machines which will be used primarily on a cost basis by students for the copying of class materials and other items. Income from this service will be used to cover operating costs, supplies, maintenance and eventual replacement of the machines.

(3) Maintenance Shop

The present maintenance shop is little more than a shed. Tools and incidental supplies will be purchased to maintain ISA vehicles and machinery, and for practical student training.

(4) Air Conditioning

Library materials deteriorate substantially due to exposure to humidity, dust and other climate-induced factors. The library will be enclosed and air conditioned in addition to the tissue culture and other laboratories.

(5) Computers

Funds have been budgeted to purchase and install accounting and networking software on the IBM PS/2 Model 80, ten additional terminals and a laser printer, which will give ISA desk top publishing capability. The terminals will be served by the existing Model 80, and will increase CADER's ability to teach computer techniques to participants in its training programs, as well as to students in ISA's regular curriculum.

(6) Library

Funds budgeted for the library will be used to purchase library materials, text book and audio visual equipment. These funds are an initial allotment, and a small start on the needed eventual investment. ISA will approach other donors in Year Two of the Project for additional funding based on the results of the needs analysis performed in Year One. A nominal US\$ 2,000 is budgeted for basic reference materials and \$5,000 for journal subscriptions. Long and short term advisors will actively pursue the donation of other materials by external organizations, professional associations and agribusiness firms. Audio visual equipment for use in the classroom will be purchased by the Project. The library is responsible for the administration of this equipment.

(7) Textbooks

US\$20,000 has been programmed to create a revolving fund for purchase of text books from the AID-supported Regional Technical Aid Center-II (RTAC-II) in Mexico City. The textbooks available through this program have been translated into Spanish and are available at the nominal

cost of US\$ 8-10 per copy for sale to students and faculty. ISA will be responsible for the sale of these materials at cost, plus a small administrative fee. (The US\$ 20,000 figure assumes that about half of the students will buy the books; those who can not afford to do so should be able to borrow them from friends, or to use reserve copies which will be available from the library.)

4. Fund Raising Methodologies

a. The Context of University Development in the Dominican Republic

The success an institution has in fund raising in a particular country is substantially influenced by the philanthropic tradition, economic conditions, and social customs of the nation or region. In the Dominican Republic, there are significant factors that must be considered when evaluating the potential for success of a general university development program and, specifically, in building the Endowment Fund at ISA.

(1) The tradition of giving to higher education by individuals or corporations is not as well developed as in the U.S.; much is left to the State.

(2) The charitable giving which occurs is for operating budgets and individual scholarships; not for endowments (ISA may be unique in already having an endowment fund, modest as it may be).

(3) Agriculture, although critically important, is not a well paying and attractive profession; the prospects for major donors among ISA alumni, or their parents and friends is very limited.

(4) Philanthropic tradition requires that influential people must give personal leadership to get major gift support from wealthy individuals and corporations.

(5) Successful fund raising - even in the private sector - seems to carry some expectations of substantial state contributions as well.

(6) Tax incentives (deductions) to promote charitable giving have been reduced in recent years. It now costs a donor 50 percent of the value of the gift to make the donation. Potential donors will need primary or additional motivations to support ISA.

(7) Corporate giving tends to be characterized by many small gifts, given when solicited, rather than larger or lead gifts in an intensive, focussed, high goal capital campaign.

102

(8) Due to high inflation and the ever present possibility for devaluation, investment protection and careful management must be provided any endowment fund. Several possibilities exist such as:

- placing some funds in real property;
- buying Dominican debt;
- requiring banks in which deposits are made to make major gifts to the college in addition to interest payments;
- have banks request borrowers to make a gift to ISA; and
- establish a separate endowment fund in the U.S.

b. Background for Development at ISA

In 1987-1988, ISA received approximately 10 percent of its annual income from private gifts and grants and another 10 percent from the income of its endowment. Because of the historic commitment of ISA to the underprivileged and the low expectation of financial benefit to students majoring in agriculture, tuition contributes only 6-7 percent of the annual budget. This percentage might be increased by reviewing the student mix and an aggressive admissions program. However, for the present, gifts and endowment income are viewed as a major source of increased income for ISA.

Since 1983, steps have been taken to raise more money from the private sector, but with limited success.

(1) A development advisor was hired from the U.S. with project funds from AID. This appointment did not work out, due largely to personal factors related to the individual appointed. While the concept of professional staff assistance is sound and recommended, great care must be taken in making all subsequent appointments.

(2) There is revived interest in the Alumni Association (AGISA). One informed authority estimates that 10-15 percent of the alumni could give annually and "some could give substantially." There is mutual benefit in alumni being made part of ISA.

(3) Opportunities exist for agribusiness companies to give scholarships which cover all educational costs for individual students from their region or enrolled in a program of particular interest. These opportunities need to be publicized and marketed.

(4) The Rector is committed to providing strong leadership in development and external relations. He has a reputation as a fine spokesman for the institution and possesses the necessary dedication to the mission of ISA.

1/24

(5) ISA has influential friends including a Board of Directors which has energetic leadership. It has a good reputation in the Foundation and corporate communities. These important resources have yet to be fully maximized for ISA and its endowment needs.

(6) In late 1988, the Board of Directors and the Rector developed a strategic plan for fund raising. It is commendable in its emphasis on the importance of the Board to development success. An important element mentioned in the plan is the newly appointed sub-committee of the Board which will give leadership to the capital campaign and fund raising in general. The plan provides a positive basis for moving forward toward the endowment matching grant goal.

c. Factors Necessary for a Successful Fund Drive

While ISA has a background supportive of the concept of fund raising and is committed to the concept, additional steps need to be taken. Principles of fund raising that work well in the U.S. may not work well in the Dominican Republic. However, if the principles reflect basic good management and appeal to human nature, they can be effective even if modified. Essential elements to be tested and strengthened are the following:

(1) Confidence is required in the leadership of the Institute and its management capacity; i.e. sound business practices such as a balanced budget. There is good reason to believe donors give when they are well informed about the plans for the institution and identify with it. A good program of public relations and selective communications (both internal and external) will help lay the foundation for cultivation and solicitation.

(2) A constituency, with sufficient potential for major gifts, must be identified, informed, and involved in the institution. For example, in a typical table of giving, the top gift should represent 10 percent of the total; the top ten gifts usually represent 33 percent of the total. A feasibility study could be done to determine or help set the goal for the fund raising drive. A premature or inappropriate type of solicitation, unrelated to information about various donors' capacity or interest level, will not succeed in raising the maximum funds.

(3) Dedicated and influential leadership must be identified, cultivated and brought into the planning process in such a way as to ensure their full personal and financial support. Specific plans have to be laid for supporting the role of the Board of Directors in fund raising and, perhaps, including the development of an Advisory Council of other able leaders, some in Santo Domingo.

1/2

(4) ISA must be prepared internally for fund raising. The Rector is committed and able, but needs professional assistance. Approximately 50 percent of his time must be directed to 'friend raising' as well as fund raising. There is need for a development staff and technical support to develop plans, donor records, adequate gift accounting systems, or other management tools to effectively and efficiently move forward at this time. Assistance in the coordination of public relations, the alumni program, and the office of the Rector is essential.

(5) A strong and motivating case for support needs to be developed. This case must present a compelling statement for the mission of ISA, and contain persuasive arguments for giving to ISA and, specifically, to an endowment. A well prepared case statement can also be a useful way to inform and unite ISA constituencies on and off campus.

d. Making the Case for ISA

Research has suggested that motivation is as important as a knowledge of facts in making the case for an institution. The two work together, but the strongest appeal is rooted in levels of motivation. These motivations are:

(1) Universal, including altruism and social concern for the well-being of society. In the case of ISA, the appeal might be the mission of the Institute to provide educational opportunities to the bright and dedicated, but underprivileged, youth of the country.

(2) Cultural, usually learned so early and thoroughly that they have the force of instinct. An ISA case statement might appeal to cultural values such as the private sector, free enterprise, preparation of graduates with a work ethic, etc.

(3) Social; there are social norms that come from identifying with or being part of a group, such as agriculture, education, or even the prestige of the region. There is a strong appeal to reciprocate where ISA is perceived as a leader, or as a resource institution which has helped agribusiness. There are formal models for estimating the impact of a college or university on the local (or national) economy. With multiplier effects, impact estimates are usually surprisingly high. Fund raising is often more successful when reciprocity is inherent in the solicitations.

(4) Personal or individual motivations. There may be values and interests which vary from person to person, perhaps because of family ties, or being a graduate of ISA, or liking the person who is Rector or Chairman of the Board. Increasing the visibility and the prestige of the Rector and the Institution is important to the reasons some people give.

These basic motivations help make the case for ISA. They provide a guide for research on donor prospects and tailoring a specific fund appeal. ISA may wish to hire a consultant to write the document, based on inputs from everyone affiliated with the institute.

e. Considerations for an Endowment Campaign

An endowment campaign needs to be planned carefully. It is not a common feature of social institutions in the Dominican Republic. ISA should consider several elements before beginning its campaign.

(1) The endowment should be presented as ISA's permanent capital base. Private sector institutions and initiatives require capital to be economically viable. As an institution's expense rate grows, so must its capital base. (There are ratios which help an institution determine endowment size by defining the relationship of endowment income to total expenses.) In the Dominican Republic it seems important to be able to make a strong argument for having an endowment based on the important purposes of the university and the sustaining capital required if it is to be a strong participant in the private sector of the society.

(2) What will the income from the endowment support? ISA will want to carefully identify specific faculty chairs, student scholarships, research fields, etc., the support of which will all relieve the operating budget. The number of alternative targets should be broad enough so as to offer the donors attractive choices.

(3) Both restricted and unrestricted gifts should be sought. It is easier to ask donors for gifts that are restricted to an interest of the donor, but the Board of Directors and administration of ISA will also need some unrestricted donations in order to meet the operating and long term needs of the institution.

(4) Major philanthropic donors often know a lot about money management. It is up to ISA to demonstrate the gift will be managed well, primarily meaning that it will grow and provide benefit for years to come. Consideration should be given to setting a spending limit on the income from the endowment in order to help maintain the earning power of the principal in an inflationary economy.

(5) All types of gifts should be accepted. This may seem obvious, but donors are surprising in the form in which they may offer gifts. In addition to cash, ISA should make provisions to receive pledges of stock, bequests, annuities, and many forms of real property, such as stock, homes and land. While it is difficult to establish immediate value, the value assigned to these gifts should conform to that attributed to the gift by the donor. It is essential the gift be accepted with appreciation and the relationship with the individual continue after the donation. Waiting for the payoff in cash is part of any campaign, especially an endowment campaign.

157

f. Development Office

A Development Office, staffed by a Director of Development and appropriate assistants, will be established to perform several key functions related to interaction with ISA's clientele. Creation and staffing of the office(s) will be carried out during the first year of the Project. Current fund raising efforts should be continued independent of this office, and active attempts to secure annual donations should be maintained.

Attention will need to be given to the proper location of the Office. There are three options: (1) Santiago; or (2) Santo Domingo; or (3) Offices at both locations. Major factors to be considered in making this decision will be cost, availability of qualified candidates, and functions to be performed by the office.

Technical assistance under the Project will be required given the strategic importance of procurement of adequate funds in Pesos. It will be appropriate for advisors to work with the new Director of Development. Initially, it may be more appropriate to have short-term, experienced inputs related to defining the structure of the office(s) and potential activities to be undertaken by the advisors. This activity would be accomplished during the first year of the Project. Any direct fund raising efforts carried out by the Office during its first two years of operation will be financed with in-kind contributions from ISA.

g. Staffing the Office

Several alternative strategies should be considered for identifying and hiring a Director of Development. The management of all fund raising to support ISA is the most important function to be carried out by a Director of Development. This function should be primary in identifying attributes of the Director. Among the primary qualifications to be considered are:

(1) The resident Director of Development should be a Dominican, fluent in Spanish and English, with excellent communication and interpersonal skills.

(2) Ideally, the individual will come from a social class which represents that from which most individuals capable of donating large quantities of money to ISA belong. The ideal individual will also have been a graduate of ISA or have a background in agriculture.

(3) The person selected to direct the Development Office should come from the private sector. It is expected that he/she will be a hard worker, well organized and able to work enthusiastically with all ISA constituents.

h. Conditions of Employment

(1) Remuneration - Considerations related to remuneration include salary size, and straight salary versus some form of compensation related to performance. The latter could be the only way to attract the caliber of person needed. The final compensation package will be determined during final salary negotiations with the individual selected to fill the position.

(2) Additional Staff - The tasks to be carried out by the incumbent suggest that a secretary and some type of assistant be appointed as justified.

i. Line of Authority

The relationship between the Development Office, ISA's administration, and the Board of Directors will have to be clear. It is imperative that the Director of Development report to the Rector. The short term advisor from the U.S. will work with the Director of Development, the Rector, and the Chairman of the Board of Directors.

j. Office Functions

Breadth of functions for the Office will have to be determined. ISA should consider the following as potential functions:

(1) Alumni Relations

- Continue to rebuild and maintain a strong program of outreach to alumni
- Publication and mailing of newsletter
- Coordination of class reunions and class gifts

(2) Fund Raising

- Coordinate fund raising, including an annual fund campaign
- Research and develop plans for potential donors/clients
- Coordinate visits to ISA by potential donor groups, including community groups
- Promote fund raising activities (eg. special dinners)
- Manage contact with international donors
- Manage contact with international corporations with significant investments in the Dominican Republic

(3) Public Relations

- Work with the Rector on a systematic public relations program
- Contact with mass media
- Prepare materials for media

(4) Advising about ISA Patrimony Investments

- Be well informed about endowment management
- Coordinate/participate in possible 'debt for development' activities
- Analyze income tax laws (national/international) related to donations

(5) Project Preparation

- Coordinate proposal preparation and presentation to funding sources
- Prepare proposals for international donors
- Provide proposal preparation assistance to ISA faculty

k. Sequence of Events

The new program of Development will take time to establish. With the right appointment and the support of all concerned, it can be institutionalized by the end of the second year of the Project. The Development Office should be able to pay for staff as the program gains momentum and is legitimized in the eyes of the public.

Specific annual targets should be set for the Director. They can be used by the Board of Directors to evaluate his/her performance. They also can be used by the Development Office to establish priority sets of activities.

In addition to annual funding campaigns, a campaign plan must be developed that will ensure long range success. An example of an endowment campaign sequence of events that represents the types of necessary activities follows:

Year One

- (1) Functions of the Development Office determined;
- (2) Director selected;
- (3) Linkages with public/private sector established;
- (4) Potential major donors identified and collaboration plans developed;

- (5) Alumni program re-established;
- (6) Debt/development swap activities monitored;
- (7) Consideration given to an Advisory Council or to a Board of Fellows to assist in fund raising;
- (8) Case statement for ISA written; and,
- (9) Public relations materials planned.

Year Two

- (1) Office(s) firmly established with systems in place;
- (2) Alumni Newsletter prepared and mailed;
- (3) Annual meeting with donors held;
- (4) Proposals presented to international donors;
- (5) Alumni reunion held;
- (6) Ten newspaper articles concerning ISA published;
- (7) 'Debt for development swap' activities monitored;
(Recommendations made to ISA Board of Directors regarding priority investments of funds if obtained.)
- (8) Rector and Board cultivate top prospects and secure pledges; and,
- (9) Campaign support materials completed.

Year Three

- (1) Alumni Newsletter prepared and mailed;
- (2) Annual meetings with donors held;
- (3) Proposals presented to international donors;
- (4) Alumni reunions held;
- (5) Newspaper articles published and other publicity; achieved;

- (6) Recommendations for investment of ISA endowment funds presented to the Board of Directors;
- (7) Continued contact about 'Debt for Education' funds;
- (8) Continued cultivation and solicitation of major gift prospects; and,
- (9) Annual general campaign answered with two-thirds of money on hand.

5. ISA/Private Sector Linkage Survey

This analysis summarizes survey information collected from agribusiness executives concerning their manpower needs and the performance of ISA graduates. Data were collected through telephone interviews. The report is divided into five sections: a description of firms surveyed, feedback on ISA graduates, demand for ISA services, potential financial contributions to ISA, and general comments by the respondents.

a. Description of Firms Surveyed

(1) Sample Size

There are approximately 900 agribusiness enterprises registered in the Dominican Republic. Thirty-three enterprises were sampled representing approximately 3 percent of the universe. Time and budget levels did not permit interviewing a larger number of enterprises.

(2) Representativeness

Firms were purposely selected to ensure representativeness by firm size. The sample included small (24%), medium (24%) and large (52%) enterprises. Firms were defined as small if they had fewer than 20 employees, medium sized if they had from 20 to 100 employees, and large if they had over 100 employees.

The firms were sampled to ensure representativeness by location. Agricultural and agro-industrial groups outside the Santiago and Santo Domingo regions were included in the sample, i.e., in the south (Bani, San Juan de la Maguana), in mountain valleys (Constanza, Valle Nuevo), in the north (Rio San Juan), and in the east, in addition to the Central Cibao valley and the Santo Domingo areas.

Interviews were conducted with producers for the domestic market (64%) as well as for export (36%). Several multinational firms were included, i.e., Castle and Cooke and United Brands.

Firms were representative in terms of major agricultural commodities. Many firms were involved in the production/and or marketing of more than one commodity. The sample included four producers of grain, one producer of forest products, eight producers of livestock, a producer of coffee, representatives from a large tobacco company, two fertilizer/chemical companies, a seed company, an agricultural machinery company, two commercial banks that make loans to the agricultural sector, an agribusiness consulting firm, two representatives of agricultural extension networks (public sector), and several producers of specialty crops, such as rubber, seasonings, cut flowers and colorants.

b. Private Sector Feedback about ISA Graduates

(1) Current Employment

Twenty of the producers and firms currently employ 77 ISA graduates. Eleven indicated they do not currently employ ISA graduates, and two responded they did not know. Firms which do not employ ISA graduates reported they are generally satisfied with the technical skills of employees who received vocation/technical high school training at Loyola-Dajabon, the Salesian school in La Vega, and Zamorano in Honduras.

Most of their non-ISA employees with undergraduate degrees in agriculture received their degrees from UASD and UNPHU.

(2) Future Employment

About 70 percent of the interviewees indicated their firms, plan to hire ISA graduates or equivalents from other agricultural education institutions. They plan to hire 68 employees for the following positions:

<u>Title of Position</u>	<u>Number</u>	<u>%</u>
Agribusiness/Farm Manager	18	27
Livestock Technicians/Veterinarians	16	24
Agronomists	14	20
Irrigation/Drainage Technicians	8	12
Horticulturalists	4	6
Farm Machinery Technicians	2	3
Other (Sales, Marketing, Slaugh- tering, Feed/Fruit Technicians)	<u>6</u>	<u>9</u>
Total	68	100

One firm would not comment on its hiring plans. All others indicated they did not plan to hire additional employees.

The data indicate approximately 56 percent of the new jobs are not related to traditional areas of strength at ISA. Approximately one fourth of the new jobs are associated with the animal production area. Marketing, sales and general farm/business management positions represent 31 percent of the new jobs.

(3) Evaluation of ISA Graduates

The majority (61%) of the respondents evaluated the level of expertise and work of ISA graduates as excellent relative to graduates from other institutions. Approximately 24 percent indicated that they were not in a position to judge ISA graduates because they were not in direct contact with them. About 12 percent described the performance of ISA graduates as "good"; only 1 percent described it as "deficient." The latter opinion was based on the evaluation of one employee who failed to perform well in an agricultural marketing and management position.

(4) Areas of Deficiency

Despite the overall positive evaluation of ISA graduates in comparison to those of other institutions, the respondents did raise questions about certain areas of competency. Approximately 30 percent of all respondents indicated that ISA graduates are "weak in administration." Eleven respondents indicated they are "deficient in practical hands-on experience." Eight respondents indicated they lack initiative, leadership, or a willingness to work hard under difficult conditions, such as on a farm. Only four respondents indicated that ISA graduates were not deficient in any area.

c. Private Sector Demand for ISA Services

(1) Faculty Consulting

Fewer than 25 percent of the respondents demonstrated an interest in contracting ISA faculty for consulting services. Most are interested, however, in employing consultants for specific technical expertise. While most agribusiness firms expressed an interest in assistance in administration, they did not associate ISA with management consulting expertise. Only 10 percent of the respondents expressed an interest in contracting assistance for feasibility studies.

(2) Short-Term Training for Employees

Approximately 20 percent of the respondents expressed an interest in contracting with ISA for short term training for their employees. Examples of this training are short courses, workshops and seminars. They indicated the training could be provided at ISA, or at their firms.

(3) Laboratory Analyses

About 24 percent of the respondents indicated they would be interested in using laboratory services, especially soil analyses. They indicated most soil testing is provided by fertilizer companies which may have a vested interest in the results. They would prefer to have an alternative impartial provider of these analyses. About 10 percent indicated they would contract for animal feed analyses. Only three respondents indicated they would be interested in contracting for analysis of chemical residues. However, a targeted marketing strategy, which is geared to exporters of products to the U.S., could generate more interest since these tests are more important to this group.

(4) Seminars

About 19 percent of the respondents would send representatives to seminars on specific topics. However, the seminar topics of interest were varied, mostly relating to technical information on specific crops, but including technical information concerning marketing, finance, bank feasibility and agribusiness management issues.

d. Potential Contributions to ISA

(1) Scholarships

Most respondents were very positive about providing scholarship contributions to ISA. This was true, even for respondents who did not employ ISA graduates.

Twenty-six respondents indicated they would definitely or probably provide scholarship assistance. Only three respondents indicated they were not interested; and three indicated that they did not know. The contention that ISA has the potential to collect funds from the private sector for its endowment is supported by this finding.

Several large firms, such as Castle and Cook and Proteinas Nacionales, indicated they had never been approached by ISA, but would be willing to provide support if solicited.

(2) Student Loan Repayment

In general respondents did not react favorably to the possibility of helping employees repay their student loans. Only 10 expressed some interest, and several of them seemed to confuse this support with providing scholarships to other ISA students. Several indicated that employer assistance in loan repayments would detract from the employee's sense of responsibility to repay loans.

(3) Student Internships or "Pasantias"

Almost all respondents (94%) indicated they would provide summer or short term internships for ISA's students. Internships would probably enhance the "marketability" of ISA graduates, given that agribusiness executives consistently lament the lack of practical, hands-on training of agricultural graduates. Internships would also strengthen linkages between ISA and private sector institutions.

e. Individual Qualitative Comments from Executives

Additional remarks provided by respondents are presented in this section. They are meant to complement the quantitative data which was presented in the previous sections. These comments are grouped under several broad themes. Each section includes a summary statement and several direct quotes of respondents observations.

(1) ISA should provide more Practical Experience

The most common criticism was the need for more practical training. ISA graduates were criticized for lacking practical skills and hands-on experience. The private sector prefers to employ individuals who are willing to get their hands dirty, live on the farm, interact well with small farmers, and, as one respondent put it, "get bitten by mosquitos".

(2) ISA Graduates are weak in Leadership Skills

Respondents indicated that critical initiative and skills are lacking in many employees. ISA graduates demonstrate less initiative than do other employees from urban areas. This may result from their relatively more disadvantaged and rural backgrounds and/or because ISA does not provide appropriate training of this type.

(3) Management Skills are the Greatest Employee Deficiency

Most jobs require that employees take on management as well as technical responsibilities. Most employees do not have adequate training to take management decisions.

(4) Short Courses and Seminars

Most respondents indicated that there was a need for short courses and seminars. Many of the comments indicate that greatest interest is on market development.

(5) Consulting Services

Only one useful comment was provided regarding the use of ISA faculty for consulting. It indicated that the faculty would benefit from formal training on technical proposal preparation.

(6) Financial Assistance Potential

Respondents indicated that agribusinesses are unlikely to be willing to repay student loans as part of an employee's salary. Most indicated that giving preferential treatment to an employee, simply because he graduated from ISA, is unjustified. However, most were willing to provide student scholarships.

E. Horticulture/Agronomy Program

1. Background and Goals

The importance of horticultural crops in the Dominican Republic, both for the domestic and for the U.S. export market, is sufficient justification for ISA giving major emphasis to the horticulture/agronomy program. The value of non-traditional horticultural crops increased by 65 percent between 1985 and 1987 alone.

The proposed Horticulture/Agronomy program is consistent with the overall goal and purpose of the Project. It focuses on upgrading and strengthening teaching, research and outreach activities, thereby increasing ISA's overall productivity and improving the production efficiency of a selected number of crops, especially fruits and vegetables. A greater institutional capacity by ISA to plan and implement research and technological change in the agricultural sector will result from the program.

Crop priorities and related research opportunities have been identified based on evident Dominican needs. Commodity production programs of this type, which accelerate the use of improved technologies, are capable of addressing problems as they occur, of inducing improvements in agricultural support services, and of reorientating research activities.

Training and upgrading faculty resources is an important component in meeting the needs of the Horticulture/Agronomy program. Opportunities will be provided for non-degree and graduate degree training at U.S. and third-country universities. This training will enable staff to gain experience in research, teaching and outreach in rapidly advancing technologies, such as those associated with tissue culture and in the creation and management of germ plasm banks. Staff will also have the opportunity to attend short courses, seminars and workshops in soil and water management, pest management, and other important areas in order to facilitate their organizing similar future activities at ISA.

The Project will nurture a strong and effective outreach program which will encompass the agribusiness community and parallel research groups in the country in order to maximize the contribution of this Project. This can only be fully realized if the expertise of ISA and Consortium scientists is effectively utilized both at the farm level and at government and private industry decision making levels.

Several support areas must be strengthened to improve the quality of instruction in horticulture and agronomy. These include upgrading the use of the food processing laboratory, the tissue culture laboratory, the establishment of a post-harvest laboratory, and vastly increasing the offerings in the library. In this last regard, the latest text books, periodicals, pamphlets, research reports and professional journals in horticulture/agronomy must be added to the library and annual subscriptions need to be updated.

2. Current and Proposed Activities

a. Teaching

Presently, all students in ISA's five-year University Program receive a B.S. degree in Agronomy (Ing. Agronomo) jointly from ISA and Catholic University (PUCMM). This degree is awarded to all students regardless of their area of specialization, including horticulture.

The teaching goal of the Horticulture/Agronomy program is to modify and strengthen the present curriculum in order to offer a B.S. degree in Horticulture (Ing. de Horticultura). The horticulture/agronomy faculty will participate in a planning workshop during the first year of the Project in which the curriculum will be reviewed and expanded. New graduation requirements, and the identification and planning of future joint research/teaching activities will be programmed. The possibility of initiating an M.S. degree in Horticulture in 5 to 6 years will also be explored.

Currently, there are 68 students in the program which has traditionally graduated 6 to 10 students each year. Curriculum strengthening will include the creation of additional courses in tropical fruits, floriculture, post-harvest methods, pest management, tissue culture, seed production, and soil fertility.

Table 5 presents the faculty resources presently available in the Horticulture/Agronomy program.

Table 6 incorporates the arrivals and departures of faculty members over the life of the Project, including the hiring of new members, which results in the total number available during each year of the seven years of the Project.

One new faculty member will be hired each year during years 2-4 of the Project. Their areas of specialization will be in post-harvest physiology, integrated pest management and floriculture. Additionally, as part of the program's expansion, several new courses will be offered. Table 7 depicts these additions by year.

TABLE 5: ISA Horticulture/Agronomy Faculty by Degree and Specialization
Project 517-0243

When at ISA	Highest Degree	Specialization
Presently	Ph.D./87	Seed Science
Presently	M.S./85	Plant Breeding
Presently	B.S./78	Horticulture
Presently	B.S./84	Irrigation/Drain
Presently	M.S./87	Weed Science
Presently	B.S./74	Agronomy
Presently	B.S./82	Horticulture
1991	M.S./91	Fruit Crops
1991	M.S./91	Crop Production
1992	Ph.D./92	Soils

TABLE 6: Faculty Availability - Horticulture/Agronomy-ISA - Project 517-0243

Status	Project Year						
	1	2	3	4	5	6	7
Present Faculty(1)	7	6	7	10	12	12	13
Returning Faculty	-	1	3	2	1	1	-
Departing Faculty	1	1	1	1	1	-	-
New Faculty	-	1	1	1	-	-	-
Total Available	6	7	10	12	12	13	13

Notes:

1) Faculty available at the beginning of each year. Assumes that the only faculty to depart will be those receiving study grants, ie., no faculty will quit ISA, or that those who do will be replaced.

TABLE 7: Proposed New Course Offerings by Year at ISA - Project 517-0243

Course	Project Year						
	1	2	3	4	5	6	7
Seed Production and Physiology	-	-	1	1	1	1	1
Tissue Culture Techniques	-	-	1	-	1	-	1
Weed Science	-	-	1	1	1	1	1
Soil Fertility	1	1	1	1	1	1	1
Total	1	1	4	3	4	3	4

Two additional activities have been proposed which would greatly improve the learning experience on the part of students. These activities would also improve the student's marketability upon graduation, as well as reducing the work load of faculty members and include the use of internships and student teaching assistants. They are:

(1) Internships

Internships of three to six months with selected agribusiness firms will provide final year students with hands on training and commercial field crop experience. Most ISA students never have an opportunity to receive on-the-job training or to interact with farmers, agricultural associations, or other potential employers. This lack of practical knowledge was one of the key elements mentioned in the survey of private sector representatives conducted during Project design among private sector representatives. According to the majority of responses from the survey, the entrepreneurs interviewed appeared willing to accept these interns without salary but with some compensation for living expenses.

(2) Teaching Assistants

The single most significant demand on faculty time, is the supervision of student laboratory exercises. In addition to this, faculty must also spend time in the grading of exams and other student work. These responsibilities could be greatly reduced through the use of selected final year students as teaching assistants. Not only could faculty time commitment be reduced, freeing up more time for research and extension activities, but those students selected would benefit greatly in terms of increased experience and knowledge. This mechanism could also be used by the students selected to reduce the amount of their educational loans and/or earn a nominal salary.

b. Research

The overall objective of the Horticulture/Agronomy program in research is to respond to private and public sector needs; especially in the introduction and improvement of exportable non-traditional crops. In 1988, 20 percent of faculty time was spent on research activities, most of which is performed with students as part of their thesis requirement. Under the Project this will increase to 25 percent by year three, and to 30 percent in the years thereafter. A significant part of this increased research program will be funded through specific research grants, obtained from external funding sources.

Research priorities will be based on the following crops:

Tomatoes - This research will be designed to increase the quantity and quality of Dominican tomato production.

Objectives:

- (1) To select tomato varieties which are best adapted to the country's environmental and soil conditions, and which are resistant to major pests including nematodes and several viruses.
- (2) To produce fruits with good keeping and shipping quality, and high nutritional value which yield large crops that are suitable for both domestic and export fresh markets.
- (3) To conduct research on fertilizer use, irrigation and pest management techniques.

Time Frame: 1-5 years.

Peppers - This will include integrated research directed at the improved production and quality of selected pepper varieties.

Objectives:

- (1) To select pimiento and Cubanela varieties which are best adapted to the country's environmental and soil conditions, and which are resistant to local diseases, including several viruses.
- (2) To produce fruit of high quality and yielding capacity for the domestic and export fresh and processed markets.
- (3) To research the use of fertilizers, irrigation and pest management techniques.

Time Frame: 1-5 years.

Cucurbits - This research will be designed to increase the quantity and quality of Dominican cucurbit production.

Objectives:

- (1) To evaluate new varieties of cucurbits, including sweet melons (cantaloupes), cucumbers, watermelons and squash which are resistant to fungus diseases and characterized by good adaptability to environmental conditions, good fruit quality and high yielding ability).

- (2) To develop and adopt techniques for improved cultural methods.

Time Frame: 1-6 years.

Tropical Fruits (including avocado, pineapple, papaya, and passion fruits) - This research will be designed identify and control factors which cause low yields.

Objectives:

- (1) To develop a program to improve the production of tropical fruits in the country by introducing new high yielding varieties, and by identifying and correcting limiting factors which cause low yields. Several crops will require a longer evaluation period than others due to their relatively longer maturation periods, ie., the tree crops.

Time Frame: 1-7 years.

Dry Beans - This research will be designed to increase the quantity and quality of Dominican bean production. While this crop will most likely not be exported, it is essential to the local diet and its expansion will assist in import substitution activities.

Objectives:

- (1) To increase the overall production and to improve the quality of dry beans through variety selection and improved production practices.

Time Frame: 1-5 years.

Seed Production and Certification - This research will be designed to improve the quantity and quality of vegetable and other crop seed production, seed certification and technology transfer.

Objectives:

- (1) To assist in expanding the production of high quality vegetable/agronomic crop seed production.
- (2) To achieve the proper maintenance of genetic quality, through the development and/or strengthening of a seed certification program.

- (3) To develop and strengthen seed production programs, including seed harvesting and cleaning.

Time Frame: 1-5 years.

The Horticulture/Agronomy program will introduce several other research activities to support the entire sub-sector. These include integrated pest management, tissue culture, post-harvest physiology, and food technology.

Integrated Pest Management

The objectives of research conducted in integrated pest management are:

- (1) to train students and faculty in modern and appropriate integrated pest management.
- (2) to reduce the use of pesticides.
- (3) to increase the predictability and subsequent effectiveness of pest control techniques.
- (4) to develop pest control programs that are economically, environmentally, and socially acceptable.
- (5) to marshall agencies and disciplines into integrated pest management programs.
- (6) to increase use of natural pest controls.
- (7) to train students, faculty, pest control applicators, pest control advisors, and farm managers and workers in pesticide safety.

Pest control has become increasingly complex in recent years. This complexity has resulted from frequent changes in pesticide products and regulations, and in the introduction of new monitoring devices, sampling techniques, and alternative control methods, in addition to new major pest organisms.

Research in this area includes the sampling and monitoring of pests, the development of economic thresholds, the cultural and biological control of pests, the economic evaluation of control methods, methods for detecting pesticide resistance, host plant and pest interactions which includes plant growth studies, and computer simulation models for pest/crop development.

Time Frame: 1-6 years.

Tissue Culture Laboratory

The tissue culture laboratory will be used for faculty research and student teaching. The laboratory will be used to introduce appropriate cell and tissue culture methods to propagate and adapt crops which benefit most from these special techniques. Crops for which tissue culture has been proven successful and which are most appropriate for the Dominican Republic will be emphasized. These include plantain, sweet potatoes, cassava and garlic. The research will address the production and multiplication of disease-free stock and mother plants for the local flower production industry. The laboratory will be used to train students to transfer technologies to commercial enterprises.

Time Frame: 1-5 years

Post-Harvest Laboratory

Presently, the course in post-harvest technology which is being taught only includes classroom lectures. This course will be strengthened by adding laboratory exercises for the students. The establishment of such a laboratory will provide the faculty with research opportunities and will be set up by remodelling one of the existing processing laboratories which are not in use at present.

The existence of such a laboratory will better prepare students for the job market providing them with one more skill area which is in demand among the private sector.

Post-harvest research activities may be classified according to two phases:

Phase I: Research of existing fruit and vegetable distribution systems directed toward identification of studies designed to improve product handling techniques.

Phase II: Research of damage occurring to selected fruits and vegetables in the marketing process. This research will focus on key points in the farm to market chain to determine the extent of damage and disease, and to measure product weight and maturity at each point. The research would also focus on protective packaging and refrigerated or humidified storage practices.

Time Frame: 1-6 years.

Food Technology Laboratory

ISA's fruit and vegetable food technology laboratory is currently not functioning due to what has been perceived in the past to be low student demand for the subject area. Nevertheless, as ISA moves more towards responding to the needs of the private sector, it is thought that this demand will increase. As such, this laboratory could be used as both a teaching and a research facility for selected commodities, such as tomatoes, melons, peppers, and pineapple.

Time Frame: 1-3 years.

c. Outreach

The Horticulture/Agronomy program will have the opportunity to increase extension/outreach activities to agribusiness firms and farmers by sponsoring and participating in technical assistance seminars, workshops, and conferences, as well as in providing 'for hire' consulting services. Regular outreach activities will focus on results obtained from research and will be designed to keep the related clientele groups informed. These activities will be greatly strengthened through the presence of the Project's short and long term advisors who will participate in workshops and seminars in their respective areas of expertise. It is estimated that 10 percent of the program's faculty time will be spent on technical assistance activities over the life of the Project. It is further estimated that consulting services will be offered beginning in the first year of the Project at 5 percent of the faculty's time, increasing to 10 percent by year six.

Table 8 contains a summary analysis of all current and proposed demands on the time of the Horticulture/Agronomy faculty including teaching, research, extension/outreach, administration and management.

3. Technical Assistance, Training and Infrastructure Needs

a. Long-Term Technical Assistance

Based on an analysis of perceived needs and future deficit areas, the Horticulture/Agronomy program will receive long term technical assistance in four priority areas: Vegetable Production, Tropical Fruits, Integrated Pest Management, and Post-harvest Physiology. Table 9 depicts the scheduling of these advisors over the life of the Project. Brief job descriptions and the general qualifications required of each advisor are provided below. The table clearly indicates the emphasis which will be given to specific commodities, with particular attention to fruits and vegetables. Both the fruit and vegetable areas will receive two long-term

185

TABLE 8: Matrix of ISA Faculty Requirements - Horticulture/Agronomy
Project 517-0243

	Project Year						
	1	2	3	4	5	6	7
	NO/FTE	NO/FTE	NO/FTE	NO/FTE	NO/FTE	NO/FTE	NO/FTE
<u>Activity (NO = Number of Courses Offered; FTE = Full-Time Faculty Required)</u>							
Teaching:(1)							
Department							
Courses	15/2.5	15/2.5	19/3.2	19/3.2	19/3.2	19/3.2	19/3.2
General							
Courses	10/1.7	10/1.7	10/1.7	10/1.7	10/1.7	10/1.7	10/1.7
Technical							
Program	13/2.2	13/2.2	13/2.2	13/2.2	13/2.2	13/2.2	13/2.2
Laboratory							
Supervision(2)	23/3.8	23/3.8	29/4.8	29/4.8	29/4.8	29/4.8	29/4.8
Research(3)	20/1.2	20/1.4	25/2.5	30/3.6	30/3.6	30/3.9	30/3.9
Technical							
Assistance(4)	10/0.6	10/0.7	10/1.0	10/1.2	10/1.2	10/1.3	10/1.3
Consulting(5)	5/0.3	5/0.4	5/0.5	5/0.6	5/0.6	10/0.7	10/0.7
Grading							
Exams/Theses	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Administration	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Farm Management	1/1.0	1/1.0	1/1.0	1/1.0	1/1.0	1/1.0	1/1.0
Total FTEs Req.	14.3	14.7	17.9	19.3	19.3	19.8	19.8
Available ISA							
Faculty	6.0	7.0	10.0	12.0	12.0	13.0	13.0
Faculty Deficit (6)	-8.3	-7.7	-7.9	-7.3	-7.3	-6.8	-6.8

Notes:

1) Full time teaching load assumed to be 3 courses per semester, or six per year.

2) Calculated at 150 percent of teaching requirements for departmental courses. Normally for every two hours of classroom instruction the students receive three hours of laboratory exercises, although the use of teaching assistants for this function could greatly reduce this requirement.

3) Calculated at 20 percent of faculty time for the first two years, 25 percent in year three, and 30 percent thereafter.

4) Calculated at 10 percent of faculty time over the life of the Project.

5) Calculated at 5 percent for the first five years of the Project and 10 percent thereafter. Increased to 10 percent after year five.

6) Throughout the LOP, it is expected that faculty deficits will be made up by combinations of new-hires and long-term consultants. When faculty deficits occur, ISA is required to redistribute its workload away from activities such as extension, outreach, administration and research, in order to provide teaching faculty.

resident advisors during the life of the project. During Years Three and Four of the Project, the design anticipates providing long-term resident advisors specialized in integrated pest management and in the post-harvest handling of fruits and vegetables. All long term technical assistance

advisors will complete tours of 24 months each. In total, the Horticulture/Agronomy program will receive 12 person/years of long term technical assistance.

TABLE 9: Long-Term Technical Assistance - Horticulture/Agronomy
Project 517-0243

Discipline	Project Year							LOP (Person Years)
	1	2	3	4	5	6	7	
Vegetable Specialist	1	1	-	-	1	1	-	4.0
Tropical Fruit Specialist	1	1	-	-	1	1	-	4.0
Integrated Pest Management	-	-	1	1	-	-	-	2.0
Post-Harvest Specialist	-	-	1	1	-	-	-	2.0
Total	2.0	2.0	2.0	2.0	2.0	2.0	0.0	12.0

b. Terms of Reference and Qualifications

(1) Vegetable Production Specialist

The growth of the vegetable production industry to meet both domestic and export demands has increased greatly as a result of movement away from extensive sugarcane production. Vegetable production systems have not received adequate technological inputs in terms of variety selection, plant protection and pest management, market quality characteristics, and production and marketing strategies. ISA has been forced to concentrate its efforts on a limited number of crops to provide services to this rapidly emerging agro-industry.

Specific position requirements include:

- Capacity to initiate and stimulate team research in the applied aspects of vegetable production;
- Teach courses in appropriate areas while ISA staff are away on study leave;
- Provide service to producers in the production and marketing of high quality commercial crops;
- Be familiar with market requirements and production strategies, including variety selection to assure and maintain the desired product qualities; and,

-Understand the principals of vegetable processing and the production strategies which can be employed to enhance the desired characteristics.

Qualifications: Ph.D. in Horticulture with specialization in vegetable crops. Minimum of five years experience working in the humid tropics. FSI tested Spanish speaking ability at or above the S 3 level prior to arrival in-country.

(2) Tropical Fruit Production Specialist

Indigenous and introduced tropical fruits have commanded an increasing share of the agricultural production economy. Fresh fruit marketing and fruit processing are areas that require significant attention as ISA expands its associations with commercial sectors of the Dominican economy.

Specific position requirements include:

-Planning and implementation of both long and short term research programs in tree fruit production and utilization;

-Teach courses in the Horticulture/Agronomy program while staff members are away in training;

-Provide services to producers in the production and management of high quality commercial tropical fruits;

-Work with commercial processors and export marketers to determine their major problem areas and to ascertain which can be positively influenced by alternative varieties and other production systems; and,

-Understand the principles of tropical fruit processing and the production strategies which can be employed to enhance the desired characteristics.

Qualifications: Ph.D. in Horticulture with a specialization in tree fruits. Minimum of five years experience in the tropics working with tree crops. FSI tested Spanish speaking ability at or above the S 3 level prior to arrival in-country.

(3) Integrated Pest Management Specialist

In recent years, pest control has become an increasingly complex and expensive process. New pesticide formulations and increasingly stringent pesticide safety requirements, augmented by new monitoring and detection devices have placed tremendous pressures on this teaching/research area. ISA needs to remain current in this rapidly advancing area of science and to employ all possible alternative pest control methodologies, and to instruct students and client groups in the principles of integrated pest management.

Specific position requirements include:

- Assist in the development of new courses and to participate in the teaching programs of fruit and vegetable production;
- Establish research programs to develop pest control programs that are economically, environmentally, and technologically sound and acceptable;
- Promote the concepts of biological pest management, economic thresholds of damage assessment, and computer simulation models for pest management and crop development;
- Assemble and assist in the preparation of teaching materials for extension programs in developing teaching and training activities; and,
- Participate in seminars, workshops and short courses to increase the public's understanding of pest management, pesticide usage, and health and safety factors associated with pest control.

Qualifications: Ph.D. in Horticulture with a concentration in pest management. Minimum of five years experience in tropical areas working in integrated pest management. FSI tested Spanish speaking ability at or above the S 3 level prior to arrival in-country.

(4) Post Harvest Specialist

Terms of reference and qualifications for the long term advisor in Post Harvest Technology will be developed during the Project's first year.

b. Short-Term Technical Assistance

The short-term technical assistance inputs required by the Horticulture/Agronomy program during the life of the Project are summarized in Table 10 by the area of specialization required and the number of weeks required. The greatest demand is for the specialty crops with particular emphasis on those destined for export. A specialist in tropical fruits will be provided for ten weeks during the first year. Tropical fruits are quickly increasing in importance as export crops and there is little research currently being conducted in this area. Other specialty crops, primarily for export are given priority for technical assistance. Tomatoes, peppers and cucurbits are listed although there may be others. Technical assistance is programmed during the mid-life of the Project when there will be no long term technical assistance in vegetable production in residence at ISA.

Only eleven weeks of short-term technical assistance is programmed in the areas of irrigation and soils. It is possible that additional assistance in these areas will be required depending on emerging needs in research and extension. To some degree there is overlap in these areas between this program and that of Forestry and Natural Resources. Technical assistance in gender issues will focus upon the design of research and outreach activities which require modification to insure gender neutral (or identifiable) findings and recommendations.

TABLE 10: Short-Term Technical Assistance - Horticulture/Agronomy - Project 517-0243

Technical Area	Project Year							LOP
	1	2	3	4	5	6	7	Total
	(Person Weeks)							
Tomatoes/Peppers	-	4	2	2	-	2	-	10
Cucurbits	-	4	2	2	-	2	-	10
Tropical Fruits	10	-	-	-	2	-	-	12
Field Beans	-	-	4	2	2	-	-	8
Floriculture	-	3	2	2	-	-	-	7
Tissue Culture	-	-	8	-	2	-	-	10
Post-Harvest	-	3	-	-	-	-	-	3
Pest Management	-	-	-	-	-	3	2	5
Foundation Seed	-	-	8	2	2	-	-	12
Irrigation/Soils	-	-	-	8	3	-	-	11
Gender Issues	2	-	-	-	-	-	-	2
Total	12	14	26	18	11	7	2	90

c. Long-Term Non-Degree Training

The scheduling of long-term non-degree training for the Horticulture/Agronomy program is found in Table 11. This training has been scheduled for periods of twelve months each, with no training having been scheduled specifically in the fruits and vegetable areas. Nevertheless, training has been programmed for major support areas such as tissue culture analysis, post-harvest technology and seed production. In addition, it is projected that a staff member will receive a year of training in floriculture and another in soil analysis. As with technical assistance in soils, it is anticipated that there will be some overlap with training scheduled for the Forestry/Natural Resources program.

All training will be provided during the first five years of the Project since it is anticipated that each of these areas will be competently handled by Dominican staff with no need for additional long-term technical assistance during the last two years.

TABLE 11: Long-Term Non-degree Training - Horticulture/Agronomy - Project 517-0243

Technical Area	Project Year							LOP
	1	2	3	4	5	6	7	Total
(Person Months)								
Tissue Culture	--	--	--	12	--	--	--	12
Post-Harvest	--	12	--	--	--	--	--	12
Foundation Seed	12	--	--	--	--	--	--	12
Soils	--	--	12	--	--	--	--	12
Floriculture	--	--	--	--	12	--	--	12
Totals	12	12	12	12	12	0	0	60

d. Short-Term Training

The scheduling of short-term training is found in Table 12. All training of this type, with the exception of conference attendance, will be completed during the first five years of the Project. The technical areas to be emphasized do not overlap with those being targeted for long-term non-degree training. Rather, they include commodity-related topics which will be addressed by the long term resident advisors, such as tomatoes, peppers and cucurbits, in addition to tropical fruits. They also include pest management, irrigation, food science, extension methods and gender issues.

As part of the short-term non-degree training, the Project will also support travel by the program's faculty to attend professional society meetings and conferences. This activity is intended to provide them with opportunities to remain abreast of current research in specific areas of competency which are to be emphasized in ISA's program. The activity will also facilitate networking by the faculty with colleagues in the United States and in other Latin American countries that are working in similar areas.

TABLE 12: Short-Term Training - Horticulture/Agronomy - Project 517-0243

Description	Project Year							LOP Total
	1	2	3	4	5	6	7	
	(Person Weeks)							
A. Formal Courses:								
Tomato/Pepper	--	4	--	--	--	--	--	4
Cucurbits	--	4	--	--	--	--	--	4
Tropical Fruits	--	6	--	--	--	--	--	6
Beans	--	--	4	--	--	--	--	4
Pest Management	--	--	--	4	--	--	--	4
Irrigation	--	--	--	--	4	--	--	4
Food Science	4	--	--	--	--	--	--	4
Extension Methods	--	2	--	--	--	--	--	2
Gender Issues	--	2	--	--	--	--	--	2
Sub Total	4	18	4	4	4	0	0	34
B. Conference Attendance								
Am. Society of Horticulture Science	--	3	--	3	--	3	--	9
Am. Society of Agronomy	--	--	1	--	1	--	1	3
Interamerican Horticultural Society	--	5	5	5	5	5	5	30
International Horticultural Society	--	2	--	--	--	2	--	4
Sub Total	0	10	6	8	6	10	6	46
Total (A+B)	4	28	10	12	10	10	6	80

Typically, annual meetings consist of the presentation of scientific papers, special seminars and workshops on cutting edge research. These meetings are fora in which scientists discuss with one another mutual research interests. International meetings are typically held every four years. The American Society of Horticultural Science annual meeting will be held in Hawaii in 1990. It will provide an excellent opportunity for attendees to learn more about the tropical fruits and other crops being grown there. The Interamerican Horticultural Meetings are held annually in a Central or South American country, and most papers presented at these meetings are in Spanish. The last meeting was held in Colombia in November, 1988.

There are also special periodic symposia held by the International Society of Horticultural Science in various countries around the world on special topics of interest to horticulturalists such as tomatoes, avocados, and pineapples. Selected faculty with interests in these topics would benefit from attending them.

e. Horticulture/Agronomy Infrastructure

In order to implement the Horticulture/Agronomy program as planned, a specified level of teaching, laboratory and field equipment and supplies will be provided through the Project. It is estimated that this equipment will cost approximately \$112,500 as is indicated in Table 13. Additionally, two small tractors and three pickup trucks will also be required, plus seed and planting materials in order to conduct anticipated field experiments. Computer hardware and supplies will also be required to improve and upgrade classroom presentations.

TABLE 13: Horticulture/Agronomy Infrastructure - Project 517-0243

Category	Amount US\$
Laboratory and Field Equipment	\$112,500
Tractors (2)	40,000
Vehicles (3)	45,000
Computer Equipment	8,000
Teaching Equipment	4,500
Seeds and Plant Materials	5,000
Total	\$215,000

F. Animal Production Program

1. Background

Animal production has a great potential to contribute to the Dominican Republic's nutritional self-sufficiency and to the generation of hard currency income. A complex of factors have combined to reduce the

193

degree to which this potential is presently fulfilled. What little applied research has been done has been limited to only a few aspects of animal production. The transfer of appropriate technology has been limited, and in some cases has failed, because it has not been based on appropriate, locally derived, research results. Some of the principal constraints to animal production are the result of factors outside the production system such as the cost of imported inputs and product price controls. The principal technical constraint is perceived to be animal nutrition.

A few indices of production indicate the potential for increased efficiencies in productivity. The average stocking rate on the 1.2 million hectares which are dedicated to pasture production is 0.7 head/hectare. The average offtake rate for beef cattle is estimated at 10 percent. Milk production has decreased since 1984 to approximately 300 million liters per year, while there has been an increase in the importation of milk to approximately 450 million liters per year. The average yield per cow per year is in the range of 900-1200 liters. The actual market for meat exports exceeds the present production capability.

In addition to their role as direct food producers, animals have an important role in the transport of agricultural products. Donkeys and oxen are essential to most small scale producers, which comprise the vast majority of farms in the country. They are also used for the haulage of sugar cane, african oil palm, and other products (for instance by INASCA and La Manicera). This energy efficient and ecologically non-destructive technology will continue to contribute to these agroindustries in the future.

The national goals for animal production are to strive for self-sufficiency in food production with minimal dependence on imported inputs, and to contribute to export earnings. Ecologically appropriate, cost effective, production systems must be developed which take advantage of locally available feedstuffs. Feed supply must be stabilized year round. Economic and practical methods must be developed to restore degraded pasture and to ensure that increased intensification occurs through the sustainable use of existing pasture lands. This will include the use of agroforestry systems. Additionally, opportunities exist to improve technology and channels for the marketing of milk and meat, both for domestic production and for export.

Processed meats and cheeses are well accepted products in the Dominican Republic. A wider range of processed products could be developed which would reduce spoilage and extend shelf-life without chilling. ISA can play an important role in developing products and extending them to butchers and cheesemakers. Locally processed products would enhance the value of the meat, much of which is presently processed with higher labor costs after entering the US. A number of options exist for ISA to have access to working slaughter and processing facilities.

The northern provinces (Cibao Norte and Noreste, Puerto Plata, La Vega and Santiago) play an important role in national livestock production. They have 46 percent of the national cattle population distributed on 50.3 percent of the country's natural and improved pasture land. As a percentage of national production, 54.5 percent of the meat and 62.2 percent of the milk is produced in the northern provinces. This is the immediate community in which ISA's activities in teaching, research and outreach will have the most impact.

The Animal Production program is the most recently established at ISA, dating from 1983. Although several higher educational institutions have teaching programs in agriculture and veterinary medicine, ISA is among the very few offering a major in Animal Production. It has a heavy responsibility in the preparation of graduates with the scientific, practical and problem solving skills to address the technology development and transfer needs of the livestock sector.

The Animal Production program must focus research, in coordination with other national institutions, on the principal constraints to production and marketing. While the faculty provides a comprehensive teaching program in Animal Science, it must also focus research efforts on topics which can most appropriately be handled by ISA, avoiding duplication of research by other national and international centers. This calls for the strengthening of linkages and communication with other animal science researchers in the country and internationally. A logical opportunity which exists in this regard is to further strengthen collaboration with the Centro de Mejoramiento de Produccion Animal (CIMPA). This may occur through the involvement of CIMPA professionals in teaching at ISA and through joint and complementary research activities. ISA will not duplicate the area of specialization of CIMPA in genetic improvement, but rather will seek to focus on production systems research and nutritional management. Similarly, collaborative opportunities exist with the Animal Health Laboratory of the Secretaria del Estado de Agricultura (SEA) and the CENDA soils laboratory. Over the longer term, the program also expects to increase its research capability in the processing of animal products.

Although Animal Science is currently the second largest major among ISA students, the program functions with only five full-time professors. Of the present group, only two are ISA employees. The others include two international advisors and a veterinarian, who is an employee of SEA stationed at ISA. The program is fortunate to have a very experienced forage and pasture expert who will provide leadership to the younger ISA professionals. Four individuals are presently in training outside the country. Table 14 shows the anticipated departures and arrivals of program faculty over the life of the Project. Note that none of the faculty training listed in Table 14 was or will be funded by this project.

TABLE 14: Faculty in Animal Production - Project 517-0243

Specialization	Degree	Institution	Arrive/Depart
At Present:			
Animal Nutrition	M.S.	CENIP/Mexico	Proposed study in Germany. Away mid-1989 to mid-1990.
Forages/Pastures	M.S.	Spain Australia and New Zealand	
Animal Health	DVM	UNPHU	
	M.S.	ICA, Colombia	
Quant. Genetics	Ph.D.	Germany- Huhhinhein	Until 5/89
Poultry and Swine Production	Ph.D.	Germany-Bonn	Until 3/89, Possibly 3/90
In Training:			
General Agriculture	M.S.	Germany-Bonn	Back mid-89
Poultry Production	M.S.	U. Missouri	Back mid-89
Animal Management	M.S.	Germany-Bonn	Back mid-89
Dairy Management	M.S.	U. Florida	Back mid-89

Clearly the program's faculty have a heavy teaching load and make up a very small group to form a research team. There is an urgent need to reinforce the staffing of this program. Several new faculty positions are required to bring the program to a staffing level which will permit adequate time to be dedicated to research and extension and thus to achieve stronger interaction with the private sector. The long-term advisor requested under the Project will assist in this regard. The staff will also be augmented by several new hires which have been proposed to support the existing group. The further integration of CIMPA professionals will help to fully develop an adequate research faculty.

2. Current and Proposed Activities

a. Teaching

The Animal Production program is involved in teaching at three levels in addition to periodic involvement in short courses through CADER.

-The secondary school level program, which is presently being phased out. This has involved an average of 45 students per year.

196

-The faculty will continue to teach a component of the three-year technical program (Tecnico Universitario). An average of 35 students per year attend the animal science classes which are taught separately to this group.

-At the degree level, where a transition is in progress from a general degree in which a student may elect to study a major in animal science as part of an agronomy degree (Ing. Agronomo), to a new program leading to an animal science degree (Ing. Zootecnista). Present enrollment in the major is approximately 40. The first animal science degree students have not yet enrolled.

The principal changes in the curriculum to provide a B.S. degree in Animal Science may be summarized as an increased emphasis on:

- (1) Production Systems, Meat Technology, Milk Processing, Animal Traction, Legislation, Economics, and Marketing, (each to be addressed by a new course);
- (2) Agro-silvo-pastoral systems and the management of natural resources (course structure to be defined);
- (3) Nutrition, genetics, forage management (expansion from one course to two);
- (4) Project Administration (requirement of CADER summer course as a degree component);
- (5) Greater involvement of students in practical hands-on learning, and exposure to management decisions on ISA production units;
- (6) Greater use of seminar formats and group study activities to enhance teamwork capabilities;
- (7) Enhanced student familiarity with computer usage; and,
- (8) Increased efforts to relate class topics to the actual production constraints of the region.

These proposed changes will enhance the responsiveness of ISA Animal Science graduates to the needs of the livestock production sector and related agroindustries.

The teaching commitments of the faculty reflect the transition from animal production as one concentration area to a complete Ing. Zootecnista program. The actual and proposed course offerings by the

present faculty, plus those returning from study abroad, are shown in Table 15. Some of the new courses will require new faculty with additional areas of specialization. These needs are reflected both in the sections on training and on those dealing with long and short-term advisors.

All teaching is presently carried out within a semester format. Consideration may be given to the adoption of modular formats where this could enhance: the design of practicums and teamwork activities; the release of faculty for training and research; and, the optimal participation of short-term advisors.

The new program will include a senior thesis requirement. All theses will be linked to on-going research programs to ensure they contribute to the understanding or resolution of high priority problems and reinforce the team research effort lead by the faculty.

The curriculum for the degree in Animal Science has been developed very recently. The proposed credit load is at least 230 semester credits, up from 201 at present. Further discussion and refinement is expected which should give consideration to some streamlining in the initial two years to permit a reduction in the credit load.

The Technical Program, which will graduate its first class in 1990, is expected to continue in parallel with the Animal Science degree program once it is established. The Technical Program is expected to fill the demand for agricultural extension agents with less needs for indepth animal science training and a greater "generalist" capability. This need for parallel programs will be reassessed annually and especially when the Animal Science degree program has graduated its first class in 1994.

b. Research

The overall goal of the research program is to increase the milk and meat supply by developing and transferring appropriate technology. More specifically, the program seeks to develop production systems appropriate to the ecologic, economic and social conditions of the Dominican Republic and to establish mechanisms which insure that the technology is transferred. Additionally, the program will strive to provide coordinated extension training to technicians and producers.

The criteria for selecting research areas are as follows:

-Research directed at the problems of livestock production and utilization which are considered to be of high priority nationally, and to the region;

-Research activities which complement teaching and extension/outreach activities; and,

-Research that provides complementarity to that of CIMPA.

198

TABLE 15: Proposed Course Offerings - Animal Production - Project 517-0243

Current Courses(2)	Semester(1)											
	88-F	89-S	89-F	90-S	90-F	91-S	91-F	92-S	92-F	93-S	93-F	94-S
Poultry	2	0	2	0	2	0	2	0	2	0	2	0
Swine Production	2	0	2	0	2	0	1	2	1	2	1	2
Dairy Production	2	1	1	1	1	1	1	1	1	0	0	0
Rabbit Production	1	0	0	0	0	0	0	0	0	0	0	0
Minor Species	0	0	0	0	0	0	0	1	0	1	0	1
Small Ruminants	0	0	0	0	0	0	0	0	1	0	1	0
Beekeeping	0	0	0	0	0	0	0	1	0	1	0	1
Genetics	1	0	1	0	1	0	0	0	0	0	0	0
Quant. Analysis	0	1	0	1	0	0	0	0	0	0	0	0
Repro./Selection	1	0	1	0	1	0	0	0	0	0	0	0
Biotechniques Repro.	0	0	0	0	0	0	0	0	1	0	1	0
Animal Nutrition	1	0	1	0	1	0	0	0	0	0	0	0
Biochemistry	0	1	0	1	0	1	0	0	0	0	0	0
Org. Biol./Chem.	0	1	0	1	0	1	0	1	0	1	0	1
Pastures/Forages	1	0	1	0	1	0	0	0	0	0	0	0
Beef Production	0	1	0	1	0	1	0	0	0	0	0	0
Agriculture Practice	0	1	0	0	0	0	0	0	0	0	0	0
Anatomy/Physiology	1	0	1	0	1	0	0	0	0	0	0	0
Animal Pathology	0	1	0	1	0	1	0	0	0	0	0	0
Vet. First Aid	0	1	0	1	0	1	0	1	0	1	0	1
Intro. Vet. Med.	0	1	0	0	0	0	0	0	0	0	0	0
New Courses												
Intro. Animal Pro.	0	0	0	0	0	1	0	1	0	1	0	1
Silvopastoral Mgt.	0	0	0	0	0	0	0	0	0	0	1	0
Animal Traction	0	0	0	0	0	0	0	0	0	1	0	1
Production Systems	0	0	0	0	0	0	0	0	0	1	0	1
An. Prod Seminar	0	0	0	0	0	0	0	0	0	0	1	1
Milk Science	0	0	0	0	0	0	0	0	1	0	0	1
Meat Science	0	0	0	0	0	0	0	0	0	1	0	0
Aquaculture	0	0	0	0	0	0	0	0	0	0	0	1
Pathology I	0	0	0	0	0	0	0	1	0	1	0	1
Pathology II	0	0	0	0	0	0	0	0	1	0	1	0
Vet. First Aid	0	0	0	0	0	0	0	0	1	0	1	0
Physiology	0	0	0	0	0	0	1	0	1	0	1	0
Anatomy	0	0	0	0	0	0	1	0	1	0	1	0
Total Load/Sem.	12	9	10	7	10	7	6	9	11	11	11	13
Total Load/Year		21		17		17		15		22		24
FTEs(6 courses/yr)(3)		3.5		2.8		2.8		2.5		3.7		4.0

19

TABLE 15: (Continued)

Notes:

1. S=spring semesters; F=fall semesters
 2. Only classes taught by the Animal Production faculty shown. Other courses in new 'Ing. Zootecnia' major may generate teaching requirements in other departments.
 3. Full Time Equivalents: The total number of faculty members required teaching full time under a course load of six courses per year. Note that part of the additional FTE needs are generated by the introduction of new course topics for which there are presently no trained personnel.
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To date, the major research priorities which meet these criteria are in forage management, the nutritional analysis of feed stuffs, production systems (dairy, beef, swine, poultry) and animal health. Within forage management, special attention is to be given to pasture restoration, sustainability, intensification, and the reduction of the country's dependance on imported feedstuffs. The specific research priorities together with a proposed time frame are described below. Also included are the newer areas of processing and animal traction which are to be developed during the course of the Project.

(1) Research Areas to be Developed

(a) Pastures and Forages - Years 1-7

Introduction and evaluation of forage species:
selection of forage species adapted to different production systems, test potential native forage species.

Management and use of forages: develop pasture management for intensification and enhanced production within local ecosystems; test grass/legume combinations to reduce concentrate needs.

Test agroforestry systems using legumes in protein banks; develop and evaluate practical and economic pasture restoration techniques; study pasture establishment techniques.

Develop forage conservation techniques appropriate to local production systems; produce seeds and plants for distribution and field testing.

200

(b) Animal Health - Years 1-7

Impacts of common infectious diseases on dairy and beef production; epidemiology and economics; evaluate impact of mineral deficiencies in cattle in the region; impacts of infectious disease complexes on swine, poultry, small ruminant production.

Develop practical preventive management strategies for production systems in the region; determine the costs of disease and disease prevention within enterprise budgets.

(c) Dairy and Beef Production - Years 1-7

Characterization of production and management systems of the region; develop integrated production system models for beef and dairy appropriate to the region; identify principal constraints to production and appropriate solutions.

(d) Poultry and Swine Production - Years 1-7

Determine production potential of local poultry breeds compared to imported hybrids; define selection parameters for local breeds; evaluate non-traditional locally produced feeds as substitutes for imported concentrates.

(e) Animal Nutrition - Years 1-7

Evaluation of agroindustrial by-products as animal feedstuffs; evaluation of non-traditional crops as components of poultry and swine diets; provide analytical support to forage research program.

(f) Using New Faculty and Long and Short-Term Technical Assistance

- | | |
|---|-----------|
| - Meat processing technology for domestic and export markets. | Years 3-7 |
| - Cheese making technologies appropriate to the region. | Years 3-7 |
| - In conjunction with CIMPA, animal traction usage. | Years 3-7 |

c. Outreach

The Animal Production faculty will increase its extension/outreach activities. This will include a variety of methods including short courses, single day conferences (both of these activities may be conducted, as appropriate, with CIMPA), talks and presentations to producer groups, radio presentations, demonstrations and field days, and the

preparation of technical bulletins and management calendars. One department faculty member will be designated as outreach coordinator and will receive short-term training in communication, and the design and programming of extension activities. This individual will not be the only one carrying out extension activities, but rather, will be responsible for overall program coordination.

Table 16 shows the expected outreach activities to be established and conducted through the Project.

Table 17 presents a summary description of the demand for faculty resources.

3. Technical Assistance, Training and Infrastructure Needs

a. Long-Term Technical Assistance

Table 18 shows the long-term technical assistance needs over the 7 year life of the Project.

The terms of reference for each advisor are outlined below.

(1) Animal Nutritionist

Will contribute to emphasizing animal nutrition as a key component of animal production systems. Will assume teaching duties of ISA professionals receiving training in this area. Will develop an active research program as a member of the animal science team addressing the program's goals for research. Will support ISA staff effort in extension activities.

Qualifications: Ph.D. in Animal Nutrition, with experience with both ruminants and non-ruminants. Understanding based on field experience of the nutritional problems of the American tropics. Capabilities in ration balancing and laboratory analytical techniques, as well as feed management by producers. Capable of catalyzing the team effort of the department. FSI tested Spanish speaking ability at the S-3 level to be acquired before arrival.

(2) Production Systems Specialist

Will carry out teaching and other responsibilities while national counterpart is in training. Will carry out research within the program's objectives and functions as a member of the research team. Will assist national counterparts to develop a sustainable program in the area of analysis and modeling of production systems. Will work in cooperation with CIMPA and in strengthening the ISA-CIMPA linkage.

TABLE 16: Programmed Outreach Activities - Animal Production - Project 517-0243

Activities	Number/Yr.
Short Courses/Workshops:	
a. Animal Science	1
b. Assistance to CADER	1
Radio and Direct Presentations in:	7
Forage Conservation	
Tropical Legumes	
Pasture Management	
Non-traditional Feeds	
Integrated Production	
Production Systems	
Feeding: Avian/Porcine	
Field Demonstrations in:	7
Silage Preparation	
Legume Cultivation Systems	
Pasture Restoration	
Appropriate Infrastructure	
Use of Health and Management Calendars	
Field Tests of Forages	
Animal Health Procedures	
Extension Bulletins in:	6
Forage Management	
Tropical Legumes	
Pasture Restoration	
Animal Health	
Nutrition	
By-product Usage	
Publications	36
Examples:	
Desarollo Integral	
National Fertilizer Company Bulletins	
Newspapers (1 article per month per category)	
Management Calendars	3

Qualifications: Ph.D. with an understanding of tropical production systems through field experience. Extension and on-farm research experience. Proven teamwork capabilities. FSI tested Spanish speaking ability at the S3 level to be acquired before arrival.

TABLE 17: ISA Faculty Requirements - Animal Production - Project 517-0243

Activities	Project Year						
	1	2	3	4	5	6	7
	NO/FTE	NO/FTE	NO/FTE	NO/FTE	NO/FTE	NO/FTE	NO/FTE
(NO = Number of Courses Offered; FTE = Full-Time Faculty Required)							
Teaching							
Courses(1)	21 3.5	17 2.8	17 2.8	15 2.5	22 3.7	24 4.0	24 4.0
Research(2)	20 1.0	20 1.0	25 1.6	30 2.1	30 2.3	30 2.1	30 2.1
Technical(3)							
Assistance	10 0.5	10 0.5	10 0.7	10 0.7	10.0.7	10.0.7	10 0.7
Consulting(4)	5 0.3	5 0.3	5 0.3	5 0.4	5.0.3	5 0.4	5 0.4
Grading/Thesis	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Laboratory							
Supervision(5)	5.3	4.3	4.3	3.8	5.5	6.8	6.8
Farm							
Management(6)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Program(7)							
Administration	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total FTEs Req.	11.6	9.9	10.7	10.5	13.5	15.0	15.0
Available							
Faculty(Table 1)	5.0	5.0	6.5	7.0	6.5	7.0	7.0
Faculty Deficit	-6.6	-4.9	-4.2	-3.5	-7.0	-8.0	-8.0

Notes:

1. All courses, from previous table, six/year/FTE.
2. 20 percent of each faculty member's time dedicated to research years one and two, 25 percent in year 3, and 30 percent thereafter.
3. Extension activities; not for pay, provided at the rate of 10 percent time of available FTEs over the Project period.
4. Extension activities; for pay, provided at the rate of 5 percent time of available FTEs for the first five years, then increased to 10 percent.
5. Calculated at 150 percent of teaching requirements, ie., on average, for every two classroom hours taught three hours of laboratory preparation and supervision are required. Presently, this category demands an inordinate amount of each faculty member's time. It is proposed that through the use of teaching assistants these demands could be substantially reduced.
6. Not performed at present, but proposed for the future. Calculated at 20 percent of one FTE's time.
7. Calculated at 30 percent of one FTE's time.

204

TABLE 18: Long-Term Technical Assistance - Animal Production - Project 517-0243

Discipline	Project Year							LOP
	1	2	3	4	5	6	7	Total
	(Person Year)							
Animal Nutri.	xxxxxxxxxx							2.0
Production Systems Specialist			xxxxxxxxxx					2.0
Total	1.0	1.0	1.0	1.0	0.0	0.0	0.0	4.0

A Food Technologist is needed to fully develop this growing and much needed specialty within the curriculum. ISA will attempt to obtain assistance from another donor; suggested terms of reference for the position are included here for convenience.

(3) Food Technologist

Will be responsible for renewing activity in the area of animal products processing through developing and participating in new teaching and research programs in meat and milk processing science. Assist in the development of related extension activities such as meat cutting and cheesemaking workshops. Will be expected to work with students and faculty in local processing plants as well as at ISA.

Qualifications: Ph.D. with experience in both meat and milk processing. Experience with low technology processing systems. Familiarity with the constraints to processing in the tropics. Ability to analyze the economic aspects of the production processes. FSI tested Spanish speaking ability at the S-3 level will be acquired before arrival.

b. Short-Term Technical Assistance

Table 19 shows the short-term technical assistance needs over the 7 year life of the Project.

205

TABLE 19: Short-Term Technical Assistance - Animal Production - Project 517-0243

Technical Area	Project Year							LOP
	1	2	3	4	5	6	7	Total
(Person Weeks)								
Laboratory Management	3	-	-	3	-	-	-	6
Tropical Legumes	4	2	2	2	-	2	-	12
Parasitologist	-	4	-	4	-	-	-	8
Bovine Mastitis	3	3	-	-	-	-	-	6
Animal Nutritionist	-	-	-	3	-	3	-	6
Forage Agronomist	-	3	-	3	-	-	-	6
Herd Improvement	-	2	-	2	2	-	2	8
Avian Pathologist	-	8	-	8	-	-	-	16
Swine Diseases	6	2	2	-	-	-	-	10
Milk/Meat Hygienist	-	-	2	2	-	-	-	4
Animal Traction	-	-	3	-	3	-	-	6
Gender Issues	2	-	-	-	-	-	-	2
Total	18	24	9	27	5	5	2	90

The terms of reference for each type of advisor are outlined below.

(1) Laboratory Management

Will evaluate the status of existing equipment and instrumentation. Carry out repairs possible on site and plan for additional repairs as needed. Make recommendations for the management of inventories. Review the needs of other institutions in the region (PUGMM, CENDA, CIMPA, etc.) and develop a plan for collaboration on equipment service and maintenance taking into consideration the advantages and disadvantages of a cooperative institutional effort on equipment and instrumentation management. Develop a preventive maintenance plan for ISA instrumentation and equipment. Follow up visit to trouble shoot implementation of plans. Experienced instrumentation engineer with tropical experience. Spanish desirable but not essential.

(2) Forage Agronomist

Agronomist with field experience with tropical pastures and forages, strong capabilities in animal nutrition and ration balancing. Able to communicate with both field agronomists and laboratory nutritionists. Spanish speaker.

206

(3) Dairy Herd Improvement

Will work with animal science team to assess needs and design for data management systems to assist dairy management in the local context. Follow up visits will assist in implementation of these systems. Spanish speaker.

(4) Forage Management

Agronomist with practical experience in the management of tropical legumes. An individual from an international research center in the American tropics preferred. Spanish speaker.

(5) Avian Pathologist

Clinical and epidemiologic expertise with tropical rural and commercial poultry production. Carry out and teach basic laboratory diagnostic techniques. Spanish Speaker.

(6) Swine Disease Specialist

Experience in field and with tropical rural and commercial swine production. Clinical/epidemiological expertise with tropical swine disease. Carry out and teach basic laboratory techniques. Spanish Speaker.

(7) Parasitologist

Parasitologist with experience in tropical production systems. Broad diagnostic capability with endo and ecto parasites of small ruminants. Carry out and teach diagnostic techniques and flock health planning. Spanish speaker.

(8) Veterinary Clinician/Bovine Mastitis Specialist

Familiarity with tropical dairy systems. Broad experience in dairy herd health programs with particular emphasis on mastitis management. Clinician with ability to set up supporting basic diagnostic techniques. Spanish speaker.

(9) Veterinary Meat and Milk Hygienist

Will work with veterinarian and food technologists to develop a teaching unit on meat and milk hygiene and in support of the research program. Practical experience and training in microbiology or veterinary medicine. Familiarity with low technology tropical operations. Spanish speaker.

(10) Nutritionist

As a follow up in the later years of the Project to the long-term advisor. This individual would have similar capabilities and could be the same person.

(11) Gender Issues

A specialist in gender issue impacts will provide workshops for the faculty to increase their awareness of inherent bias in both research and outreach activities, and will help design corrective strategies.

c. Long-Term Non-degree Training Requirements

The long-term non-degree training requirements to be provided under the Project can be seen in Table 20. This form of training will be used to prepare faculty members in the additional areas of specialization which will be needed to fulfill the demands of the new Animal Science degree program. It will be used to develop research programs which are increasingly responsive to the needs of the private sector.

With limited faculty numbers in the Animal Production program, there will rarely be more than one candidate eligible for any particular training slot. Nevertheless, it is considered appropriate to define selection criteria, considering the possibility of personnel turnover within the timeframe of the Project. Preference should be given to recent university graduates with training in animal science or veterinary medicine with an outstanding academic record. Selectees will be highly motivated and demonstrate interest in the field of specialization and a strong commitment to serve ISA.

d. Short-Term Training

Table 21 details the short-term training requirements which will be supported under the Project. Short-term training is proposed to strengthen and broaden the knowledge of new faculty and as a continuing education and refresher mechanism for current personnel. It may include participation in formal course programs, where an appropriate course is offered, or individually designed internships in laboratories and programs at other institutions. In the latter case, efforts will be made to coordinate the short-term training activities with the various long and short-term technical assistance advisors under the Project. This will be done in an attempt to strengthen the long-term institutional linkages which can serve ISA beyond the life of this Project.

203

TABLE 20: Long-Term Non-degree Training - Animal Production -- Project 517-0243

Technical Area	Project Year							Description
	1	2	3	4	5	6	7	
	(Person Months)							
An. Nutrition	12	0	0	0	0	0	0	Laboratory techniques for teaching and research. In service training nutritional analysis. Assumes theoretical understanding and practical experience of common nutritional analysis techniques. Candidate will teach nutrition courses on return.
Pastures and Forages	0	0	6	0	6	0	0	Theoretical and practical training to support teaching in Animal Science program and research activities in forages. Focus of program must be tropical forage management. New faculty member to be hired.
Production Systems	12	12	0	0	0	0	0	Two year non-degree or MS program. Tropical production systems; consider CATIE or CIAT. This will be a new faculty member who will assume teaching and research responsibilities in this area. Consideration may also be given to specialization by one of the trainees who is in a general program in Germany.
Food Technology	12	12	0	0	0	0	0	Two year non-degree or MS program. Primary emphasis

209

TABLE 21: Short-Term Training - Animal Production - Project 517-0243

Technical Area	Project Year							Description
	1	2	3	4	5	6	7	
	(Person Weeks)							
A. Formal Courses:								
Pastures and Forages	0	0	4	0	4	0	0	Management and use of pastures and forage legumes. Training to address cultivation, nutrition, fertilization and management.
Animal Traction	4	0	4	0	0	0	0	Coordinate with CIMPA.
Agroforestry Systems	0	0	0	4	0	4	0	Coordinate with Forestry program, ideally animal and forestry personnel to attend training together.
Animal Health	0	4	4	4	4	0	0	Directed at veterinary faculty. Emphasis on practical field and laboratory experience. Possibilities include U. of Georgia Spanish language avian pathology course, courses at ICA-Bogota, in addition to custom designed short training at contractor universities.
Herd Improvement	0	4	4	4	0	0	0	Emphasis on application of computerized records management and interpretation for production, enterprise budgeting, ration balancing.
Extension Communication	0	2	0	0	0	0	0	For program extension coordinator.
Gender Issues	0	2	0	0	0	0	0	
Sub Totals	4	12	16	12	8	4	0	56 person weeks

TABLE 21: (Continued)

Technical Area	Project Year							Description
	1	2	3	4	5	6	7	
(Person Weeks)								
B. Visits and Conference Attendance:								
Forage/Pasture	1	1	1	1	1	1	1	
Animal Health	1	1	1	1	1	1	1	
Animal								
Nutrition	0	0	1	1	1	1	1	
Production								
Systems	0	0	0	0	1	1	1	
Animal Food								
Technology	0	0	0	0	1	1	1	
Poultry/Swine								
Production	0	1	1	1	1	1	1	
Management								
and Genetics	0	1	1	1	1	1	1	
Sub-Total	2	4	5	5	7	7	7	37 person weeks
Total (A+B)	6	16	21	17	15	11	7	93 person weeks

and to fulfill the primary purpose of having access to the plant as a research and teaching facility. The limiting factor in the financial viability of these facilities as a private commercial concern may be their relatively small daily throughput capacity. Consideration should also be given to operation of the food technology processing facility without the slaughterhouse or to an extension of the slaughter house facility. The acquisition of a long-term advisor through another donor in meat and milk processing will likely be attractive to a potential private operator who can assist in the establishment of a cooperative working relationship. An alternative approach is complete divestiture and dependence on the establishment of an agreement with another private plant. The fate of the ISA plant must be determined before a long-term advisor is acquired by ISA if he/she is to operate effectively in developing the meat and milk science program.

The infrastructural needs listed in Table 22 are those which will be needed as a minimum to permit the development of the priority research areas in the first three years. As new research questions emerge and experiments are designed, there will be a need for additional equipment components.

-212-

TABLE 22: Animal Science Infrastructure - Project 517-0243

Category	Amount (US\$)
Field and Laboratory Equipment	\$20,500
Teaching Equipment	2,000
Field and Laboratory Supplies	2,000
Computer Equipment	5,000
Repairs to Existing Infrastructure	7,000
Vehicles (2)	30,000
Livestock	5,000
Total	71,500

G. Forestry/Natural Resources Program

1. Background

Sustainable agriculture and economic development in the Dominican Republic are heavily dependent upon the country's natural resource base. One key requirement for success in this area is a major increase in forest production through the use of plantations and the restoration of natural forest cover. This has been recognized by all recent Presidents and most national leaders. Technical leadership and data are required to move the country forward in solving its crucial forestry and related natural resource problems. ISA is uniquely prepared to take this leadership.

ISA initiated a Forest Resources concentration within its Agronomy degree program in about 1976. Between 1980 and 1988, this produced 44 graduates. The teaching program has advanced in quality and somewhat in diversity, but does not yet meet the professional training needs of the country. Emerging results of ISA research and industrial planting trials indicate a vast economic potential for forest production under plantation systems. This would help to cut the serious drain of foreign exchange for the importation of wood and wood products (third largest import category), and can help meet the severe shortage of wood fuel, thus preventing greater imports of petroleum products.

Research at ISA on issues concerning forestry was spurred by the 1983-1987 wood fuel program (AID-Energy Commission), which produced the nation's first industry-oriented research results in forestry. This has stimulated interest in, and needs for, additional silvicultural, economic, and products research and training.

213'

2. Current and Proposed Activities

a. Teaching

The teaching goal at ISA is to modify and enrich the present curriculum to produce graduates with a professional forestry degree (Ing. Forestal), by building on the current ISA basic course offerings.

The evolution of the undergraduate program will be accompanied by the Oficina Nacional de Planificacion (ONAPLAN) proposal to develop an M.S. degree curriculum in Forestry and Natural Resources, the exact nature of which has been discussed extensively but not finalized.

To prepare for these developments, ISA, ONAPLAN and several international programs have collaborated to train and increase the faculty qualifications at ISA. At the end of 1988, there were two M.S. graduates on the faculty, assisted by a Dasonomo, (forestry technician) two researchers with B.S. degrees in Agronomy with a concentration in forestry, and a forester provided by the German government. In late 1988, eight faculty members were in training for advanced degrees. Two will rejoin the faculty in early 1989; two more return in July, 1989; and two others in 1990, or possibly earlier. The remaining two, indirectly connected to forestry, recently left for Ph.D. studies and are scheduled to return by 1992, or sooner (Table 23).

One of the major objectives of the Project is to bring this group of 8-10 faculty members into a cohesive teaching, research and outreach program within ISA by collaborating with the other programs in areas such as agroforestry, silvipastoral studies, economics/financial analysis, and public policy.

The expectation is to graduate 5-10 students per year over the life of the Project. Until 1990 or so, they will receive a B.S. degree in Agronomy (Ing. Agronomo). If a new program is approved at that time through ONAPLAN, they would thereafter receive a B.S. degree in Forestry (Ing. Forestal), which will conform with similar programs in other Latin American countries.

The graduate program referred to above and recommended by ONAPLAN, would be the only one of its kind offered in the Caribbean Basin and may well draw students from other countries from the region, and beyond. About 2-5 M.S. students would graduate each year if this proposed degree is implemented. Several Hatian students have already requested admission to the undergraduate program.

244

TABLE 23: ISA Forestry/Natural Resource Faculty - Project 517-0243

When at ISA	Degree-Year	Specialization and Needs
Now	MS-86	Teaching coordinator: needs short-term training in silviculture.
Now	MS-83	Research coordinator: needs Ph.D. in forest genetics or 24 months special training.
Now	Dasonomo-85	Needs research training and M.S. in pine management.
Now	Ing. Agr. 85	Researcher: needs M.S. or 24 mo. non-degree training.
Now	Ing. Agr. 85	Researcher: needs short-term training.
1-89	MS-88	Measurements: will need short term training.
1-89	MS-88	Soils: will need short term training.
7-89	MS-89	Watershed: short-term training needed.
7-89	MS-89	Agroforestry: short term training needed.
1-90	Ph.D.-89	Pathology: short-term training needed.
7-90	MS-90	Tree physiology: short term training needed
1-91	MS-90	Tree improvement: short-term training needed.
7-92	Ph.D.-92	Watershed: short-term training needed.
7-92	Ph.D.-92	Soil conservation: short-term training needed

b. Research

Research emphasis will build upon the approximately 50 active experiments now in place, focusing first on plantation growth and silviculture, as well as native forest dynamics. It will complement other, research activities which could involve the World Wild life Foundation, Parks Program, Nature Conservancies, and new theories in Forest Management. As faculty return to ISA from their study leaves, their research will be developed in conjunction with the Project's technical advisors in a mentor relationship. The array of research areas to be started during the life of the Project are listed in Table 24.

TABLE 24: ISA Research Concentration - Forestry/Natural Resources - Project 517-0243

Years 1-3

1. Silviculture;

- Nursery management and seeds
- Regeneration methods of native species
- Tree improvement and genetic conservation of native species
- Spacing, weed control, thinning
- Soil dynamics under intensive plantations
- Natural stand dynamics and management

2. Measurements and growth projections

3. Financial projections and benefit:cost analyses*

4. Agroforestry, integrating animal production and crops**

5. Forest products and harvesting*

Years 4-7

1. Park management

2. Watershed management

3. Forest protection, including pathology and entomology

* Collaboration with CADER.

** Collaboration with Horticulture and Animal Science programs.

The results of these research activities will be published in ISA Technical Notes, Bulletins and journals. Both undergraduate and graduate students will contribute to the research of the faculty through a coordinated program of these topic selection.

c. Outreach

Through the dissemination of technical information and the provision of consulting services to investors and other landowners, the Forestry program will continue its tradition of improving the economic forest resource base and assisting in the industrial expansion based on forest plantations and legally managed natural forests.

The objective is to provide technical and economic information to guide the investments of landowners in the selection of species, sites and management practices for profitable forest management, be it in agroforestry, commercial plantations or native forest use and renewal.

The Forestry faculty will hold seminars, conduct short courses, contribute technical presentations, offer field day demonstrations and produce practical publications. The faculty will collaborate with private landowners, as in the past, in evaluating financial feasibility and in monitoring the economic results of plantation management in comparison with alternative investments. This activity in the past has augmented the income of both ISA and its faculty members through consulting contracts which will continue to expand under the Project.

3. Project Implementation Requirements

a. Teaching

ISA has proposed a B.S. curriculum in Forestry (Forest Management in most U.S. universities) that suggests 261 credits. Among this abundance, 142 are in technical forestry/natural resources. This, however, represents an extremely heavy load for most students and some credits will eventually have to be dropped. By year 4 of the Project, there will be an adequate Dominican faculty to cover the courses as well as the research and outreach efforts. The specialized subjects and their phasing over the life of the Project are shown in Table 25.

TABLE 25: ISA Forestry/Natural Resources Courses - Project 517-0243

Course area (1)	Project Year						
	1	2	3	4	5	6	7
	(Number of Courses per Year)						
Agroforestry	-	1	1	1	1	1	1
Forest Protection	1	1	2	2	2	2	2
Watershed Mgmt.	1	1	1	1	1	1	1
Parks and Reserves	-	-	1	1	1	1	1
Measurements	2	2	2	2	2	2	2
Silvicult/Ecology	3	3	4	4	4	4	4
For. Indust/Products	1	1	2	3	4	5	5
Econ/Mgmt/Policy	2	2	3	3	4	4	4
Soils	1	1	2	2	2	2	2
Camp/practicum	1	1	2	2	3	3	3
Professional paper	1	1	1	1	1	1	1
Total Courses/Yr.	13	14	21	22	25	26	26
Required Faculty(2)	2.2	2.3	3.5	3.7	4.2	4.3	4.3

Notes:

- 1) Does not include the proposed graduate program.
- 2) Calculated at the rate of six semester courses per faculty member per year.

b. Research

In the period 1983-88, the Forestry/Natural Resource research program produced 42 technical notes, 5 special reports (books), 4 extension bulletins, 31 theses, 31 internal reports. This level of output will be maintained or increased over the life of the Project as faculty members presently in training return to ISA. Increased research activities are also expected. Current plans include faculty members spending approximately 20 percent of their time on research for the first two years of the Project increasing to 30 percent thereafter.

c. Outreach

The Forestry/Natural Resource program considers its outreach activities with landowners, investors and the public in general to be essential to the development goals of ISA and to the country as a whole. Table 26 depicts the frequency of these types of activities by category, both for the current year, as well as their annual goals to be reached by year three of the Project.

TABLE 26: Outreach Activities - Forestry/Natural Resources - Project 517-0242

Activity	1988	Annual Goal
(by Frequency of Events)		
Speeches, TV, Radio, Lectures, Talks, Newspaper Articles	10	20
Short Courses with Landowners, Businessmen, Industry	3	10
Consulting, Farm Visits, Financial Analyses, Management Plans	7	15
Service on Commissions, Boards	8	10
Nursery Production/Sales		
Seedlings	100,000	300,000
Seed Bank	Inactive	Revitalized

For the purpose of analysis, outreach activities can be divided into two distinct areas: group technical assistance and single client consulting. It is estimated that 20 percent of a faculty member's time would be spent on group technical assistance activities over the life of the Project. Single client consulting activities, on the other hand, will require 10 percent of faculty time for the first two years of the Project, increasing to 20 percent thereafter.

Table 27 summarizes the various demands on faculty time proposed over the life of the Project.

4. Technical Assistance, Training and Infrastructure Needs

a. Long-Term Technical Assistance

Based on an analysis of perceived needs and future deficit areas, the Forestry/Natural Resources program has requested long-term technical assistance in three priority areas: Forest Management/Policy Analysis, Forest Soils, and Watershed Management. Table 28 depicts the scheduling of these advisors over the life of the Project, followed by a brief job description and qualifications for each advisor. Additional long-term technical assistance in Forest Industry/Products and Forest Protection will be bought through other donors (e.g. Peace Corps) by ISA.

TABLE 27: Faculty Requirements - Forestry/Natural Resources - Project 517-0243

Activity	Project Year							
	1	2	3	4	5	6	7	
	No/FTE	No/FTE	No/FTE	No/FTE	No/FTE	No/FTE	No/FTE	
Teaching(1)	13 2.2	14 2.3	21 3.5	22 3.7	25 4.2	26 4.3	26 4.3	
Research(2)	20 1.8	20 2.2	30 3.3	30 3.6	30 3.9	30 3.9	30 4.2	
Technical Assistance(3)	20 1.8	20 2.2	20 2.2	20 2.4	20 2.6	20 2.6	20 2.8	
Consulting(4)	10 0.9	10 1.1	20 2.2	20 2.4	20 2.6	20 2.6	20 2.8	
Grading/Thesis	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lab. Super.(5)	3.3	3.5	5.3	5.5	6.3	6.5	6.5	
Exper. Plant.(6)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Administration	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Total FTEs Req. Available	11.3	12.6	17.8	18.9	20.9	21.2	21.2	
Faculty(7)	9.0	11.0	11.0	12.0	13.0	13.0	14.0	
Faculty Deficit	-2.3	-1.6	-6.8	-6.9	-7.9	-8.2	-7.2	

Notes:

- 1) From Table 25. Does not include the requirements of the proposed graduate program.
- 2) Calculated at 20 percent of available faculty time (Table 23) for the first two years of the Project and 30 percent thereafter.
- 3) Calculated at 20 percent of faculty time (Table 23), over the life of the Project.
- 4) Calculated at 10 percent of faculty time (Table 23) for the first two years and 20 percent thereafter.
- 5) Calculated at 150 percent of teaching requirements. Normally for every two hours of class room teaching students receive three hours of laboratory practicums. It is thought that this category could be reduced significantly through the use of student teaching assistants.
- 6) Represents management of the plantations at Mao and on the ISA campus.
- 7) From Table 23.

TABLE 28: Long-Term Technical Assistance - Forestry/Natural Resources
Project 517-0243

Discipline	Project Year							LOP
	1	2	3	4	5	6	7	Total
(Person Year)								
Forest Management/ Policy					xxxxxxxxxxx		0	2.0
Forest Soils	xxxxxxxxxxx						0	2.0
Watershed Management			xxxxxxxxxxx				0	2.0
Total	1	1	1	1	1	1	0	6.0

The terms of reference and qualifications for each advisor are described below. All advisors will need a broad perspective of university integrated development and applied natural resource science. Each advisor will arrive in-country with an FSI tested Spanish speaking ability at a minimum S-3 level, and be familiar with program development issues in developing countries.

(1) Forest Management/Policy Specialist

Systematic forest management is still a new concept in the country and in the minds of government officials. It is necessary to significantly expand the national capacity to develop and sustain programs of reforestation, promote public awareness of the characteristics of forest management, and to preserve and protect existing forest and watershed resources.

Specific responsibilities include:

-Teaching appropriate courses in the Forestry program while faculty are away on study leave;

-Establishing research programs in forest management and supervise the collection and evaluation of data from research in progress;

-Participating in seminars and workshops for persons from the public and private sectors in the promotion of scientific forest resource management; and,

-Promoting team research and extension efforts in forestry within the faculty and join in the representation of this activity to national enterprises.

220

Specific qualifications for this position include a Ph.D. in Forestry, experience in tree plantation management and in the management of native tropical forests, and experience in the management of tree nurseries and in the propagation of trees from seed.

(2) Forest Soils Specialist

Forestry, agroforestry and soil management disciplines each identify needs for research and teaching conducted from a strong technical background in the soil sciences. These needs are especially pronounced in the areas where trees have been harvested from fragile lands and where low resource agricultural systems are being employed on steep slopes and in critical watershed areas.

Specific responsibilities include:

- Teaching forestry soils classes;
- Developing applied research programs in land management and agroforestry with special attention to the needs of low resource agriculturalists;
- Participating in seminars and workshops on resource conservation, land use and watershed management;
- Providing technical assistance relating to soil physical properties, chemistry, and analytical results; and,
- Contributing to policy questions related to soil and water resources on a national scale and participating as appropriate in a review and analysis of major project development issues.

Specific qualifications for this position should include a Ph.D. in Forestry, plus extensive experience with tropical forest soils, nutrient cycling and nitrogen-fixing trees, and soil conservation, and previous experience at ICRAF or CATIE.

(3) Watershed Management Specialist

Terms of reference and qualifications for the long-term advisor in Watershed Management will be developed during the Project's first year.

(4) Forest Industry Products Specialist

The economic and use aspects of forestry are only partially understood by planners and potential investors in the country. This is especially true for forestry as a sustainable enterprise utilizing a natural resource. It is important to develop solid technical and economic

bases for forestry development and to reinforce technical management skills. Terms of reference for the Forest Industry Products Specialist to be acquired by ISA through another donor are included here for convenience.

Specific responsibilities include:

- Teaching courses in the Forestry program while faculty are away on study leave;
- Participating in seminars, workshops and short courses for landowners, commercial forest managers and forest industry personnel on topics of forest product utilization; and,
- Promoting forestry activities through programs of outreach and extension.

The qualifications for this position include a Ph.D. in Forestry, extensive experience with tropical woods plus a minimum of five years experience in the installation and operation of forest industries, including an ample knowledge of sawmills. The candidate would preferably have experience with the Forestry Private Enterprise Initiative, a centrally founded AID/W project.

b. Short-Term Technical Assistance

Table 29 presents the short-term technical assistance needs of the Forestry/Natural Resources program. The specific areas requested are in the fields of Forest Industry, Park and Reserve Management, and Watershed Management. The related fields of Economic/Policy Analysis and Agroforestry will be addressed through assistance to other Faculties.

TABLE 29: Short-Term Technical Assistance - Forestry/Natural Resources - Project 517-0243

Technical Area	Project Year							LOP
	1	2	3	4	5	6	7	Total
(Person Weeks)								
Forest Products	2	2	2	2	2	2	2	14
Forest Industry	4	4	4	4	4	4	4	28
Parks and Reserves	4	4	4	2	2	2	2	20
Watershed Mgt.	2	4	4	2	2	2	2	18
Gender Issues	2	-	-	-	-	-	-	2
Total	14	14	14	10	10	10	10	82

c. Long-Term Non-degree Training

The long-term non-degree training needs of the Forestry/Natural Resources program are depicted in Table 30. This form of training will be used to prepare faculty members for the new Forestry degree program and to develop research programs which are increasingly more responsive to the needs of the private sector.

TABLE 30: Long-Term Non-degree Training - Forestry/Natural Resources - Project 517-0243

Technical Area	Project Year							Description
	1	2	3	4	5	6	7	
	(Person Months)							
Tree Improvement	0	12	12	0	0	0	0	Extensive practical internship at a recognized tree breeding facility such as North Carolina State or Purdue.
Dry Forest Silviculture	0	0	0	12	0	0	0	Intensive practical internship at an appropriate research center such as the Tropical Forestry Institute in Puerto Rico, at Texas A&M, or elsewhere.
Tropical Pine Management	0	0	0	12	12	0	0	Intensive practical internship at a tropical forestry research facility such as exist in Chile, Venezuela, or Mexico.
Other: to be Specified	0	0	0	0	0	12	0	
Total	0	12	12	24	12	12	0	72 person/months

d. Short-Term Training

Table 31 details the short-term training requirements which are to be supported under the Project. The provision of short-term training will strengthen and broaden the knowledge of new faculty and represents a continuing education and refresher mechanism for current personnel. It may

203

include participation in formal course programs, where an appropriate course is offered, or individually designed internships in laboratories and programs at other institutions. In the latter case, efforts will be made to coordinate the short-term training activities with the various long and short-term technical assistance activities under the Project.

Also included in the short-term training category are visits by program faculty to professional conferences, meetings and other educational fora to broaden their exposure to different approaches and techniques and to increase their professional linkages. Where possible, it will enhance the program's linkages with the contractor's member universities over the long-term. Participation in scientific conferences is an essential component of maintaining awareness and involvement in current scientific activities. This is particularly important for a small faculty group with a very limited range of national counterparts.

e. Forestry/Natural Resources Infrastructure

(1) Forest Properties

ISA has three major forest properties, two of which are currently under Forestry program management, and one of which is in the process of being transferred. All are valuable research and training resources representing different ecosystems and management conditions.

The first is located on the ISA campus near La Herradura and contains over 50 hectares of plantations and dry forests with many experimental plots. These plots are maintained and measured with minimal resources although heavily used for research, teaching and demonstration. There is a need for increased continuous resources from ISA for vigilance, maintenance, and the installation of new experiments. About U.S. \$10,000 per year is needed for the first two years, although some income from sales of wood products will eventually help reduce the costs of this important scientific showplace.

The second land resource is the forest plantation near Mao which contains 1000 hectares of planted and native dry forest with numerous experiments that are being measured and maintained. There is a need for US \$25,000 per year for the first two years of the Project for protection and maintenance. After that, the sale of wood products from the plantation should make it nearly self-sustaining.

Lastly, ISA is in the process of receiving ownership to a parcel of land called La Leonor which is a pine forest area near Moncion covering 700 hectares. Although it has little, or no, infrastructure, ISA's goal is to establish a center for research and management of *Pinus occidentalis* as well as a teaching and extension center for forestry camps.

224

TABLE 31: Short-Term Training - Forestry/Natural Resources - Project
517-0243

Technical Area	Project Year							Description
	1	2	3	4	5	6	7	
(Person Weeks)								
A: Formal Courses								
Nurseries/ Plantations	8	0	0	8	0	8	0	Periodic short-term visits to functioning nurseries and/or plantations in the U.S. and the region.
Silviculture/ Ecology	4	0	0	4	0	4	0	Periodic short-term visits to U.S and Latin American universities.
Pine Management	4	0	0	4	0	4	0	Periodic short-term visits to tropical pine forest management areas.
Sub Total	16	0	0	16	0	16	0	48 person weeks
B. Conference Attendance								
Forest Management	1	1	1	1	1	1	1	
Forest Protection	1	1	1	1	1	1	1	
Silviculture	1	1	1	1	1	1	1	
Watershed Management	1	1	1	1	1	1	1	
Forest Industry	1	1	1	1	1	1	1	
Parks and Reserves	0	0	1	0	1	0	1	
Agroforestry	1	1	1	1	1	1	1	
Forest Soils	1	1	1	1	1	1	1	
Sub Total	7	7	8	7	8	7	8	52 person weeks
Total (A+B)	23	7	8	23	8	23	8	100 person weeks

225

The investments required are estimated to be about U.S.\$600,000 in the first two years. After that, the projection is that harvests can make the operation self-sustaining. While it is expected that the addition of this important research center to ISA's Forestry program will add greatly to its educational endeavors, funding is being sought from sources other than this Project.

(2) Vehicles, Equipment and Supplies

In addition to maintenance costs for the current two ISA forest properties described above, Table 32 lists additional infrastructural needs of the Forestry program required to implement its current teaching, research and outreach needs.

TABLE 32: Forestry Natural Resources Infrastructure - Project 517-0243

Category	Amount US\$
Commodities:	
Vehicles:	
Pickup Trucks (2)	\$ 30,000
Tractor (1)	30,000
Field Equipment	15,000
Laboratory Equipment	20,000
Computer Equipment	<u>8,000</u>
Total	103,000
Forest Protection and Maintenance:	
La Herradura	\$20,000
Mao	<u>50,000</u>
Total	70,000

Forest Protection is included in the project budget line item "ISA Budget/Institutional Support-Transition period".

H. CADER Agribusiness Program

1. Background and Objectives for CADER Program

a. Summary of the Problem

The identification of trained administrative and managerial personnel as a bottleneck to private sector growth in both agricultural and agroindustrial enterprises has been documented repeatedly in past USAID diagnostic studies such as the Private Sector Training Needs Assessment in 1986 and the Private Sector Assessment undertaken in 1988. The Private Sector Linkage Survey contained elsewhere in this Annex also documented the critical importance of managerial personnel in future hiring plans in the agribusiness sector by noting that "marketing, sales and general farm/business management positions represent 31 percent of the new jobs."

Furthermore, urgent need for human resources in the managerial area was expressed by agribusiness enterprises across all product areas (forestry, livestock, horticulture, agroindustry, etc.). It was felt by large multinationals such as Castle and Cooke as well as by smaller producers. It was expressed in regions as diverse as Bani, Samana, and the Cibao.

Managers are needed for a diverse set of functions from supervising farm laborers to managing a sophisticated and complex chain of tasks required for effectively exporting products. They include a diversity of functions such as marketing, accounting, logistics coordination, personnel supervision, planning, evaluating, and finance.

While there are many schools in the Dominican Republic focusing on technical training, relatively few focus on managerial training. Such training adds to the versatility and long-term employment prospects of students. Schools focusing on managerial training, such as the PUCMM Business Administration program, do not focus on the agricultural or agribusiness sector.

The Board of Directors of ISA, recognizing that the need for managerial personnel was becoming more critical every year began moving to address this problem in the late 1970s and 1980s by creating the Center for Rural Development and Administration (CADER). After several years of making significant impact in policy reform and management development, CADER has been weakened by an exodus of both foreign and Dominican faculty. Total full time faculty has fallen from a high of 15 people in 1985 to a low of 5 people in 1988. This has weakened CADER's ability to respond to the urgent human resource needs being felt in the private agricultural and agroindustrial sector.

b. Summary of CADER's Mission and Project Objectives

CADER's primary goal is to be the leading center for agribusiness management training in the country through its commitment to excellence in teaching, research and management services and to become a recognized center for agribusiness management training in Latin America.

Its objectives are to contribute trained managers for agriculture, rural development and agribusiness, to stimulate policy dialogue through research and seminars, and to improve the efficiency of agriculture and agro-industry through specialized executive courses, workshops and consulting services.

The Project's objective is to enable ISA/CADER to respond more efficiently to the needs of the rapidly changing and increasingly diversified Dominican agribusiness sector. The Project contemplates a major strengthening of CADER's ability to respond to private sector training and research needs, to stimulate policy dialogue, to provide graduates with more

practical training (and enhance their marketability) and to achieve higher levels of self-financing through sales of services and closer private sector linkages. The Project will enhance ISA/CADER's ability to contribute technical and administrative expertise to the agrindustrial and agricultural enterprises specializing in non-traditional crops.

c. CADER's Strategy: Target Markets

(1) Private Sector Clientele

Given the present and future importance of the private sector in agricultural activities, many of CADER's efforts and resources will be directed towards supporting this sector. The key client groups served by its training, outreach and support resources are the following:

- Agribusinesses and Agroenterprises
- Producer Associations
- Private Producers
- Exporters
- Agricultural Credit Sector
- Service Enterprises Supporting the Agricultural Sector

(2) Public Sector Clientele

The public sector, through its policies, regulations and activities, has enormous direct and indirect impact on the development of the agricultural sector, enhancing or restricting the development of agribusinesses. The provision of training opportunities to officials in this sector is of key importance as is the promotion of effective policy dialogue and analysis. CADER has an excellent track record in this regard already having contributed to legislative reform and policy dialogue in such areas as agrarian reform, new crop introduction (sorghum, african palm, cut flowers), and export promotion. CADER has shown itself capable of bringing together private and public sector leaders in the past and in fostering bi-partisan support for important initiatives. As an apolitical institution, CADER has stressed its objective role as a neutral broker in the policy dialogue process and as a provider of objective and sound analysis. Efforts in this area will be focused on the following institutions:

- Secretariat of Agriculture (SEA)
- State Sugar Council (CEA)
- Dominican Agrarian Reform Institute (IAD)
- Agricultural Bank (BAGRICOLA)
- National Institute for Price Stabilization (INESPRE)
- Others

228

(3) International Clients

CADER will take the steps necessary to foster the participation of foreign entities in its activities. Its plan will focus on three elements:

- Multinational Corporations
- International Development Organizations
- Foreign Students

In recent years, interest in ISA-CADER has been shown by AID Missions in Central and South America as a potential site for short and long-term training of nationals from these countries. A promotional effort by CADER would almost certainly be cost-effective as these students would pay international tuition rates. At the same time, this would serve to strengthen CADER's reputation.

d. CADER's Strategy: Strategic Thrusts

CADER will focus on achieving excellence in eight major priority areas:

- * Management Training
- * Executive Courses/Seminars
- * Policy Seminars
- * Agribusiness Research
- * Management Consulting
- * Private Sector Support Services
- * Data Bank
- * Fund-raising

(1) Management Training

At the base of CADER's strategy for supporting the agribusiness sector are its programs to provide management training for producers, technicians, agribusiness managers, and public sector officials in the agricultural sector through courses and seminars that are timely in content, appropriate in pedagogic techniques, and relevant to the most pressing Dominican managerial concerns. The primary private sector clientele for its management training programs are both recent university graduates, (with at least a B.S. or a B.A. degree) and technicians and executives with several years of work experience (mid-career participants). Key public sector clienteles include banking officials, particularly the Agricultural Development Bank (BAGRICOLA), and officials operating the government's rural development programs.

(2) Executive Courses/Seminars

These are directed primarily at agribusiness executives and focus on timely topics of general interest. By offering short courses and seminars, CADER makes its educational services accessible to executives at the highest levels who might not otherwise have the time, or the need, to take full length-training courses. These activities are implemented in close partnership with the AID-funded Agricultural Policy Project.

(3) Policy Seminars

The objective of these seminars is to contribute to policy dialogue between the private and public sectors and to improve the public sector's capacity to analyze and design policies contributing to economic growth and employment generation in the agricultural and agroindustrial sectors.

(4) Research

CADER's research tradition is rich as it has authored over 150 case studies on agribusiness management in the Dominican Republic and has collected over 400 relevant case studies from other countries. These must be constantly updated to provide a solid foundation for the training and educational programs offered by the institution. The research agenda will match faculty interests and strengths with pedagogic needs and agribusiness sector priorities. Research must be a continuous activity which seeks to support CADER's training and consulting priorities.

(5) Consulting

The training and research activities will be complemented by consulting services, providing the agricultural sector with a permanent reservoir of talent and expertise in rural and agroindustrial management.

(6) Private Sector Linkage/Services

The objective of CADER's private sector linkage/services program will be to develop new 'product lines' of services to the private sector based on the results of recent surveys. Services will be developed using criteria of enhancing revenues and ensuring the relevance of programs offered to the private sector. These services include seminars, executive courses, consulting contracts, training workshops, and short-term internships. This effort is designed to support ISA's overall economic development activities.

270

(7) Data Bank

CADER proposes to establish a computerized data bank to enhance the institution's consulting and training capabilities. The data bank will rely primarily on information generated through CADER's research activities. It will contain the most up-to-date information on areas and crops of importance and relevance to the country. The data bank will be linked to other information centers both within and outside the country. Both the research activities undertaken at CADER, and the data bank that will be created, will enable the institution to offer the agricultural sector a wide-ranging set of information and extension services. Aggressive information dissemination activities, through a myriad of publications, including bulletins, magazines and journals, will be established to ensure the widest possible access to CADER's services and expertise. This can help provide the marketing, financial, and technical information required by agribusiness managers.

(8) Fund Raising

Many of the activities described above can generate income for the program, and for ISA in general. While many universities prefer to subsidize tuition for their degree programs, this is not so in the case of special seminars and courses for business executives who are both willing and able to pay the full cost of the services. The provision of consulting services and technical assistance can also become an important source of income for the program. CADER's role in dealing with agribusiness executives can contribute importantly to ISA's overall fund raising objectives.

Additionally, by fostering limited partnerships in agricultural research, ISA/CADER could potentially earn substantial dividends. The CADER program could derive direct benefits from its research activities by developing special arrangements with the firms benefiting from them. These arrangements, for example, could give ISA/CADER an equity position in firms adopting its specific research outputs in exchange for on-going technical assistance. ISA/CADER's liability would be limited to its equity in each specific project. Thus, the development of the research program could over time make a significant contribution to ISA/CADER's financial self-sufficiency.

e. Additional Strategic Issues

CADER faculty has taken the initiative of highlighting strategic issues which must be addressed if ISA/CADER is to be truly strengthened as an institution. Among those issues the faculty at CADER considers to be of priority are the following:

- (1) The establishment and maintenance of an ISA faculty and staff training and development plan. The training activities could take place both within and outside of ISA/CADER;

221

- (2) The establishment of a fund to provide assistance for financing faculty and staff training;
- (3) The review and improvement of the Agribusiness Administration program within ISA-PUCMM. This includes the development of a plan to increase the applicant pool and the introduction of a more practical and applied educational methodology;
- (4) A closer linking of CADER activities to the private agribusiness sector and to public sector organizations and international institutions;
- (5) The institutionalization of an advisory and support council for ISA/CADER, composed of recognized national and international leaders in private and public agribusiness management;
- (6) The development of a faculty and staff team of personnel highly trained and experienced in relevant areas, who are dedicated and highly motivated to serve ISA/CADER;
- (7) Forming a network of visiting professors who will cooperate and collaborate in the development and implementation of ISA/CADER's programs;
- (8) Widening the focus and clientele for CADER's regular educational programs; (Besides its current Agribusiness Management Program, CADER should develop similar regularly scheduled training and educational programs to meet the needs of other clientele groups.)
- (9) The development of select organizational representatives; (ISA/CADER should prepare a cadre of organizational representatives, or special advisors, who will operate as 'deans-at-large' and help to widen the program's reach and recognition both nationally and internationally.)
- (10) Internationalization of ISA/CADER's programs;
- (11) The inclusion of a greater number of relevant field trips', both within the country and abroad, within CADER's training programs;
- (12) Development of a scholarship plan to support participants in CADER's training programs;
- (13) Establishment of a support network of CADER alumni;

(14) Definition of an administrative structure in ISA/CADER which will allow for the full development of its faculty and staff; (A rational administrative structure must include appropriate and well-defined personnel categories for staff and faculty, generic job descriptions for each category, promotion policies, and personnel evaluation mechanisms.)

(15) Development of effective outreach and extension programs which can be provided 'off-campus'; and,

(16) Establishment of a CADER presence, probably at the ISA 'branch' office to be established in Santo Domingo, to facilitate research, client identification, and servicing activities.

2. Current and Proposed Activities

a. Available Human Resources

The implementation of CADER's development plan as outlined above requires the establishment of a blueprint or work plan to schedule and guide the execution of activities. The plan will specify objective, quantitative measures to assess progress towards the goals. The plan detailed below is based on an assessment of the program's current human, financial and physical resource constraints to meeting the goals and objectives detailed in the preceding sections.

Human resources are considered to be the binding constraint in the achievement of CADER's institutional development goals. For example, while in 1985 CADER faculty consisted of 15 professors, in 1986 and 1987 that number had dwindled to an average of only six. In 1988, the number of professors on the faculty has been even lower. Table 33 presents CADER's current faculty and their expected availability during the life of the Project.

TABLE 33: CADER Faculty - Project 517-0243

Category	Project Year						
	1	2	3	4	5	6	7
Initial Availability	7.8	9.0	12.0	12.0	12.0	12.0	12.0
Departures due to							
Long-Term Training	1.0	2.0	1.0	1.0	1.0	1.0	1.0
Net Availability	6.8	7.0	11.0	11.0	11.0	11.0	11.0

273

b. Teaching

CADER is currently involved in teaching at a variety of levels. The following presents the current and proposed activities at each of these levels.

(1) Professional Degree Program

CADER takes responsibility for the Agro-enterprise Administration concentration with the university degree program. This is the second largest major within the degree program with a total of about 12 of the 40 students. CADER faculty normally teach ten courses per year (five per semester) including Agro-enterprise Management, Practical Administration, Agribusiness Systems, Case Study Analysis, and Economics of Natural Resources. Because of faculty shortages, only four of these courses were offered in 1988. In addition, CADER faculty are responsible for thesis supervision of these students and for providing the full time, intensive 5 week Agribusiness Management Course to all graduates of the university program.

This concentration will be converted to a full fledged major (Licenciatura en Administracion de Agro-empresas) with an enrollment of 15-20 students per year.

(2) Technical Degree Program

The newly established three year technical degree program is designed to put university education within reach of those who might not normally be able to afford it. The total cost is about RD\$10,000 compared to double that for the full program. Graduates are given the degree of "Agronomo" rather than "Ingeniero Agronomo." Training tends to be more practical and graduates of the technical program are more likely to find jobs managing at the farm level. CADER currently teaches two courses per semester in this program: Agro-enterprise administration and Economics. In addition, CADER's 5 week Agribusiness Management Course is given to these students.

(3) Agribusiness Management Course

The 5 week, full time and very intensive Agribusiness Management Course has become CADER's flagship program. It is provided not only to all graduating university students of the ISA-PUCCM program but also to mid-level managers and public sector employees. This is currently being given two times a year to an approximate total of 25 students per course. Class size of 40 or more students has not been uncommon in previous years. It has been found that private sector employees find it difficult to break away for 5 weeks. As a result, specialized executive course had been developed to supplement this course.

(4) Executive Courses and Seminars

Another major teaching responsibility is the planning, preparing and implementing of executive training courses, agribusiness seminars, and agricultural policy seminars. Approximately six events are currently being implemented per year. The preparation time for these is, however, more intensive as they often require specialized research, curriculum development and marketing. In 1988, due to faculty limitations, only three courses were given. These were in the area of business strategy, agro-export pre-inspection, and managing in hard times'--a course which deals with the problems of inflation and diversification. A list of priority courses and seminars must await CADER's planned private sector survey. However, the following list illustrates some of the likely topics:

- Agro-Export Management
- Computers for Agribusiness Management
- International Market Research
- Opportunities for Non-Traditional Agro-Exports
- Opportunities for Agribusiness in the Haitian Market
- Opportunities for Agribusiness in the Tourist Market
- Production Quality Control
- Financial Management in an Inflationary Environment
- Commodity Futures Markets
- Management at the Farm Level

(5) Bachelors ("Licenciatura") in Agribusiness Management

CADER plans to develop a full-fledged major in agribusiness management. Graduates of this program would be Licenciados en Administracion Agro-empresarial rather than Ingenieros Agronomos with a major in administration. It is contemplated that 15-20 students per year would enter the program and that the curriculum would be closely linked to the expressed needs of private sector agribusiness firms.

(6) Masters Degree in Agribusiness Management

Plans for a MBA in Agribusiness Management have existed at CADER for several years. However, CADER currently lacks the faculty to implement such a program. A Masters program would ideally provide one year of intensive management training to those already possessing agricultural technical degrees from Dominican or foreign universities. This would assist young and mid-career professionals in making the transition from technical to managerial careers and enhance their earning power. It could also help public sector agronomists and technicians make the often difficult transition to higher paying and more demanding private sector positions.

(7) IDB Sponsored Project Management Courses

CADER has been negotiating a \$500,000 donation from the Inter-american Development Bank and the agreement has been signed. However due to funding constraints the GODR has deleted from its budget the counterpart resources for this project. Hence it is doubtful that this project will actually emerge. If it does emerge, it will include 19 courses in agribusiness administration, agricultural credit, commercialization, finance, control, irrigation and farm level water management. Four seminars on problems in agricultural development projects will also be held. The project would provide technical assistance in agribusiness administration and technical assistance in irrigation management along with short-term assistance in credit administration and rural development. The project would provide training to 730 people including technicians, producers and government officials.

(8) Curriculum Development: Practical Focus

Development of a more practical approach towards management education will include the following:

- Field visits
- Classroom visits by professional managers
- Internships
- Practicum (consulting style projects for students)
- Participation in case research

c. Research

The goals of the CADER research program are to provide information and analyses to assist decision makers in policy dialogue and to support management training programs by providing case studies on real policy or managerial problems faced by executives and other decision makers. It provides a depository of information for future use.

CADER has extensive experience with research in management problems, having produced over 150 case studies on agribusiness policy and management. It has collected over 400 case studies from other countries, many of which have been well integrated into its teaching programs. It also produces a series of technical notes.

CADER's ability to continue to produce case studies has been severely hampered in recent years for two reasons. First, the faculty has its hands full in responding to the teaching load, leaving little time for research and case study development. Second, some faculty have had little experience with the case study method, and with research in general.

2/10

A detailed programming of research priorities must await the private sector survey planned for 1989. However, the following is the best current estimation regarding the research priorities over the coming 2-3 years.

(1) Case Studies for Management Courses

It is proposed that CADER once again return to producing an average of three case studies or equivalents per professor per year. (A case study equivalent may be a case study, two technical notes, a major research piece, or a consulting study which is then converted into teaching material.) CADER would ideally be producing approximately 20-30 case studies per year. Approximately half of these would be to strengthen the basic management curriculum. An average of two cases studies should be produced per year to keep course material current in the following areas: marketing, finance, agribusiness accounting, business strategy, agricultural policy, organizational behavior, project evaluation and production and operations management. A tentative plan for case study research would be as follows:

Marketing:

International Market Research
Export Management Logistics
Domestic Agricultural Commercialization
Consumer Food Marketing

Finance:

Preparation of Proposals for Commercial Bank Loans
Preparation of Proposals for Development Bank Loans
Cash Flow Management
Financial Analysis of Agribusiness Projects

Accounting and Control:

Accounting in Long-Term Agribusiness Ventures
Accounting Problems in Joint Ventures Operations
Inflation Impacts on Agribusiness Projects
Tax Implications and Accounting Procedures

Business Strategy

Positioning in International Agribusiness Export Markets
Sugar Diversification
Building Distinctive Competencies
Business Government Relations in Company Strategy

2/1

Agricultural Policy

Pricing Decisions for Agricultural Commodities
 Policy Impacts on Non-Traditional Agribusiness Exports
 Policy Impacts of Monetary and Financial Sector Policy
 Other to be decided

Project Evaluation:

Irrigation Project Evaluation
 Sugar Diversification Project Evaluation
 Joint Venture Project Evaluation
 Rural Development Project Evaluation

Organizational Behavior

Managing Workers at the Farm Level
 Your First Day, Week, and Month on the Job
 Management in Public Enterprises
 Managing Your Boss

(2) Case Studies for Seminars

An additional 10-15 case studies would be produced to support the policy seminars, agribusiness seminars and specialized executive seminars. The following areas have been identified as those likely to elicit strong support and demand:

The Haitian Agribusiness Market
 The Caribbean Agribusiness Market
 The Tourism Agribusiness Market
 The Cotton Agribusiness System in the Dominican Republic
 Opportunities in Avocado Production
 Opportunities in Passion Fruit Production
 The Market and Production Characteristics for Seasonings and Colorings
 Problems in Sugar Diversification
 Towards a More Rational Commercialization System
 Commodity Markets
 Agribusiness Joint Ventures
 On Farm Water Management
 Agricultural Bank Finance
 Problems in Development Finance
 Agrarian Reform Settlements: Productivity Enhancement
 Problems in the Coffee Agribusiness System
 Problems in the Cacao Agribusiness System

(3) Published Research

CADER will publish special research studies. The criteria utilized to prioritize research topics are:

- Important policy decisions about to be made
- Priorities determined from surveys of agribusiness executives
- Importance or potential importance of industry to Dominican economy
- Dovetailing with contract research or consulting opportunities
- Interests of individual professors.

Examples of some research topics which have been proposed include export management, international market research, opportunities for agribusiness in the tourism market, regulatory impediments to beef exports, current utilization of computers in the production process and successful utilization of former sugar lands. Other areas include a major work on the Haitian agribusiness market, an area of great current interest to Dominican agribusiness entrepreneurs.

d. Outreach: Private and Public Sector Services

CADER's role is distinguished from ISA in two important ways. First, it deals with management rather than with technical training. Second, it focuses less on intra-university programs and more on providing specialized services to those already working in the field.

CADER's record at facilitating policy dialogue and policy reform is impressive as is its list of executive seminars and intensive training programs which receive extremely positive evaluations. CADER, like ISA, has had a tendency to be historically more responsive to the public sector and is seeking to position itself as the leading provider of training, research and consulting services to the agribusiness sector.

This will begin with a more detailed needs assessment of private agribusiness executives to set the agenda for executive seminars, short courses, research and special services. The importance of conducting an in-depth needs assessment of the private agribusiness sector cannot be understated. The first step will be to map out all major agribusiness industries by size, the major companies in each industry, and the key decision makers within these companies. Some 40-50 will then be contacted to assess the hiring needs, internship placement, consulting opportunities, short-term on-site or on-campus training courses, executive seminars, policy seminars, research priorities and other services.

Until the survey is completed, the following best estimate of the outreach/extension activities which CADER will implement is provided. It will focus on providing direct services to the private sector through the following outreach programs.

(1) Executive Courses

Executive courses provide a direct service to private sector companies by responding to the most evident training needs. Approximately three per year will be given by CADER on the basis of ongoing survey assessment of private sector company needs.

(2) Policy Seminars

CADER will contribute to policy reform by sponsoring 2-3 seminars per year. Specific topics will depend on the results of the initial survey to be conducted during the first three months of Project implementation. Current topics of high priority include: problems with customs, problems with access to short and long-term financing, development of a system of standards and gradings, development of a private sector commodities market, legal impediments to beef exports, and uncertainty surrounding water charges in the cut flower industry.

(3) Internships

CADER faculty and staff will visit private companies to place students in summer internships to enhance the practicality of their training and to make these students more marketable. Students will not be paid a salary but will receive a stipend in some cases. This will also be a service to the agribusiness companies.

(4) Placement

Providing initial screening of potential candidates for private sector employment will be another service provided to companies and to students.

(5) Consulting

The infusion of new personnel and foreign technical assistance will enable CADER to engage in more extensive consulting services to the private sector. This in turn will assist in case study development adding realism to both the professor's teaching as well as to the curriculum. It will also have favorable financial impacts. By demonstrating capability in consulting, CADER's image will be enhanced, thus encouraging private sector contributions.

240

(6) Data Bases

CADER's case studies already form a data base which has been in demand among those companies aware of its existence. This will be complemented by on-line data base systems to provide CADER with access to international market information, cost data, and other information relevant to agribusiness decision making and research. Information and short reports will be provided on a fee-for-service basis.

(7) Alumni Professional Linkages

CADER will participate in ISA's overall alumni development program by providing alumni services including annual get-togethers, job-networking, and newsletters.

Table 34 summarizes the demands which will be placed on CADER's faculty over the life of the Project.

TABLE 34: Faculty Requirements - CADER - Project 517-0243

Activity	Project Year						
	1 NO/FTE	2 NO/FTE	3 NO/FTE	4 NO/FTE	5 NO/FTE	6 NO/FTE	7 NO/FTE
Agribus. Man.							
Classes	2 1.0	2 1.0	2 1.0	2 1.0	2 1.0	2 1.0	2 1.0
Seminars	4 1.4	4 1.4	4 1.4	4 1.4	4 1.4	4 1.4	4 1.4
Teaching in other Programs	10 2.5	10 2.5	10 2.5	10 2.5	10 2.5	10 2.5	10 2.5
Workshops/ Short Courses	6 1.2	6 1.2	6 1.2	6 1.2	6 1.2	6 1.2	6 1.2
Case Studies	20 2.5	20 2.5	20 2.5	20 2.5	20 2.5	20 2.5	20 2.5
Technical Publications	10 1.7	10 1.7	10 1.7	10 1.7	10 1.7	10 1.7	10 1.7
Technical Assistance	12 1.0	12 1.0	12 1.0	12 1.0	12 1.0	12 1.0	12 1.0
Consultancies	4 1.3	4 1.3	4 1.3	4 1.3	4 1.3	4 1.3	4 1.3
Thesis Super.	16 1.9	16 1.9	16 1.9	16 1.9	16 1.9	16 1.9	16 1.9
Administration	1 1.0	1 1.0	1 1.0	1 1.0	1 1.0	1 1.0	1 1.0
Private Sector Linkage	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total FTEs Req.	16.5	16.5	16.5	16.5	16.5	16.5	16.5
Available Faculty (Table 1)	6.8	7.0	11.0	11.0	11.0	11.0	11.0
Faculty Deficit	-9.7	-9.5	-5.5	-5.5	-5.5	-5.5	-5.5

FTE: Full Time Equivalentents. Calculated as if each activity were the sole obligation of the number of faculty members listed.

3. Technical Assistance, Training and Infrastructure Needs

a. Long-Term Technical Assistance

(1) General Responsibilities

In order to accomplish the objectives set forth in the preceding section, CADER, in addition to hiring additional staff, will complement its faculty with a team of long-term technical advisors who will:

-Collaborate in the design and implementation of training activities, analysis of agricultural policies, and the provision of consultancies and technical assistance to the agribusiness sector;

-Promote CADER as an institution and its various programs and activities;

-Establish quality control and evaluation mechanisms;

-Produce and/or research and gather material and data necessary to develop its activities; and,

-Train and strengthen the faculty and staff at CADER.

All advisors, in addition to the specific responsibilities mentioned below will assist CADER in strengthening its ties to the Dominican agriculture and agribusiness sectors and in achieving the self-financing goals established in this Project.

(2) Specific Responsibilities

CADER will receive long-term technical assistance in three subject areas over the life of Project. Their terms of reference and qualifications are detailed below.

(a) Agro-export Specialist

This advisor will undertake the following activities:

- Develop agro-export training materials;

- Conduct courses and seminars related to agro-export management, strategic planning, logistical administration, market research, and policy analysis;

- Assist CADER in developing its capability to provide technical assistance and advice to the agribusiness and agroindustrial sectors on matters related to agroexports; and,

- Provide his/her expertise to the consulting and other outreach services offered by CADER to the agribusiness sector.

The advisor will have the following qualifications:

- Ph.D. in Economics, Agricultural Economics, or Business Administration;

- Specialization in agroexports and a minimum of 5 years experience in the field of agro-exports, with a wide-ranging knowledge of the agro-export market in the United States;

- FSI tested Spanish capability at the S-3 level prior to arrival in-country;

- Work experience in the Dominican Republic or other similar country(ies) in Latin America; and,

- Experience teaching with the case study method and in developing case studies.

(b) - Agrofinance Specialist

This specialist will undertake the following:

- Develop materials for agro-finance training;

- Conduct courses, workshops and seminars related to finance and financial management;

- Assist CADER in developing its capability to provide technical assistance and advice to the agricultural and agroindustrial private sector in matters related to finance;

The advisor will have the following qualifications:

- Ph.D. in Economics, Agricultural Economics, Finance, or Business Administration;

- Specialization in agrofinance, and at least 5 years of experience in the field of finance;

- FSI tested Spanish speaking ability at the S-3 level prior to arrival in-country;
- Experience working in the Dominican Republic or other similar country(ies) in Latin America; and,
- Experience teaching with the case method and in developing case studies.

(c) - Specialist in Agricultural Policy Issues

This specialist will undertake the following functions and activities to strengthen CADER's policy analysis capability:

- Analyze Dominican agricultural policies and their effect on the development of the agricultural sector;
- Work, in coordination with the public and private agricultural sector, in the analysis, design and promotion of policies which foster the growth and development of the sector;
- Prepare studies and materials necessary to undertake seminars and workshops on agricultural policies, support efforts to organize seminars and workshops, and follow-up on their results; and,
- Assist CADER in developing its capability to stimulate policy dialogue between the Dominican private and public sector and to undertake contract research with the private sector, the public sector and international financial institutions and donors.

The advisor will have the following qualifications:

- Ph.D. in Economics, Agricultural Economics, or Public Policy;
- Specialization in the field of agricultural economics and agricultural policy, with at least 5 years experience in that field;
- FSI tested Spanish speaking ability at the S-3 level prior to arrival in-country; and,
- Experience teaching the case method and developing case studies.

2004

Table 35 displays the distribution of the long-term advisors over the seven year life of the Project. The final two years require less assistance as capability will have been strengthened to the point where such assistance can be phased down. For this reason, only one long-term advisor has been included during the last two years of the Project.

TABLE 35: Long-Term Technical Assistance - CADER - Project 517-0243

Discipline	Project Year							LOP	Total
	1	2	3	4	5	6	7		
Agro-exports	1	1	1	1	-	-	-	4.0	
Agro-finance	.5	.5	-	-	1	-	.5	2.5	
Ag. Policy	-	-	.5	.5	.5	.5	-	2.0	
Total	1.5	1.5	1.5	1.5	1.5	.5	.5	8.5	Person Years

b. Short-Term Technical Assistance

Short-term technical assistance advisors will develop specific activities to strengthen CADER's program and will generally represent areas not covered by the long-term advisors.

(1) General Responsibilities

The short-term consultants in CADER will undertake the following activities:

- (a) Assist CADER in assessing private sector demand for services, in developing private sector linkages and private sector services
- (b) Prepare materials which will serve as the basis for courses and/or seminars;
- (c) Conduct courses and/or seminars
- (d) Provide technical assistance and advice to agribusinesses, and
- (e) Advise CADER faculty on how to improve and strengthen their programs.

(2) The short-term advisors will have the following qualifications:

- (a) Ph.D., Master's, or equivalent, in administration, economics, or related areas;

245

- (b) Specialization and in their area of expertise including practical implementation experience;
- (c) FSI tested knowledge of Spanish at the S-3 level;
- (d) Work experience in the Dominican Republic or other similar country(ies) in Latin America; and,
- (e) Experience teaching with the case study method and in developing case studies.

The areas of specialization and the timing of their activities at ISA appear below in Table 36. These have been identified through dialogue with CADER faculty and consultations with the private sector. However, adjustments in the timing and technical area may be required following completion of the detailed needs assessment survey of private sector demand which is scheduled for the first year of Project implementation.

TABLE 36: Short-Term Technical Assistance - CADER - Project 517-0243

Technical Area	Project Year							LOP Total
	1	2	3	4	5	6	7	
(Person Weeks)								
Private Sector Survey	6	4	2	2	0	0	0	14
Private Sector Services	8	4	2	2	2	2	2	22
Ag. Marketing Design/Eval.	4	0	4	0	4	0	2	14
Corporate Strategies Formulation/Eval. of	0	4	0	4	0	2	0	10
Ag. Projects Management Control/ Information Systems	4	0	4	0	4	0	0	12
Ag. Quality Control	0	4	0	0	0	2	0	6
Processing/Packaging	4	0	2	0	2	0	0	8
Inter. Business	0	0	4	0	0	2	0	6
Farm Management	0	0	4	0	0	0	0	4
Human Res. Management	0	4	4	0	2	2	0	10
Production Economics	0	0	4	0	2	0	0	6
Computers in Ag. Administration	0	4	0	0	0	2	0	6
Fruit Marketing	4	0	4	0	0	0	0	8
Vegetable Marketing	0	4	0	4	0	2	0	10
Managerial Economic Analysis	0	4	0	4	0	2	0	10
Gender Issues	0	0	2	0	2	0	4	8
	2	0	0	0	0	0	0	2
Total Person Weeks	32	32	32	20	16	16	8	156

c. Long-Term Non-degree Training

The scheduling of long-term non-degree training for CADER faculty is shown below in Table 37. The other disciplinary areas include agricultural policy analysis, financial management, agricultural processing, international business, agro-exports, and agricultural marketing.

TABLE 37: Long-Term Non-degree Training - CADER - Project 517-0243

Technical Area	Project Year							Description
	1	2	3	4	5	6	7	
	(Person Months)							
Educ. Admin.	12	-	-	-	-	-	-	Develop./Admin. of executive programs and private sector services
Agro-exports	-	12	-	-	-	-	-	Specialization in fruits and vegetables.
Ag. Policy	-	-	-	12	-	-	-	Pricing and market policies
Financial Mgt.	-	-	12	-	-	-	-	Agrobusiness finance
Agroindustries	-	-	-	12	-	-	-	Specialization in non-traditional ag. products.
Inter. Business	-	-	-	-	12	-	-	Emphasis on agricultural trade
Marketing	-	-	-	-	-	12	-	Emphasis on agricultural products
Total	12	12	12	24	12	12	0	84 Person Months

d. Short-Term Training Activities

Table 38 depicts the short-term training activities which will be supported. The provision of short-term training will strengthen and broaden the knowledge of new faculty and represent a continuing education and refresher mechanism for current personnel. It includes participation in formal courses, where an appropriate course is offered, or individually designed internships with organizations and universities offering the related topics, and in professional conferences and meetings.

TABLE 38: Short-Term Training - CADER - Project 517-0243

Technical Area	Project Year							LOP
	1	2	3	4	5	6	7	Total
	(Person Weeks)							
Admin. of Private Sector Services	4	2	4	4	-	-	-	14
Fruit/Veg. Marketing	4	-	-	-	-	-	-	4
Computers in								
Ag. Administration	-	2	-	-	-	-	-	2
Packaging and Grating	-	2	-	-	-	-	-	2
Quality Control of								
Ag. Products	-	-	-	-	4	-	-	4
Agribusiness Management	-	-	4	-	-	-	-	4
Executive Management (INCAE)	-	-	4	-	4	8	4	20
Institutional Development	-	-	-	4	-	-	4	8
Customs Administration	-	-	-	4	-	-	-	4
Project Administration	-	-	-	-	4	-	-	4
Gender Issues	-	2	-	-	-	-	-	2
Total	8	8	12	12	12	8	8	68 person weeks

e. CADER's Infrastructure Requirements

CADER's initial infrastructural needs were largely met through the Rural Development Administration Project which has been in operation since 1981. Several remaining deficiencies will be addressed under this Project, as indicated in Table 39. These include the addition of three vehicles for case work, which will allow one vehicle on average for each 2-3 professors. Much of CADER's work involves field research, marketing and the provision of services to off campus clients. More vehicles will assist them in developing the linkages with private sector companies based mainly in Santo Domingo. The computers, necessary for case writing, research, consulting, and analysis, will be provided such that every third professor will have access and that two additional laptops will be available for use in the field. Finally, the photocopiers will be provided for the heavy utilization required by the 10 semester courses, two five-week courses, executive courses and seminars.

TABLE 39: CADER Infrastructure - Project 517-0243

Category	Amount US\$
Vehicles (3)	\$45,000
Teaching Equipment	10,000
Computers & Equip.	15,000
Photocopiers	10,000
Total	\$ 80,000

246

I. Women in Development

The following describes the key areas where the participation and integration of women as students, staff and/or client group (e.g. smallholder women farmers or women in agribusiness firms) at ISA could be strengthened through the planned agribusiness training project. The following begins with a brief description of the context for integrating women at ISA, followed by a presentation of the key gender issues and the recommendations for project activity to address these constraints to equitable participation.

1. The Context for Integrating Women at ISA/CADER

Both staff and students, male and female, are openly supportive of increased participation of women at ISA. There exists at ISA a shared awareness of what women can contribute, as students, faculty and professionals, and a very clear idea of the constraints to the integration of women. Nowhere was the stereotypical idea of agriculture as exclusively a man's domain found; in fact, just the opposite perspective tends to be the rule. Interviewees consistently emphasized how ISA women graduates had, through their professional success, made important in-roads in a sector traditionally dominated by men. These accomplishments were cited as evidence that women are equally capable of contributing to agricultural development.

The increasing number of women at ISA over the past five years, and the institution's willingness to integrate women further, are excellent beginnings for the development of gender sensitive programs. Approximately 15 percent of the students in the five year bachelor of science program are women. Of the students in the three year technical/vocational program, approximately 33 percent are women. Although the exact number of female students for all previous years are unknown, these current percentages represent a significant increase for the last few years. Demographic changes in the pool of potential applicants (e.g higher percentage of female students in public secondary schools) indicate that this trend of increased female participation will likely continue.

Women are also increasingly better represented on ISA's faculty. Although the number of female faculty as a percentage of the total faculty is quite low (approximately 15 percent), two of the four career specialization areas (animal production and forestry/natural resources) are headed by women, one of whom is an ISA graduate. ISA female graduates are also in charge of the library and the laboratory facilities.

ISA staff would be the first to agree that not enough has been done to integrate women. At least for recent years, this failure is not due to any conscious biases or explicit policies of exclusion, but to a lack of information on how to modify programs in order to promote equal

2009

participation of women. While administrators emphasized that the policies guiding ISA do not discriminate based on sex, they acknowledged that the potential of women at the institute could be more fully realized through program modification and improvement in financial support.

2. Key Gender Issues at ISA

The following are areas where the planned project can strengthen the integration and participation of women at ISA. Some of the issues discussed are relevant for both male and female students. Nonetheless, the purpose of discussing these generic problems or opportunities in this section is to highlight the situation for women at ISA which, although fundamentally the same, also have additional characteristics due to a history of socio-cultural and economic differences between male and female in the agricultural sector. Many of these gender differences can quickly become institutionalized inequalities if not acknowledged and addressed by programs that promote equitable participation for both men and women.

a. Higher Costs for Female Students

Education costs are higher for female students at ISA due to the lack of on-campus housing and the high costs of off-campus room, board and transportation. At present, only male students are eligible for dormitory housing. Four male students share a room with each having his own bunk bed, desk and closet space; a communal bathroom is located at the end of each dormitory. The current cost of room and board for male students housed in ISA's dormitories is RD\$100 per month., which is less expensive than renting a room in a house. Female students living in Santiago pay an average of RD\$300 per month for room and two meals a day. Female students in the technical/vocational program reported that to save money they elected to rent a room in La Herradura, which is less expensive and allows them to walk to campus. They reported paying RD\$80 per month without meals, which they took in ISA's cafeteria and paid for separately (RD\$1.50/day). This option of living closer to ISA and therefore paying less for room is not feasible for female students in the bachelor of science program, since they must attend classes at PUCMM as well as at ISA. These female students report that they must make a minimum of two trips per day between ISA and PUCMM.

An additional constraint for women associated with the lack of on campus housing is the quality of the living arrangements. The most consistent complaint voiced during ten formal and informal interviews with women students was the lack of physical space and quietness necessary to study. The high cost of off-campus housing requires female students to share a room. Women consistently reported sharing the room with two to three female roommates. These rooms, which were described as half the size of the dormitory rooms, are too small for desks. Thus women students must sit and study on the same bed they share for sleeping.

250

Off-campus housing leads to additional transportation costs for female students. Women in the bachelor of science program on average must make two trips per day between PUCMM and the ISA campus. Each round trip costs RD\$1.0. Assuming a twenty day study month, female students must pay an additional RD\$40 per month for transportation. Women are able to reduce this expense somewhat by catching rides with friends and faculty or by traveling on the ISA bus once they are on campus. However, class schedules often do not permit them to take advantage of this free transportation.

These additional housing, meal and transportation costs for women represent burdensome immediate and future costs. The vast majority of students at ISA come from relatively poor families and therefore use government student loans to pay for their educational costs, including room and board. Registration, tuition, book and laboratory fees are identical for male and female students. Averaging the room, board and transportation costs provided by female students during interviews, it is estimated that for a ten month school year, female students pay an additional RD\$1,500 to 2,000 per year than do male students for their education at ISA. Almost all of this is added to the loan amount they must pay back after graduation.

b. Low Involvement of Professional Women

With the exception of the women faculty, there is little involvement at ISA of professional women working in public or private agricultural organizations. This is unfortunate since these women could provide students (male and female) with information based on real world experiences and professional support regarding career opportunities and choices. These women could serve as role models and as professional advisors to female students on what they can expect after graduation, including advice on career possibilities and ways to overcome obstacles that confront women in the agricultural sector.

c. Lack of Sex-Disaggregated Student Data

ISA's staff were receptive to the idea that the planned computer system include a sex-disaggregated database of student records. At present, first names are the only way to identify whether a record belongs to a male and female student. With a "sex of student" variable in a computerized student database it will be possible to identify gender differentiated patterns in student application, enrollment, area of study and performance. This type of information will enable ISA to develop policies and programs that promote equitable education for students.

d. Inadequate Female Student Field Experience

All students at ISA could benefit from the field opportunity to apply knowledge learned in the classroom. This need for student field or professional experience is particularly important for female students, who confront additional obstacles because of the maleness of the agricultural

sector. Field experience can enhance the awareness of students of the problems and needs of women farmers, seasonal laborers and professionals in agribusiness firms. With time field experience could be one mechanism that helps integrate gender concerns within the education provided students, male and female, at ISA.

e. Need for Faculty Training

ISA's faculty and administrators support better integration of women at the institute. Although staff are cognizant of many areas where the participation of women could be advanced, there is little expertise among the existing faculty on the programmatic options for addressing these constraints. The issues discussed in this report are recognized by faculty as constraints to women's participation at ISA. However, with regard to the constraints that women farmers and professional women in agribusiness firms confront, the staff is less informed.

The lack of faculty expertise in WID or gender issues is quite understandable. First, the issues for women in agriculture in a country such as the Dominican Republic are only now being recognized by international researchers. Second, these issues have traditionally been the domain of the social sciences, and not the technical sciences of agriculture. And third, the links between agricultural technology and social scientist approach to WID issues are only now being explored. This exploration has been the successful in the areas of applied research and extension/outreach. The integration of WID issues in the teaching of technical basics of horticulture, animal production, forestry, natural resources and agricultural administration is not necessary. When these basic skills, however, are discussed in an applied context of implementing these basics, the importance of WID must be considered. In many cases, there will be no gender issues; in other cases, gender issues will affect the transfer of technology.

f. WID Integration into Curriculum

There is unanimous concensus among staff and students, male and female, at ISA that WID should be integrated with existing programs. Rather than have a separate women in agriculture program or course for each specialization, gender concerns need to be addressed within the existing four areas of instruction: horticulture, animal production, forestry-natural resources and agricultural administration. As the curricula changes over the life of the project, there will be areas where WID issues need to be addressed. It is probably safe to assume that WID concerns are not relevant to the teaching of the basic technical courses for each specialization. However, in the more advanced instruction where basic knowledge is applied, for example in thesis work, or in the educational components to research and outreach, an awareness of possible WID issues needs to be considered.

252

One area of ISA's curriculum deserves separate mention. ISA has recently started a three-year technical degree program aimed at training agricultural extensionists (the first class will graduate next year). In contrast to the students in the bachelor of science program, these students receive all their education at ISA. From a curriculum perspective, one consequence of an exclusive ISA training is that the social science and humanities courses at the Catholic University are not offered to these students. At present, ISA does not have faculty in these non-agricultural disciplines, which traditionally have been the strongest vis a vis women in development.

Thirty-three percent of the students in the technical program are women. These women are being trained to serve as agricultural extension agents. They will be working in the area of the agricultural sector characterized by the strongest cultural perception of agriculture as a male activity. On more than one occasion, concern was expressed by ISA staff that the women graduates of this program would encounter difficult working conditions. The feeling is that these women graduates can succeed, although it will be difficult. To increase the chances of graduates to succeed, it was suggested on a number of occasions that both female and male students be provided training in basic sociology, anthropology and social psychology. The effect of such an education would be to provide students with social and psychological tools to help them professionally in a male campesino world.

g. No Placement Assistance

At ISA there is discussion of how to provide students with job placement assistance. At present few concrete ideas exist on how to institutionalize such a service. Outreach programs to the public and private agricultural organizations and to ISA graduates will be cornerstones of any placement service. If such a placement system develops, it would be an excellent vehicle for assisting women graduates overcome professional hurdles in this male dominated sector.

h. Institutional Endowment Support for Women

A major component of the project will be the creation of a Development Office at ISA to generate matching donations for the Endowment Fund. The Fund's growth will be achieved through earnings, donations, alumni contributions, endowed chairs, etc. Consideration should be given to the feasibility of raising funds for women students and faculty. The question of what donor groups would provide financial support for women in agriculture needs to be explored. Given the growing interest by the international development community, particularly at AID because of new legislation and the earmarking of additional funds, a strong integrated women in agricultural development program at ISA could generate funding.

153

3. Recommendations for Project Activity

The WID issues discussed above can be addressed through a number of project activities that in a multi-reinforcing way can help promote the institutionalization of gender concerns at ISA. In this section, these activities are discussed in terms of components, timing and budget.

a. Support On-Campus Housing for Female Students

The administration of ISA is well aware of the greater living costs that women students incur. ISA has recently taken emergency measures to help women students finance these additional costs. An additional loan of RD\$100 (\$15.00) per month is currently being provided to women students. There is also discussion of increasing the amount of this loan. However, these monthly supplements must be paid back after graduation, which increases the cost differential between female and male education at ISA.

At a Board of Directors meeting in late 1988, the possibility of converting one of the male dormitories into a female dormitory was discussed, and it was reported that most of the members felt this to be the appropriate course of action. It is important to note that women students want to live on campus. They feel quite strongly that their current living situation does not allow them to fully apply themselves to their studies. The lack of study space, the inconveniences of transportation, the inability to fully utilize campus resources (e.g. library), all contribute to an underutilization of the current and planned activities at ISA.

The on-campus housing of women students is clearly the best solution to the higher costs of female education at ISA. With increasing female enrollement, a higher percentage of the student population will require financial assistance which, when coupled with inflation, will represent an increasing demand on ISA's already limited financial resources. Coterminous with increasing loan demand for female students will be an underutilization of existing campus infrastructure as male enrollment levels off or decreases. There already exists dorm space that could be used by female students, which would increase ISA's revenue from these investments.

The modification of an existing dormitory in order to accomodate women is clearly the most cost-effective and equitable solution. The dormitories presently empty would need new beds, desks and chairs, moderate carpentry work, painting and bathroom rennovation. The exact cost of these repairs is difficult to estimate, since costs of material and labor will no doubt increase and the exact dormitory that could be converted has not yet been identified. A guesstimate provided by one individual was between RD\$20,000 and 30,000 (\$3,200 and \$4,700). The Project should either fund these renovations or insist that ISA provide monies for the rennovations. In both the short-and long-term, it is more cost-effective to remodel a dormitory than continuing to provide female students with loans.

The transition to coed residence will require careful planning and close monitoring. In almost every discussion of the topic of women living on campus, there was an acknowledgement that although it was the best alternative, it was also going to be very difficult for cultural and social reasons that extend far beyond ISA. Concerns were voiced regarding parental attitudes and the role of the institution in delicate relations between young adults. To address these concerns, and others that are sure to develop, it is recommended that a small committee comprised of male and female staff be formed to help plan and supervise the development of female on-campus housing.

b. Short-Term WID Technical Assistance

A WID specialist with training in agriculture should be brought to ISA through the short-term faculty visit mechanism of the planned project. The specialist should be expected to (1) identify the gender needs or issues in such areas as agribusiness, horticulture, forestry, animal production, agricultural economics, academic and research administration, data management systems (including library) and university development and (2) work with ISA staff and PUCMM to develop procedures for addressing these needs and/or issues.

The WID specialist should have good links to the community of U.S. based researchers and institutions working in the areas of women in agricultural development. If networked with the women and development community, the WID specialist can provide ISA/CADER staff with guidance on short- and long-term non-degree training at U.S. institutions. Non-degree training can effectively increase ISA's technical expertise to address gender issues through the timely use of WID workshops, seminars, training programs, university courses, and fellowships. The WID specialist should commit himself/herself to continuous involvement for the life-of-project. During the life-of-project, the WID specialist should keep the WID Officer at USAID/Santo Domingo and PPC/WID informed of the WID activities at ISA. This is particularly important during the first years of the project because of new AID guidance to Missions on WID and the recent increase in funding for WID within AID.

Involvement of the WID specialist should be in the form of repetitive visits and regular correspondence with long-term resident faculty and ISA staff and student body. The combination of both these approaches should enable the WID specialist, at a very low cost to the project, to play a pivotal role in addressing the gender issues described in the preceding section. The WID specialist could (1) assist in the planning and implementation of a on-campus housing for women; (2) develop programs to bring Dominican professional women to ISA to advise faculty and students on the work and employment situation for women in the agricultural sector for women; (3) work with the computer technicians at ISA to develop a gender-sensitive database; (4) guide advanced students interested in women

W-5

in agricultural and/or animal husbandry in undertaking research both at ISA and in the field (CIMPA and Plan Sierra provide students with an excellent opportunity to extend their studies to the field. WID issues have already been investigated in the Plan Sierra region and two ISA female graduates are working as extension agents in the program); (5) contribute to staff training and the integration of WID into curricula development; (6) help develop placement assistance for women graduates; and (7) work with the development office to identify possible donations for women faculty and students at ISA.

The WID specialist should be charged with locating conferences, workshops, university courses, other forms of non-degree training that can strengthen the technical expertise of ISA faculty to address gender issues. Faculty and students interested in integrating WID into their research, teaching or studies should have the opportunity to attend degree or non-degree training in the U.S. Minimal funds should be set aside to assure that WID training can be achieved through degree and non-degree training opportunities in the U.S.

Finally, the WID specialist's primary responsibility to ISA is to initiate and guide the process of advancing beyond a state of gender awareness to a point where sustainable technical expertise is institutionalized. For this reason the funding of WID technical assistance decreases over the life-of-project. It is suggested that at year six an evaluation of the progress toward institutionalizing WID at ISA be undertaken.

c. Guarantee Minimal Funding for WID Committee Activities

Staff at ISA were receptive to the idea of forming a small (5 to 7 member) WID committee. Consisting of both male and female staff (teaching and administrative) and student representatives, this informal committee would meet frequently enough to serve as an effective liaison with the WID specialist. The interaction between the WID specialist and the committee would be the principal mechanism for ISA to address the gender issues described above. This collaborative effort would also lead to the institutionalization of WID at ISA and CADER.

It is recommended that the committee be allocated a minimal amount of operating funds. The funding of the committee would greatly help legitimize the role of the committee and enable the members to plan activities such as arranging visits to ISA by professional women working in the agricultural sector, attending national seminars or conferences on Dominican women in the rural sector, purchasing of women in agriculture literature, organizing social activities at ISA that promote gender awareness, etc.

3. Conclusion

The Instituto Superior de Agricultura represents a developing country institute of higher agricultural education that is open and willing to address gender and WID issues. The Consortium, backstopped by ARD/USAID/Santo Domingo, has implemented a design protocol that allowed consideration of possible gender/WID implications at the very beginning of the design phase and during the programming stage. The combination of ISA's attitude and the Consortium's approach raises the possibility that ISA could be a model agricultural education institute in terms of WID. If successful, ISA's progress in this area would be instructive for institutes in other developing countries.

257

AGRICULTURAL PRODUCTIVITY

1970-1987

YEAR	EMPLOYMENT IN AGRICULTURE (Thousands)	AGRICULTURAL VALUE ADDED (Millions of 1987 Pesos)	PRODUCTIVITY (Value added per employee; 1987 prices)
1970	502	2,141	4,265
1980	618	3,632	5,877
1981	659	3,482	5,284
1984	666	3,419	5,134
1985	648	3,297	5,088
1986	638	3,279	5,139
1987	657	3,373	5,134

258

AGRICULTURAL PRODUCTIVITY WITH PROJECT COMPARED TO WITHOUT

YEAR	W I T H O U T P R O J E C T				W I T H P R O J E C T				D I F F E R E N C E W / P R O J E C T C O M P A R E D T O W I T H O U T			
	AGRIC. 1) VALUE ADDED	EMPLOY- MENT 2)	PRODUCTIVITY VALUE ADDED PER WORKER 3)	ANNUAL PERCENT CHANGE	AGRIC. 1) VALUE ADDED	EMPLOY- MENT 2)	PRODUCTIVITY VALUE ADDED PER WORKER 3)	ANNUAL PERCENT CHANGE	ACCUM. AGRIC. VALUE ADDED 1)	NET EMPLOY- MENT 2)	ANNUAL VALUE ADDED PER WORKER 3)	PERCENT ANNUAL VALUED ADDED PER WORKER
1989	3,349	652	5,137	0.1	3,349	652	5,137	0.1	-	-	-	-
1991	3,467	671	5,167	0.3	3,467	671	5,167	0.3	-	-	-	-
1995	3,752	715	5,248	0.4	3,859	728	5,301	0.9	201	13	53	1.0
2000	4,143	774	5,353	0.4	4,845	836	5,795	2.3	2,296	62	442	8.3
2005	4,574	838	5,458	0.4	6,131	953	6,433	2.1	8,337	115	975	17.9
2010	5,051	907	5,569	0.4	7,617	1,047	7,275	2.5	19,083	140	1,706	30.6

1) Millions of 1987 pesos.

2) Thousands

3) 1987 pesos

154

PRIVATE INVESTMENT IN AGRICULTURE

YEAR	AGRICULTURAL VALUE ADDED (Millions of 1987 Pesos)	% CHANGE	PRIVATE INVESTMENT IN AGRIC. (Millions of 1987 Pesos)	% CHANGE	INVESTMENT AS % VALUE ADDED
1982	3,317		441	-	13.3
1983	3,417	3.0	464	5.2	13.6
1984	3,149	0.1	406	-12.5	11.9
1985	3,297	-3.6	323	-20.4	9.8
1986	3,279	-0.5	352	9.0	10.7
1987	3,373	2.9	360	2.3	10.7
1988	3,316	-1.7	360	0.0	10.9
PERIOD AVERAGE		0.0		-3.3	11.6

WITH PROJECT ESTIMATES OF AGRICULTURAL PRODUCTIVITY CHANGES

YEAR	AGRICULTURE VALUE ADDED (Millions of 1987 Pesos)	% CHANGE	EMPLOYMENT IN AGRICULTURE (Thous.) / % CHANGE	OVERALL PRODUCTIVITY Value Added per Worker (1987 pesos)	% CHANGE
1988	3,316	-1.7	646 -1.7	5,133	0.0
1989	3,349	1.0	652 0.9	5,137	0.1
1990	3,399	1.5	660 1.3	5,150	0.3
1991	3,467	2.0	671 1.6	5,167	0.3
1992	3,545	2.2	683 1.8	5,190	0.4
1993	3,634	2.5	697 2.0	5,214	0.5
1994	3,737	2.8	711 2.1	5,256	0.8
1995	3,859	3.3	728 2.3	5,301	0.9
1996	4,002	3.7	746 2.5	5,365	1.2
1997	4,182	4.5	767 2.8	5,452	1.6
1998	4,379	4.7	789 2.9	5,550	1.8
1999	4,605	5.2	813 3.0	5,664	2.1
2000	4,845	5.2	836 2.9	5,795	2.3
2001	5,092	5.1	860 2.9	5,921	2.2
2002	5,344	4.9	885 2.8	6,038	2.0
2003	5,602	4.8	909 2.7	6,162	2.1
2004	5,864	4.7	931 2.5	6,299	2.2
2005	6,131	4.6	953 2.3	6,433	2.1
2006	6,410	4.6	973 2.1	6,588	2.4
2007	6,700	4.5	992 2.0	6,754	2.5
2008	6,997	4.4	1,101 1.9	6,921	2.5
2009	7,303	4.4	1,029 1.8	7,097	2.5
2010	7,617	4.3	1,041 1.7	7,275	2.5

POTENTIAL WITH PROJECT GROWTH IN AGRICULTURAL VALUE ADDED
BY PRODUCT SOURCE

	NON-TRAD.	TRAD.	TOTAL
1988	-1.2	-3.5	-1.7
1989	2.0	-2.6	1.0
1990	2.5	-2.3	1.5
1991	2.5	0.0	2.0
1992	2.8	0.1	2.2
1993	3.1	0.1	2.5
1994	3.5	0.3	2.8
1995	4.0	0.4	3.3
1996	4.5	0.4	3.7
1997	5.0	0.6	4.5
1998	5.5	0.7	4.7
1999	6.0	0.9	5.2
2000	6.0	0.8	5.2
2001	5.8	1.1	5.1
2002	5.6	1.0	4.9
2003	5.4	1.2	4.8
2004	5.2	1.2	4.7
2005	5.0	1.5	4.6
2006	5.0	1.4	4.6
2007	4.9	1.7	4.5
2008	4.8	1.7	4.4
2009	4.7	1.9	4.4
2010	4.6	1.8	4.3

262

PROJECT RESOURCE FLOW ANALYSIS

	GROSS VALUE	ADD'L VALUE ADDED	ADD'L PRIV. INVESTMENT ATTRACTED BY R&D RESULTS	NET VALUE ADDED	PROJECT RESOURCE ALLOCATIONS	NET PROJECT RESOURCE FLOWS	CALCULATION OF ECONOMIC IRR DISCOUNT RATE		
							20%	22%	25%
1989	-	-			-40	-40	-40.0	-40.0	-40.0
1990	-	-			-10	-10	-8.0	-7.8	-7.5
1991	-		22	-22	-9	-31	-19.8	-18.9	-17.4
1992	9		45	-36	-9	-45	-23.0	-21.4	-19.0
1993	27		70	-51	-7	-58	-23.8	-21.5	-18.4
1994	58		122	-64	-6	-70	-22.9	-20.2	-16.6
1995	107		170	-63	-2	-65	-17.0	-14.6	-11.6
1996	175		258	-83		-83	-17.4	-14.6	-11.1
1997	278		298	-20		-20	-3.4	-2.7	-2.0
1998	397		388	9		9	1.2	1.0	0.7
1999	543		442	101		101	10.8	8.4	5.7
2000	702		488	214		214	18.4	13.9	9.0
2001	866		542	324		324	22.3	16.4	10.3
2002	1,034		692	342		342	18.8	13.5	8.1
2003	1,205		742	463		463	20.4	14.3	8.2
2004	1,379		742	637		637	22.4	15.3	8.5
2005	1,557		858	699		699	19.7	13.1	7.0
2006	1,745		932	813		813	18.3	11.9	6.1
2007	1,941		992	949		949	17.1	10.8	5.4
2008	2,143		1,062	1,081		1,081	15.6	9.6	4.6
2009	2,351		1,135	1,216		1,216	14.0	8.4	3.9
2010	2,566		-8521	3,418		3,418	31.5	18.5	8.1
Net Present Value of Net Project Resource Flows							55.2	-6.6	-58.0

† Capital Recovery

NOTE: All peso values are expressed in constant 1987 prices.

memorandum

DATE: May 24, 1989

REPLY TO
ATTN OF: Mary Beth Allen, PDSAnnex VIII.A
Page 1 of 4SUBJECT: Waiver of AID Financing of International Transportation Costs of
Participants under the University Agribusiness Training Project - 517-0243

TO: Raymond F. Rifenburg, Acting Director

Problem: The implementation of the subject project requires international transportation of participants for training in the United States and authorized third countries. In order to allow AID financing of international transportation costs, you are requested to grant for the project a waiver of Handbook 10, Chapter 15 requirements.

Facts:

- (a) Cooperating Entity: Superior Institute of Agriculture (ISA)
- (b) Project: University Agribusiness Partnership Project
- (c) Nature of Funding: Grant
- (d) Description of Training: Short-term and Long-term Professional Development/On-the-Job Training for ISA faculty and administrators in participating Title XII Universities and affiliates.
- (e) Approximate Value of International Airfare: \$340,400

Discussion: In accordance with Handbook 10, Chapter 15, "International Travel will be paid by the host country, the participant, or other sponsor." If said international travel is to be paid by AID, then "the Mission Director must justify and authorize full or partial waivers, and notify the Office of International Training."

The subject project has budgeted international transportation into the cost of training for participants because of the inability of the participants, or the Superior Institute of Agriculture (ISA) to finance this travel. In addition, the purpose of the project has warranted that all available (and limited) host country funds be delegated to capitalization of the Endowment Fund, which is the centerpiece to this project. The strengthening of the Endowment Fund is instrumental to the eventual self-sufficiency of ISA, and the project's purpose of providing the expanding agribusiness and agro-industrial community with increased mid-level manpower by institutionally strengthening ISA. Without the maximum capitalization from both GODR and private contributions, the required increase in the Endowment Fund would not be possible.

264

Another expected output of the project is to enable ISA to increase and maintain faculty salaries at a level commensurate with incomes in similar, private sector fields. Due to lags in salary increases over the past years, faculty are currently unable to finance their own travel.

ISA will be fully stretched financially to meet the projected plans for self-sufficiency of its operations by the end of the project's seven-year period, even with direct institutional support (salary increases and funding for a new Development Office and its operation) being provided under this project during its first two years. The training to be provided under the project is essential to achievement of the project's outputs and purpose, including ISA's self-sufficiency.

Recommendation: For the above reasons, it is recommended that in authorizing this project, you grant a waiver to allow AID financing of participants' International Airfare under the University Agribusiness Promotion Project.

Clearance: PDS: R. Mathia RM
A/DD: D. Steen DS
ARD: K. Wiegand KW
CONT: R. Lawrence RL
HPD: P. Struharik (In draft)
LAG/GC: K. Hansen (In draft)

Approved: Raymond P. Pifer

Disapproved: _____

Date: June 23, 1989

265

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 DE RUEHDG #5828 177 **
 ZNR UUUUU ZZH
 R 261935Z JUN 89
 FM AMEMBASSY SANTO DOMINGO
 TO SECSTATE WASHDC 0725
 BT
 UNCLAS SANTO DOMINGO 06828

Annex VIII.A

Page 3 of 4

CLASS: UNCLASSIFIED
 CHRG: AID 6/23/89
 APPRV: A/DD: RRIFENBURG
 DRFTD: PDS: MBALLEN:ACP
 CLEAR: PDS:RMATHIA
 DISTR: AID-3 AMP DC
 AC CRRON

AIDAC

FOR: DIRECTOR OF OFFICE OF INTERNATIONAL
 TRAINING-ST/OIT

E.O. 12356: N/A

SUBJECT: UNIVERSITY AGRIBUSINESS PARTNERSHIP
 PROJECT (517-0243)--WAIVER FOR INTERNATIONAL TRAVEL
 COSTS

1. IN ACCORDANCE WITH HANDBOOK 10, CHAPTER 15,
 USAID IS NOTIFYING THE OFFICE OF INTERNATIONAL
 TRAINING THAT A WAIVER WAS GRANTED FOR AID
 FINANCING OF INTERNATIONAL TRAVEL OF PARTICIPANTS
 UNDER THE SUBJECT PROJECT. THE ACTING MISSION
 DIRECTOR APPROVED THIS WAIVER IN THE AUTHORIZATION
 OF SUBJECT PROJECT PAPER ON JUNE 23, 1989.

2. GENERAL INFORMATION ABOUT THE PROJECT:

- (A) COOPERATING ENTITY: SUPERIOR INSTITUTE OF
 AGRICULTURE (ISA)
- (B) AUTHORIZING DOCUMENTS: PROJECT AUTHORIZATION,
 SIGNED JUNE 23, 1989
- (C) PROJECT: UNIVERSITY AGRIBUSINESS PARTNERSHIP
 PROJECT (517-0243)
- (D) NATURE OF FUNDING: GRANT
- (E) DESCRIPTION OF TRAINING: SHORT-TERM AND
 LONG-TERM PROFESSIONAL DEVELOPMENT/ON-THE-JOB
 TRAINING FOR ISA FACULTY AND ADMINISTRATORS IN
 PARTICIPATING TITLE XII UNIVERSITIES AND AFFILIATES
- (F) APPROXIMATE VALUE OF INTERNATIONAL AIRFARE:
 \$340,000.

3. JUSTIFICATION FOR WAIVER: THE SUBJECT PROJECT
 HAS BUDGETED INTERNATIONAL TRANSPORTATION INTO THE
 COST OF TRAINING FOR PARTICIPANTS BECAUSE OF THE
 INABILITY OF THE PARTICIPANTS; OR THE IMPLEMENTING
 INSTITUTION (A LOCAL EDUCATIONAL INSTITUTION, THE
 SUPERIOR INSTITUTE OF AGRICULTURE-ISA) TO FINANCE
 THIS TRAVEL. IN ADDITION, THE PURPOSE OF THE
 PROJECT HAS WARRANTED THAT ALL AVAILABLE (AND
 LIMITED) HOST COUNTRY FUNDS BE DELEGATED TO
 CAPITALIZATION OF THE ENDOWMENT FUND, WHICH IS THE
 CENTERPIECE TO THIS PROJECT. THE STRENGTHENING OF
 THE ENDOWMENT FUND IS INSTRUMENTAL TO THE EVENTUAL
 SELF-SUFFICIENCY OF ISA, AND THE PROJECT'S PURPOSE
 OF PROVIDING THE EXPANDING AGRIBUSINESS AND

DIP
 DD
 ARD
 HPD
 RF

AGRO-INDUSTRIAL COMMUNITY WITH INCREASED MID-LEVEL MANPOWER BY INSTITUTIONALLY STRENGTHENING ISA. WITHOUT THE MAXIMUM CAPITALIZATION FROM BOTH GODR AND PRIVATE CONTRIBUTIONS, THE REQUIRED INCREASE IN THE ENDOWMENT FUND WOULD NOT BE POSSIBLE.

ANOTHER EXPECTED OUTPUT OF THE PROJECT IS TO ENABLE ISA TO INCREASE AND MAINTAIN FACULTY SALARIES AT A LEVEL COMMENSURATE WITH INCOMES IN SIMILAR, PRIVATE SECTOR FIELDS. DUE TO LAGS IN SALARY INCREASES OVER THE PAST YEARS, FACULTY ARE CURRENTLY IN NO POSITION TO FINANCE THEIR OWN TRAVEL.

ISA WILL BE FULLY STRETCHED TO MEET THE PROJECTED PLANS FOR SELF-SUFFICIENCY OF ITS OPERATIONS AND CORE COSTS BY THE END OF THE PROJECT'S SEVEN-YEAR PERIOD, EVEN WITH THE DIRECT INSTITUTIONAL SUPPORT (SALARY INCREASES AND FUNDING FOR A NEW DEVELOPMENT OFFICE AND ITS OPERATION) BEING PROVIDED UNDER THIS PROJECT. THE TRAINING TO BE PROVIDED UNDER THE PROJECT IS ESSENTIAL TO THE ACHIEVEMENT OF THE PROJECT'S OUTPUTS AND PURPOSE, INCLUDING THIS SELF-SUFFICIENCY. TAYLOR

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Estimated list of Consortium Contributions to Project 517-0243

Type of Contribution	Amount
<p>1. <u>Debt for Development</u> Estimated at \$50,000/Yr. X 3 years for completion of swap. These are legal fees which the Consortium might need to undertake, similar to the \$202,000 already expended in 1988-89.</p>	\$352,000
<p>2. <u>Cost Sharing - Waiver of G&A Fee</u> MUCIA has indicated to AID that it will not charge its General and Accounting Fee, which would be 12% of the Contract total.</p>	\$1,380,000
<p>3. <u>Use of Title XII Support Grants</u> This represents an estimated maximum of \$25,000/Year x 7 years x 6 MUCIA and 2 associated consortium institutions (TAMU and Cal/Davis). This estimate is based on Ohio State Universities 1988 expenditure in support of ISA/research/teaching associated with its Strengthening Grant. (Note that two MUCIA Universities are not Title XII Institutions).</p>	1,400,000
<p>4. <u>Enhancement of Curriculum and Research</u> Estimated at \$50,000 Yr. X 7 years X 8 MUCIA and 2 associated Consortium institutions (TAMU and Cal/Davis). This estimate is based on a 3 year period when Ohio State Provided \$178,813 in support of this area. This estimate will be highly variable and actual expenditures will be determined by research work of the ISA faculty members and available research funds at each Institution.</p>	3,500,000
<p>5. <u>Free Facility Use by Dominican Exchange Faculty</u> The project contemplates 28 person years of Dominican Exchange faculty, wherein ISA faculty and staff will improve their professional skills among appropriate counterparts in the U.S. Office space, supplies and support services, library facilities, and non-laboratory facilities will be supplied by the Consortium, in an amount estimated to be 28 persons X \$10,000/yr. = \$280,000. In addition, partial subsidized faculty housing may be provided where available; this is estimated at 14 persons X \$7,000/yr.= \$98,000.</p>	378,000
<p>6. <u>Tuition and Short-Term Training</u> The Project expects to provide 430 person weeks of short-term training to ISA faculty and staff. Tuition is not charged for the non-degree and/or non-formal training accomplished under this project. No estimate for this cost saving is available.</p>	not available
<p>TOTAL ESTIMATED CONTRIBUTIONS</p>	\$7,010,000

Some of these figures are estimates of in-kind support provided by institutions and do not represent funds transferrable to other program areas or expendible for other purposes.

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 AID 04/11/89
 DIR:TWSTUKEL
 ARDO:DSTEEN:MF
 1.PED:KLANZA, 2.PDS:RMATHIA, 3.PRG:TCORNELL,
 AID-2 AMB DCM, AC RF CHRON

AMEMBASSY SANTO DOMINGO
 SECSTATE WASHDC

AIDAC

E.O. 12356: N/A

SUBJECT: USE OF DEBT FOR DEVELOPMENT IN UNIVERSITY
 AGRIBUSINESS PARTNERSHIP PROJECT 517-0243

REF: A) STATE 046571, B) STEEN/LAPITUS TELCON ON
 3/30/89

1. MISSION WAS PLEASED WITH THE AID/W INITIATIVE AS
 OUTLINED IN REFTEL TO RELIEVE THE DEBT BURDEN ON
 DEVELOPING COUNTRIES WHILE ENHANCING DEVELOPMENT.
 MISSION IS IN THE MIDST OF FINALIZING SUBJECT PROJECT
 PAPER AND BELIEVES THAT PROJECT LENDS ITSELF TO USE OF
 THE DEBT FOR DEVELOPMENT GUIDELINES. CONCEPTS FOLLOWS:

- A. AS CURRENTLY DESIGNED PROJECT WILL NEED TO
 CONVERT APPROXIMATELY \$1.5 MILLION INTO PESOS FOR
 OPERATING EXPENSES DURING THE LIFE OF THE PROJECT.
 CONVERTING THESE DOLLARS DIRECTLY WILL COVER THE
 CERTAIN OPERATING EXPENSE NEEDS OVER THE LIFE OF THE
 PROJECT.

- B. AS AN ALTERNATIVE TO THE DIRECT CONVERSION OF
 DA RESOURCES THE MISSION IS PROPOSING TO GRANT THE
 \$1.5 MILLION TO THE MIDWEST UNIVERSITIES CONSORTIUM
 FOR INTERNATIONAL AFFAIRS (MUCIA) WHO WILL BE THE
 PRIME CONTRACTOR UNDER THIS TITLE XII COLLABORATIVE
 ASSISTANCE MODE PROJECT. MUCIA WOULD USE THESE FUNDS
 TO PURCHASE QUALIFYING DEBT FOR CONVERSION BY THE
 GODR. THE GODR WOULD CONVERT A PORTION OF THE DEBT TO
 PESOS TO COVER THOSE OPERATING EXPENSES OF THE PROJECT
 MENTIONED EARLIER AND THE REMAINDER TO GODR CENTRAL
 BANK BONDS IN FAVOR OF THE ENDOWMENT FUND OF THE
 PROJECT'S HOST INSTITUTION, A PRIVATE AGRICULTURAL
 UNIVERSITY.

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264

- C. THE LOCAL UNIVERSITY WHICH IS THE FOCUS OF ASSISTANCE IN THE SUBJECT PROJECT, SELECTS STUDENTS BASED ON ACADEMIC MERIT WITHOUT REGARD TO ABILITY TO PAY TUITION. IN AN EFFORT TO SUPPORT THIS OBJECTIVE, WITHOUT MAKING THE INSTITUTION DEPENDENT OF THE GODR, USAID (UNDER AN EARLIER PROJECT) ASSISTED THE LOCAL UNIVERSITY IN THE CREATION OF AN ENDOWMENT FUND USING A COMBINATION OF GODR OWNED LOCAL CURRENCY AND PRIVATE DONATIONS. TO PROVIDE FOR MORE FINANCIAL INDEPENDENCE AND TO RESOLVE THE PROBLEM OF HIGH FACULTY TURNOVER DUE TO LOW SALARIES, THE CURRENT PROJECT SEEKS TO INCREASE THE ENDOWMENT THROUGH ADDITIONAL CONTRIBUTIONS FROM BOTH THE GODR AND THE LOCAL PRIVATE SECTOR.

- D. THE ADVANTAGE OF THE ABOVE PROPOSAL FROM THE MISSION'S POINT OF VIEW IS THAT THE US\$1.5 MILLION WOULD NOT ONLY PROVIDE THE LOCAL CURRENCY REQUIRED FOR THE PROJECT, BUT WOULD ALSO PLAY AN IMPORTANT ROLE IN THE ATTAINMENT OF FINANCIAL SELF-SUFFICIENCY FOR THE INSTITUTION. MISSION BELIEVES THAT THE GODR WOULD BE FAVORABLY DISPOSED SINCE PART OF THE DEBT WOULD BE CONVERTED TO BONDS RATHER THAN CASH.

- E. MUCIA, AS PART OF THE INITIAL PLANNING FOR THIS PROJECT, PREPARED AND PRESENTED TO THE CENTRAL BANK, A PROPOSAL SIMILAR TO THE ONE DESCRIBED ABOVE. THE MAIN DIFFERENCE BEING, THAT RATHER THAN PURCHASE OF DEBT WITH A.I.D. FUNDS, MUCIA PROPOSED TO OBTAIN DONATIONS OF DEBT. THE CENTRAL BANK HAS INDICATED AN INTEREST IN THIS PROPOSAL AND MUCIA HAS A THOROUGH FAMILIARITY WITH THE SUBJECT. AT THE PRESENT TIME, MUCIA HAS NOT OBTAINED ANY DONATIONS.

2. MISSION BELIEVES THAT THIS CONVERSION WOULD BE EXTREMELY ADVANTAGEOUS IN FURTHERING THE OBJECTIVES OF THE PROJECT. IT WOULD, IN ADDITION TO PROVIDING THE PESOS NEEDED FOR OPERATING EXPENSES OVER THE LIFE OF THE PROJECT, PROVIDE ADDITIONAL RESOURCES AND INCOME FOR THE ENDOWMENT FUND WHICH IS A CRUCIAL ELEMENT FOR THE LONG TERM SUSTAINABILITY OF THE LOCAL AGRICULTURAL UNIVERSITY. IN THIS CONTEXT, CENTRAL BANK BONDS ARE THE MOST RELIABLE ASSET WHICH WOULD ACHIEVE THE PURPOSES OF THE PROJECT. ALTHOUGH THE TERMS WOULD BE

SUBJECT TO NEGOTIATION, MISSION WOULD SEEK TEN YEARS BONDS REDEEMABLE AT FACE VALUE AT MATURITY. MISSION WOULD SEEK A VARIABLE INTEREST RATE TO BE SET EACH YEAR BASED ON THE HIGHEST RATE BEING PAID ON CD'S BY THE FIVE LARGEST BANKS IN THE DR.

3. MISSION REQUESTS AUTHORIZATION AND ADDITIONAL GUIDANCE ON THIS DEBT FOR DEVELOPMENT PROPOSAL. SPECIFICALLY, MISSION WOULD LIKE TO KNOW IF MUCIA QUALIFIES AS THE INTERMEDIARY ORGANIZATION AND IF THE PROPOSED CONVERSION INCLUDING THE TERMS OF THE BONDS ARE ACCEPTABLE. TAYLOR##

ISA REVENUES, EXPENSES, OPERATING RESULTS AND IMPLICATIONS FOR SELF-FINANCING

CASE 1: "BEST GUESS" SCENARIO

CLASS	1982/89 BDGT	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP - 1	LOP - 2
ECOR	845,125	1,046,950	1,016,603	971,772	929,484	889,625	852,059	816,778	783,596	752,457
GIFTS AND GRANTS	72,000	1,953,000	1,312,000	1,608,250	2,053,063	2,160,556	2,773,907	2,918,459	3,070,624	3,231,452
SEMINARS	80,000	120,000	160,000	200,000	220,000	242,000	266,200	292,820	322,102	354,312
TUITION AND FEES	155,600	227,735	251,509	272,459	295,295	320,194	347,352	359,814	370,038	380,677
CONSULTING	237,400	300,000	400,000	416,000	432,640	449,946	467,943	486,661	160,000	180,000
OTHER REVENUES	322,950	372,000	390,850	408,535	427,002	444,317	464,521	485,654	507,760	530,885
NET FARM REVENUES	4,383	200,000	250,000	262,500	275,625	289,406	303,877	319,070	335,024	351,775
INTEREST EARNED	220,500	100,000	250,000	450,000	650,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
TOTAL REVENUES	1,967,968	4,319,685	4,030,991	4,589,517	5,263,108	5,846,043	6,525,889	6,729,257	6,599,345	6,831,558
EXPENDITURES										
PERSONNEL	1,319,070	2,803,024	2,943,175	3,031,470	3,122,414	3,216,087	3,312,569	3,411,946	3,514,305	3,619,734
OTHER	1,519,586	1,608,675	1,609,109	1,773,564	1,862,243	1,955,355	2,053,123	2,053,123	1,908,045	1,908,045
DEVELOPMENT OFFICE	0	0	0	143,301	318,507	345,965	544,894	762,849	762,849	762,849
DEPRECIATION	0	500,000	525,000	551,250	578,813	607,753	638,141	670,048	703,550	738,728
TOTAL EXPENSES	2,838,656	4,911,699	5,137,284	5,499,586	5,881,976	6,125,159	6,548,726	6,897,966	6,888,749	7,029,356
TOTAL CASH EXPENSE	2,838,656	4,411,699	4,632,284	4,948,336	5,303,164	5,517,406	5,910,586	6,227,918	6,185,199	6,290,628
NET SURPLUS/DEFICIT	(870,688)	(592,014)	(1,126,293)	(910,069)	(598,868)	(279,116)	(22,838)	(168,709)	(289,404)	(197,798)
CASH FLOW NET	(870,688)	(92,014)	(601,293)	(358,819)	(20,056)	328,637	615,303	501,339	414,146	540,929
INCREASE IN ENDOWMENT FUNDS NEEDED TO OFFSET LOSSES*										
		11,840,280	22,525,859	18,201,381	11,977,366	5,562,317	456,752	3,374,181	5,728,081	3,955,968
INCREASE NEEDED TO OFFSET CASH FLOW DEFICIT ALONE										
		1,840,280	12,025,859	7,176,381	401,116	(6,572,745)	(12,306,064)	(10,026,775)	(8,282,924)	(10,818,586)

* At 5% real interest earnings.

For comparison, the level of ISA endowment funds (donations plus matching amounts) is assumed to be as follows:

\$	1,000,000.00	4,000,000.00	8,000,000.00	12,000,000.00	20,000,000.00	20,000,000.00	20,000,000.00	20,000,000.00	20,000,000.00	20,000,000.00
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Sensitivity Analysis Tables
ISA Endowment Fund

22

INSTITUTO SUPERIOR DE AGRICULTURA

FINANCES: 1985 - 1996

GENERAL NOTE: ISA'S FISCAL YEAR RUNS FROM AUGUST 1 TO JULY 31 OF THE FOLLOWING YEAR.
ISA USES A MODIFIED CASH BASIS FOR ITS ACCOUNTING. SEE ANALYST'S NOTES FOR SOME OF
THE IMPLICATIONS OF THIS FOR INTERPRETATION OF THE ACCOUNTING RESULTS.

SOURCES OF FUNDS	AUDITED FINANCIAL REPORTS		UNAUDITED FINAN. RPT.	CURRENT BUDGET	PROJECTIONS (CASE A: "BEST GUESS")							POST-LOP YEARS	
	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
				YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP + 1	LOP + 2
SUBSIDIES, GRANTS & GIFTS													
CENTRAL GOVERNMENT	852,629	1,164,136	810,424	839,125	1,056,950	956,603	908,772	863,334	820,167	779,159	740,201	703,191	663,031
(Min. Education)	600,000	656,000	731,000	756,000									
(Min. Agriculture)	62,141	69,611	79,424	83,125									
(Ofc. of the Presidency)	50,000												
(Secy. Tec. Presidency)	140,488	500,000											
GOVT. INSTITUTIONS	543,163	422,975	10,000										
(Energy Commission: Research)	454,254	351,337	10,000										
(Consejo Nacl. de Agric.)	88,909	71,638											
STATE ENTERPRISES	23,600	29,293	14,000	6,000	40,000	60,000	63,000	66,150	69,458	72,930	76,577	80,406	84,426
(Tobacco Co.)	6,000	6,500	6,000	6,000									
(Flour Mills)	17,600	20,800	10,000										
(State Animal Prod. Com.)		1,993											
PRIVATE BUSINESSES	26,436	40,818	123,454	70,000	230,000	350,000	370,000	391,250	413,838	437,857	463,410	490,607	519,566
(Scholarships)			n.a.	70,000	200,000	300,000	315,000	330,750	347,288	364,652	382,884	402,029	422,130
(Research)			n.a.	0	30,000	50,000	55,000	60,500	66,550	73,205	80,526	88,578	97,436
DOMINICAN NGO'S		3,407	142	2,000	4,000	5,000	5,250	5,513	5,788	6,078	6,381	6,700	7,036
FOREIGN ORGANIZATIONS	71,978	87,178	132,709		1,704,000	927,000	1,200,000	1,620,000	1,701,000	2,286,050	2,400,353	2,520,370	2,646,389
USAID		42,618	0		1,654,000	827,000	400,000	420,000	441,000	463,050	486,203	510,513	536,038
DEA		10,591	55,391										
MICHIGAN STATE UNIVERSITY	42,840		60,366										
PISEREDN ACTION	14,650	19,303	2,990										
SIN-FRANKFURT			12,826										
OHIO STATE UNIVERSITY	2,595		0										
PURDUE UNIVERSITY	9,893	10,079	0										
CARE DOMINICANA		2,987	1,135										
GERMAN TECH. COOP. DED		1,600	0										
UNESCO			0										
WEITER PROJECT INTL.	2,000		0										
UNSPECIFIED					50,000	100,000	800,000	1,200,000	1,260,000	1,823,000	1,914,150	2,009,858	2,110,350
INDIVIDUAL GIFTS			5,093		15,000	30,000	33,000	36,300	39,930	43,923	48,315	53,147	58,462

				YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP - 1	LOP - 2
SUBTOTAL, GRANTS & GIFTS	1,519,606	1,747,807	1,095,822	917,125	2,999,950	2,328,603	2,580,022	2,982,546	3,050,180	3,625,996	3,735,237	3,854,421	3,983,909
(Overall projected growth)		15%	-37%	-16%	227%	-22%	11%	16%	2%	19%	3%	3%	3%
REVENUES FROM ISA PROGRAMS													
SEMINARS (CACER)	33,668	37,459	31,068	80,000	120,000	160,000	200,000	220,000	242,000	266,200	292,820	322,102	354,312
OTHER SEMINARS (WATER MGT)			165,812	0									
TUITION AND FEES (ISA)	176,138	0	65,035	96,750	130,000	144,000	154,200	165,210	177,101	189,949	197,689	203,049	205,678
(Secondary)(ISA)			850	750									
(Technicians)(ISA)			0	36,000	50,000	60,000	66,000	72,600	79,860	87,846	90,481	90,481	90,481
(University)(UCPM)			11,294	60,000	80,000	84,000	88,200	92,610	97,241	102,103	107,208	112,568	118,196
(Past tuition collected, UCPM)			52,891	0									
DORMITORIES & CAFETERIA	(INCLUDED ABOVE)		114,979	88,850	97,735	107,509	118,259	130,085	143,094	157,403	162,125	166,989	171,999
(Secondary students)			60,919	6,000									
(Technical students)			0	22,000									
(University students)			51,879	55,000									
(Breakage fees charged)			0	3,850									
(Cafeteria cards)			2,179	2,000									
SALE OF OTHER SERVICES TO STAFF AND THE PUBLIC	45,477	138,229	459,036	397,360	472,000	578,800	602,035	626,117	651,161	677,208	704,296	386,340	415,394
(Lodging)	35,939	17,770	9,465		12,000	12,480	12,979	13,498	14,038	14,600	15,184	15,791	16,425
(ISA)			n.a.										
(CACER)			n.a.										
(Meals sold to the public)	(Included in lodging)		9,034	137,500	160,000	166,400	173,056	179,978	187,177	194,664	202,451	210,549	218,971
(ISA)			n.a.	7,500									
(CACER)			n.a.	130,000									
(Consulting)		31,500	408,854	237,400	300,000	400,000	416,000	432,640	449,946	467,943	486,661	160,000	180,000
(ISA Research)			87,870	237,400		200,000	300,000	330,000	363,000	399,300	439,230	483,153	531,468
(CACER)		31,500	320,984	0		100,000	300,000	360,000	432,000	518,400	622,080	746,496	895,795
(Other Sales & Services) (Credited to Research and mainly from tree nursery.)	9,538	88,959	31,683	22,460									
SALES OF FARM PRODUCTS	185,620	305,972	1,014,849	824,205	1,265,769	1,635,499	1,855,824	1,988,448	2,087,871	2,192,264	2,301,878	2,416,971	2,537,820
(TO PUBLIC)	185,620	305,972	611,623	440,655									
(TO CAFETERIA)			403,226	383,550									
(LESS FARM COSTS)	137,325	189,740	841,958	819,822	1,065,769	1,385,499	1,593,324	1,712,823	1,798,465	1,888,368	1,982,807	2,081,948	2,186,045
(NET REVENUES FROM FARMS)	48,295	116,232	172,891	4,383	200,000	250,000	262,500	275,625	289,406	303,877	319,070	335,024	351,775
CAPITAL GAIN FROM ASSET SALE	22,859												

			YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP - 1	LOLP - 2
BANK INTEREST RECEIVED	0	0	220,500	100,000	250,000	450,000	650,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
(Cash balances)		n.e.	55,290									
(Research funds)		n.e.	8,000									
(CADER Endowment)		n.e.	220,500	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
(ISA Endowment fund)		n.e.	0	50,000	200,000	400,000	600,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
STUDENT LOANS COLLECTED		0	20,000		2,000	2,000	2,000					
(Secondary alumni)		0	0									
(University alumni)		0	20,000									
MISCELLANEOUS REVENUES	112,236		143,000	200,000	210,000	220,500	231,525	243,101	255,256	268,019	281,420	295,491
(ISA)			63,000									
(CADER)			80,000									
TOTAL REVENUES OF ISA	441,049	475,660	1,797,203	1,870,665	2,385,504	3,087,868	3,602,819	4,013,365	4,594,328	4,788,280	4,978,827	4,826,872
TOTAL, NET OF FARM COSTS	303,724	285,920	955,245	1,050,843	1,319,735	1,702,389	2,009,495	2,300,562	2,795,863	2,899,892	2,994,020	2,744,925
GRAND TOTAL, GIFTS - REVENUES	1,960,855	2,223,467	2,893,025	2,787,790	5,385,454	5,416,490	6,182,841	6,995,932	7,644,508	8,414,277	8,712,064	8,661,293
GRAND TOTAL, NET OF FARM COSTS	1,823,530	2,033,727	2,051,067	1,967,968	4,319,685	4,030,991	4,589,517	5,283,108	5,846,043	6,525,869	6,729,257	6,599,345
CHANGE FROM TR BEFORE:		210,197	17,340	(63,099)	2,351,717	(258,694)	558,526	693,591	562,935	679,846	203,368	(129,911)
% CHANGE												232,212
EXPENDITURES												
PERSONNEL COSTS		1,228,703	1,319,070	2,603,024	2,943,175	3,031,470	3,122,414	3,216,687	3,312,569	3,411,946	3,514,305	3,619,734
(ISA GENERAL)		647,949	794,233									
(RESEARCH)		132,092	98,278									
(CADER)		222,382	168,040									
(FARMS)		226,280	258,519									
OTHER SERVICES		374,837	436,998	471,958	495,556	520,334	546,350	573,668	602,351	602,351	602,351	602,351
(ISA GENERAL)		161,054	157,250									
(RESEARCH)		59,142	60,673									
(CADER)		126,383	150,800									
(FARMS)		28,258	60,275									
SUPPLIES AND INPUTS		1,138,160	1,082,568	1,134,717	1,193,533	1,253,231	1,315,892	1,381,687	1,450,771	1,450,771	1,305,694	1,305,694
(ISA GENERAL)		338,848	336,760									
(RESEARCH)		31,023	49,350									
(CADER)		208,967	195,450									
(FARMS)		559,322	501,028									
DEVELOPMENT OFFICE IN SANTO DOMINGO --LESS PROJECT FUNDING = NET COST TO ISA SLOJET				397,210	471,532	573,205	637,014	691,929	726,525	762,849	762,849	762,849
				397,210	471,532	429,904	318,507	345,965	181,631	0	0	0
				0	0	143,301	318,507	345,965	546,894	762,849	762,849	762,849

275

				YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP - 1	LOLP - 2
DEPRECIATION ACCRUED	143,104	209,081	223,318	0	500,000	525,000	551,250	578,813	607,753	638,141	670,048	703,550	738,728
(ISA GENERAL)			91,630										
(RESEARCH)			10,651										
(CADER)			92,939										
(FARMS)			28,098										
TOTAL EXPENDITURES	2,098,739	2,143,945	2,965,018	2,838,656	4,911,699	5,157,284	5,499,586	5,881,976	6,125,159	6,548,726	6,897,966	6,888,749	7,029,356
TOTAL EXPENDITURES MINUS DEPRECIATION	1,955,635	1,934,864	2,741,700	2,838,656	4,411,699	4,632,284	4,948,336	5,303,164	5,517,406	5,910,586	6,227,918	6,185,199	6,290,628
GIFTS - REVENUES - EXPENSES (EQUALS SURPLUS OR DEFICIT)	(275,209)	(110,218)	(913,951)	(870,668)	(592,014)	(1,126,293)	(910,069)	(598,868)	(279,116)	(22,838)	(168,709)	(289,604)	(197,798)
SAME - CAPITAL OUTLAYS - DEPRECIAT (EQUALS CASH FLOW SURPLUS OR DEFICIT)	(132,105)	98,863	(690,633)	(870,668)	(92,014)	(601,293)	(358,819)	(20,056)	328,637	615,303	501,339	414,146	540,929

276

ISA REVENUES, EXPENSES, OPERATING RESULTS AND IMPLICATIONS FOR SELF-FINANCING

CASE 2: PESSIMISTIC SCENARIO

CLASS	1988/89 BDCI	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP - 1	LOP - 2
GOOD	845,125	879,125	815,213	742,691	677,872	620,007	568,425	522,522	481,757	445,642
GIFTS AND GRANTS	72,000	1,853,000	1,162,000	755,750	797,938	842,674	890,132	940,495	993,962	1,050,746
SEMINARS	80,000	120,000	160,000	200,000	220,000	242,000	266,200	292,820	322,102	354,312
TUITION AND FEES	185,600	227,735	251,509	272,459	295,295	320,194	347,352	359,814	370,038	380,677
CONSULTING	237,400	300,000	312,000	274,480	337,459	350,958	364,996	379,596	160,000	180,000
OTHER REVENUES	322,960	372,000	390,880	438,935	427,002	444,317	464,521	485,654	507,760	530,885
NET FARM REVENUES	4,383	200,000	250,000	257,590	255,025	257,575	260,151	262,753	265,380	268,034
INTEREST EARNED	220,500	100,000	250,000	51,900	650,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
TOTAL REVENUES	1,967,968	4,051,860	3,591,601	3,406,416	3,660,591	4,127,726	4,211,777	4,293,654	4,150,999	4,260,296
EXPENDITURES										
PERSONNEL	1,319,070	2,803,024	2,943,175	3,031,470	3,122,414	3,216,087	3,312,569	3,411,946	3,514,305	3,619,734
OTHER	1,519,586	1,608,675	1,689,109	1,773,564	1,862,243	1,955,355	2,053,123	2,053,123	1,908,045	1,908,045
DEVELOPMENT OFFICE	0	0	0	143,301	318,507	345,965	544,894	762,849	762,849	762,849
DEPRECIATION	0	500,000	525,000	551,250	578,813	607,753	638,141	670,048	703,550	738,728
TOTAL EXPENSES	2,838,656	4,911,699	5,157,284	5,499,586	5,881,976	6,125,159	6,548,726	6,897,966	6,888,749	7,029,356
TOTAL CASH EXPENSE	2,838,656	4,411,699	4,632,284	4,948,336	5,303,164	5,517,406	5,910,586	6,227,918	6,185,199	6,290,628
NET SURPLUS/DEFICIT	(870,688)	(859,839)	(1,565,683)	(2,093,170)	(2,221,386)	(1,997,433)	(2,336,950)	(2,604,312)	(2,737,750)	(2,769,060)
CASH FLOW NET	(870,688)	(359,839)	(1,040,623)	(1,541,920)	(1,642,573)	(1,389,680)	(1,698,809)	(1,934,264)	(2,034,200)	(2,030,333)
INCREASE IN ENDOWMENT FUNDS NEEDED TO OFFSET LOSSES*		17,196,780	31,313,659	41,863,403	44,427,715	39,942,666	46,738,996	52,086,236	54,755,001	55,381,209
INCREASE NEEDED TO OFFSET CASH FLOW DEFICIT ALONE		7,196,780	20,813,659	30,838,403	32,851,465	27,793,604	33,976,181	38,685,280	40,623,997	40,606,655

* At 5% real interest earnings.

FOR PROJECTING REVENUES, THE ISA
ENDOWMENT FUND IS ASSUMED TO HAVE
THESE AMOUNTS (YEAR'S AVERAGE),
BETWEEN DONATIONS AND MATCHING
AMOUNTS. (THESE FIGURES DO NOT
INCLUDE THE CASH \$1 MILLION,
WHICH IS ASSUMED TO BE CONSTANT.)

RD 5

1,000,000	4,000,000	8,000,000	12,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000
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THE NEEDED INCREASE IS IN ADDITION TO THESE AMOUNTS FOR EACH YEAR.

271

THE SUMMARY ABOVE IS BASED ON THE FOLLOWING MORE DETAILED HISTORY AND PROJECTION:

INSTITUTO SUPERIOR DE AGRICULTURA

FINANCES: 1985 - 1996

CASE 2: "PESSIMISTIC"

GENERAL NOTE: ISA'S FISCAL YEAR RUNS FROM AUGUST 1 TO JULY 31 OF THE FOLLOWING YEAR.
ISA USES A MODIFIED CASH BASIS FOR ITS ACCOUNTING. SEE ANALYST'S NOTES FOR SOME OF
THE IMPLICATIONS OF THIS FOR INTERPRETATION OF THE ACCOUNTING RESULTS.

SOURCES OF FUNDS	AUDITED FINANCIAL REPORTS		UNAUDITED FINAN. RPT.	CURRENT BUDGET	PROJECTIONS (CASE 2: "PESSIMISTIC")								POST-LDP YEARS	
	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	
SUBSIDIES, GRANTS & GIFTS														
CENTRAL GOVERNMENT	852,629	1,164,136	810,424	839,125	839,125	755,213	679,691	611,722	550,550	495,495	445,945	401,351	361,216	
(Min. Education)	600,000	656,000	731,000	756,000										
(Min. Agriculture)	62,141	69,611	79,424	83,125										
(Ofc. of the Presidency)	50,000													
(Secy. Tec. Presidency)	140,488	500,000												
GOVT. INSTITUTIONS	543,163	422,975	10,000											
(Energy Commission: Research)	454,254	351,337	10,000											
(Consejo Nacl. de Agric.)	88,909	71,638												
STATE ENTERPRISES	23,600	29,293	14,000	6,000	40,000	60,000	63,000	66,150	69,458	72,930	76,577	80,406	84,426	
(Tobacco Co.)	6,000	6,500	6,000	6,000										
(Flour Mills)	17,600	20,800	10,000											
(State Animal Prod. Com.)		1,993												
PRIVATE BUSINESSES	28,436	40,818	123,454	70,000	130,000	200,000	212,500	225,875	240,194	255,531	271,968	289,592	308,501	
(Scholarships)			n.a.	70,000	100,000	150,000	157,500	165,375	173,644	182,326	191,442	201,014	211,065	
(Research)			n.a.	0	30,000	50,000	55,000	60,500	66,550	73,205	80,526	88,578	97,436	
DOMINICAN NGO'S		3,407	142	2,000	4,000	5,000	5,250	5,513	5,788	6,078	6,381	6,700	7,036	
FOREIGN ORGANIZATIONS	71,978	87,178	132,709		1,704,000	927,000	505,000	530,250	556,763	584,601	613,831	644,522	676,748	
USAID		42,618	0											
OECA		10,591	55,391		1,654,000	827,000	400,000	420,000	441,000	463,050	486,203	510,513	536,038	
MICHIGAN STATE UNIVERSITY	42,840		60,366											
WISCONSIN ACTION	14,650	19,303	2,990											
SIN-FRANKFURT			12,826											
OHIO STATE UNIVERSITY	2,595		0											
PURDUE UNIVERSITY	9,893	10,079	0											
CARE DOMINICANA		2,987	1,135											
GERMAN TECH. COOP. DEV		1,600	0											
UNESCO			0											
HEIFER PROJECT INTL.	2,000		0											
UNSPECIFIED														
INDIVIDUAL GIFTS			5,093		50,000	100,000	105,000	110,250	115,763	121,551	127,628	134,010	140,710	
					15,000	30,000	33,000	36,300	39,930	43,923	48,315	53,147	58,000	

SOURCES OF FUNDS	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
SUBTOTAL, GRANTS & GIFTS	1,519,806	1,747,807	1,095,822	917,125	2,732,125	1,977,213	1,498,441	1,475,810	1,467,682	1,458,557	1,463,017	1,475,719	1,496,388
(Overall projected growth)		15%	-37%	-16%	198%	-26%	-24%	-2%	-1%	-6%	6%	1%	1%
REVENUES FROM ISA PROGRAMS													
SEMINARS (CADER)	33,688	31,459	31,068	80,000	120,000	160,000	200,000	220,000	242,000	266,200	292,820	322,102	354,312
OTHER SEMINARS (WATER MGT)			185,812	0									
TUITION AND FEES (ISA)	176,138	0	65,035	96,750	130,000	144,000	154,200	165,210	177,101	189,949	197,689	203,049	208,678
(Secondary)(ISA)			850	750									
(Technicians)(ISA)			0	36,000	50,000	60,000	66,000	72,600	79,860	87,846	90,481	90,481	90,481
(University)(UCM)			11,294	60,000	80,000	84,000	88,200	92,610	97,241	102,103	107,208	112,568	118,196
(Past tuition collected, UCM)			52,891	0									
DOMINIORIES & CAFETERIA (INCLUDED ABOVE)			114,979	88,850	97,735	107,509	118,259	130,085	143,094	157,403	162,125	166,989	171,999
(Secondary students)			60,919	6,000									
(Technical students)			0	22,000									
(University students)			51,879	55,000									
(Breakage fees charged)			0	3,850									
(Cafeteria cards)			2,179	2,000									
SALE OF OTHER SERVICES TO STAFF AND THE PUBLIC	45,477	138,229	459,036	397,360	472,000	490,880	510,515	530,936	552,173	574,260	597,231	386,340	415,394
(Lodging)	35,939	17,770	9,465		12,000	12,480	12,979	13,498	14,038	14,600	15,184	15,791	16,423
(ISA)			n.a.										
(CADER)			n.a.										
(Meals sold to the public) (Included in lodging)			9,034	137,500	160,000	166,400	173,056	179,978	187,177	194,664	202,451	210,549	218,971
(ISA)				7,500									
(CADER)				130,000									
(Consulting)		31,500	406,854	237,400	300,000	312,000	324,480	337,459	350,958	364,996	379,596	160,000	180,000
(ISA Research)			87,870	237,400									
(CADER)		31,500	320,984	0		200,000	300,000	330,000	363,000	399,300	439,230	483,153	531,468
(Other Sales & Services) (Credited to Research and mainly from tree nursery...)	9,538	88,959	31,683	22,460		100,000	300,000	360,000	432,000	518,400	622,000	746,496	895,795
SALES OF FARM PRODUCTS	185,620	305,972	1,014,849	824,205	1,265,769	1,635,499	1,845,824	1,967,848	2,056,040	2,148,539	2,245,560	2,347,328	2,454,079
(TO PUBLIC)	185,620	305,972	611,623	440,655									
(TO CAFETERIA)			403,226	383,550									
(LESS FARM COSTS)	137,325	189,740	841,958	619,822	1,065,769	1,385,499	1,593,324	1,712,623	1,798,465	1,888,388	1,982,807	2,081,948	2,186,045
(NET REVENUES FROM FARMS)	48,295	116,232	172,891	4,383	200,000	250,000	252,500	255,025	257,575	260,151	262,753	265,350	268,034
CAPITAL GAIN FROM ASSET SALE	22,859												

279

SOURCES OF FUNDS	AUDITED FINANCIAL REPORTS		UNAUDITED FINAN. RPT.	CURRENT BUDGET	PROJECTIONS (CASE 2 : - PESSIMISTIC -)								POST-LOP YEARS	
	1955/56	1956/57	1957/58	1958/59	1959/60	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	
BANK INTEREST RECEIVED		0	0	220,500	100,000	250,000	450,000	650,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	
(Cash balances)			n.a.	55,200										
(Research funds)			n.a.	8,000										
(CADER Endowment)			n.a.	220,500	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
(ISA Endowment Fund)			n.a.	3	50,000	200,000	400,000	600,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
STUDENT LOANS COLLECTED			0	20,000		2,000	2,000	2,000						
(Secondary alumni)			0	0										
(University alumni)			0	20,000										
MISCELLANEOUS REVENUES			112,236	143,000	200,000	210,000	220,500	231,525	243,101	255,256	268,019	281,420	295,491	
(ISA)				63,000										
(CADER)				80,000										
TOTAL REVENUES OF ISA	441,049	475,660	1,797,203	1,870,665	2,385,504	2,999,888	3,501,299	3,897,604	4,443,509	4,641,607	4,813,444	4,757,228	4,949,952	
TOTAL, NET OF FARM COSTS	303,726	285,920	955,245	1,050,843	1,319,735	1,614,389								

ISA REVENUES, EXPENSES, OPERATING RESULTS AND IMPLICATIONS FOR SELF-FINANCING

CASE 3: OPTIMISTIC SCENARIO

CLASS	1980/89 BDC	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP - 1	LOP - 2
GOOD	845,125	1,046,950	1,016,603	971,772	929,484	889,625	852,009	816,778	783,596	752,457
GIFTS AND GRANTS	72,000	1,953,000	1,712,000	1,713,250	2,163,313	2,336,318	2,958,458	3,206,537	3,477,036	3,772,077
SEMINARS	80,000	120,000	160,000	200,000	220,000	242,000	266,200	292,820	322,102	354,312
TUITION AND FEES	165,600	227,735	251,909	272,459	295,295	320,194	347,352	359,814	370,038	380,677
CONSULTING	237,400	300,000	400,000	416,000	432,640	449,946	467,943	486,661	507,760	530,885
OTHER REVENUES	322,960	372,000	390,880	408,535	427,002	444,317	464,521	485,654	507,760	530,885
NET FARM REVENUES	4,383	200,000	250,000	270,000	291,600	314,928	340,122	367,332	396,719	428,456
INTEREST EARNED	220,500	100,000	250,000	450,000	650,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
TOTAL REVENUES	1,967,968	4,319,685	4,430,991	4,702,017	5,409,333	6,047,328	6,746,685	7,065,597	7,067,252	7,448,864
EXPENDITURES										
PERSONNEL	1,319,070	2,803,024	2,943,175	3,031,470	3,122,414	3,216,087	3,312,569	3,411,946	3,514,305	3,619,734
OTHER	1,519,586	1,608,675	1,689,109	1,773,564	1,862,243	1,955,355	2,053,123	2,053,123	1,908,045	1,908,045
DEVELOPMENT OFFICE	0	0	0	143,301	318,507	345,965	544,894	762,849	762,849	762,849
DEPRECIATION	0	500,000	525,000	551,250	578,813	607,753	638,141	670,048	703,550	738,728
TOTAL EXPENSES	2,838,656	4,911,699	5,157,284	5,499,586	5,881,976	6,125,159	6,548,726	6,897,966	6,888,749	7,029,356
TOTAL CASH EXPENSE	2,838,656	4,411,699	4,632,284	4,948,336	5,303,164	5,517,406	5,910,586	6,227,918	6,185,199	6,299,628
NET SURPLUS/DEFICIT	(870,688)	(592,014)	(726,293)	(797,569)	(472,643)	(77,832)	197,959	167,631	178,503	419,508
CASH FLOW NET	(870,688)	(92,014)	(201,293)	(246,319)	106,169	529,922	836,099	837,679	832,053	1,158,236
INCREASE IN ENDOWMENT FUNDS NEEDED TO OFFSET DEFICIT*		11,840,280	14,525,859	15,951,381	9,452,866	1,556,632	(3,959,174)	(3,352,615)	(3,570,054)	(8,390,165)
INCREASE NEEDED TO OFFSET CASH FLOW DEFICIT ALONE		1,840,280	4,025,859	4,926,381	(2,123,384)	(10,598,430)	(16,721,990)	(16,753,571)	(17,641,058)	(23,164,719)

* At 5% real interest per year.

FOR COMPARISON PURPOSES, THE REVENUE FIGURES ABOVE ASSUME YEARLY AVERAGE BALANCES IN THE ISA ENDOWMENT FUND AS FOLLOWS: (NOT INCLUDING CADER'S OWN FUND, ASSUMED CONSTANT AT \$1 MILLION.

RD \$	1,000,000	4,000,000	8,000,000	12,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000
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THE INCREASES NEEDED ARE IN ADDITION TO THESE AMOUNTS.

281

INSTITUTO SUPERIOR DE AGRICULTURA

FINANCES: 1985 - 1996

CASE 3: "OPTIMISTIC"

GENERAL NOTE: ISA'S FISCAL YEAR RUNS FROM AUGUST 1 TO JULY 31 OF THE FOLLOWING YEAR.
ISA USES A MODIFIED CASH BASIS FOR ITS ACCOUNTING. SEE ANALYST'S NOTES FOR SOME OF
THE IMPLICATIONS OF THIS FOR INTERPRETATION OF THE ACCOUNTING RESULTS.

SOURCES OF FUNDS	AUDITED FINANCIAL REPORTS		UNAUDITED FINAN. RPT.	CURRENT BUDGET	PROJECTIONS (CASE 3: OPTIMISTIC)								POST-LOP YEARS	
	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	
					YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP + 1	LOP + 2	
SUBSIDIES, GRANTS & GIFTS														
CENTRAL GOVERNMENT	852,629	1,164,136	810,424	839,125	1,006,950	956,603	908,772	863,334	820,167	779,159	740,201	703,191	668,031	
(Min. Education)	600,000	656,000	731,000	756,000										
(Min. Agriculture)	62,141	69,611	79,424	83,125										
(Ofc. of the Presidency)	50,000													
(Secy. Tec. Presidency)	140,488	500,000												
GOVT. INSTITUTIONS	543,163	422,975	10,000											
(Energy Commission: Research)	454,254	351,337	10,000											
(Consejo Nacl. de Agric.)	88,909	71,638												
STATE ENTERPRISES	23,600	29,293	14,000	6,000	40,000	60,000	63,000	66,150	69,458	72,930	76,577	80,406	84,426	
(Tobacco Co.)	6,000	6,500	6,000	6,000						72,930	76,577	80,406	84,426	
(Flour Mills)	17,600	20,800	10,000	6,000										
(State Animal Prod. Com.)		1,993												
PRIVATE BUSINESSES	28,436	40,818	123,454	70,000	230,000	450,000	475,000	501,500	529,600	559,408	591,038	624,616	660,276	
(Scholarships)			n.a.	70,000	200,000	400,000	420,000	441,000	463,050	486,203	510,513	536,038	562,840	
(Research)			n.a.	0	30,000	50,000	55,000	60,500	66,550	73,205	80,526	88,578	97,436	
DOMINICAN NGO'S		3,407	142	2,000	4,000	5,000	5,250	5,513	5,788	6,078	6,381	6,700	7,036	
FOREIGN ORGANIZATIONS	71,978	87,178	132,709		1,704,000	1,227,000	1,200,000	1,420,000	1,761,000	2,349,050	2,560,803	2,792,573	3,046,304	
USAID		42,616	0		1,654,000	827,000	400,000	420,000	441,000	463,050	486,203	510,513	536,038	
OEA		10,591	55,391											
MICHIGAN STATE UNIVERSITY	42,840		60,366											
RESEARCH ACTION	14,650	19,303	2,990											
SIN-FRANFURT			12,826											
OHIO STATE UNIVERSITY	2,595		0											
PURDUE UNIVERSITY	9,893	10,079	0											
CARE DOMINICANA		2,987	1,135											
GERMAN TECH. COOP. DEV		1,600	0											
UNESCO			0											
HEIFER PROJECT INTL.	2,000		0											
UNSPECIFIED					50,000	400,000	800,000	1,200,000	1,320,000	1,856,000	2,074,600	2,282,060	2,510,266	

282

SUBSIDIES, GRANTS & GIFTS			YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP - 1	LOP - 2		
INDIVIDUAL GIFTS		5,093	15,000	30,000	33,000	36,300	39,930	43,923	48,315	53,147	58,462		
SUBTOTAL, GRANTS & GIFTS	1,519,806	1,747,807	1,095,822	917,125	2,999,950	2,728,603	2,685,022	3,092,796	3,225,943	3,810,547	4,023,315	4,260,633	4,524,535
(Overall projected growth)		15%	-37%	-16%	227%	-9%	-2%	15%	4%	18%	6%	6%	6%
REVENUES FROM ISA PROGRAMS													
SEMINARS (CADER)	33,688	31,459	31,068	80,000	120,000	160,000	200,000	220,000	242,000	266,200	292,820	322,102	354,312
OTHER SEMINARS (WATER MCT)			185,812	0									
TUITION AND FEES (ISA)	176,138	0	65,035	96,750	130,000	144,000	154,200	165,210	177,101	189,949	197,689	203,049	208,678
(Secondary)(ISA)			850	750									
(Technicians)(ISA)			0	36,000	50,000	60,000	66,000	72,600	79,860	87,846	90,481	90,481	90,481
(University)(UCM)			11,294	60,000	80,000	84,000	88,200	92,610	97,241	102,103	107,208	112,568	118,196
(Past tuition collected, UCM)			52,891	0									
DORMITORIES & CAFETERIA (INCLUDED ABOVE)			114,979	85,850	97,735	107,509	118,259	130,025	143,094	157,403	162,125	166,989	171,999
(Secondary students)			60,919	6,000									
(Technical students)			0	22,000									
(University students)			51,879	55,000									
(Breakage fees charged)			0	3,850									
(Cafeteria cards)			2,179	2,000									
SALE OF OTHER SERVICES TO STAFF AND THE PUBLIC	45,477	138,229	459,036	397,360	472,000	578,850	602,035	626,117	651,161	677,208	704,296	736,340	415,394
(Lodging)	35,939	17,770	9,465		12,000	12,480	12,979	13,498	14,038	14,600	15,184	15,791	16,423
(ISA)			n.e.										
(CADER)			n.e.										
(Meals sold to the public) (Included in lodging)			9,034	137,500	160,000	166,400	173,056	179,978	187,177	194,664	202,451	210,549	218,971
(ISA)			n.e.	7,500									
(CADER)			n.e.	130,000									
(Consulting)		31,500	408,854	237,400	300,000	400,000	416,000	432,640	449,946	467,943	486,661	160,000	180,000
(ISA Research)			87,870	237,400		200,000	300,000	330,000	363,000	399,300	439,230	483,153	531,468
(CADER)		31,500	320,984	0	100,000	300,000	360,000	432,000	518,400	518,400	622,060	746,496	895,795
(Other Sales & Services) (Credited to Research and mainly from tree nursery.)	9,538	88,959	31,683	22,460									
SALES OF FARM PRODUCTS	185,620	305,972	1,014,849	824,205	1,265,769	1,435,499	1,863,324	2,004,423	2,113,393	2,228,510	2,350,139	2,478,666	2,614,501
(TO PUBLIC)	185,620	305,972	611,623	440,655									
(TO CAFETERIA)			403,226	383,550									
(LESS FARM COSTS)	137,325	189,740	841,958	819,822	1,065,769	1,385,499	1,593,324	1,712,823	1,798,465	1,858,368	1,982,807	2,081,948	2,186,045
(NET REVENUES FROM FARMS)	48,295	116,232	172,891	4,383	200,000	250,000	270,000	291,600	314,928	340,122	367,332	396,719	428,456
CAPITAL GAIN FROM ASSET SALE	22,859												

				YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	LOP - 1	LOP - 2
BANK INTEREST RECEIVED	0	0	220,500	100,000	250,000	450,000	650,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
(Cash balances)		n.a.	55,200									
(Research funds)		n.a.	8,000									
(CADER Endowment)		n.a.	220,500	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
(ISA Endowment fund)		n.a.	0	50,000	200,000	400,000	600,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
STUDENT LOANS COLLECTED		0	20,000		2,000	2,000	2,000					
(Secondary alumni)		0	0									
(University alumni)		0	20,000									
MISCELLANEOUS REVENUES		112,236	143,000	200,000	210,000	220,500	231,525	243,101	255,256	268,019	281,420	295,491
(ISA)			63,000									
(CADER)			80,000									
TOTAL REVENUES OF ISA	441,049	475,660	1,797,203	1,870,665	2,345,504	3,057,833	3,610,319	4,029,360	4,619,849	4,824,526	5,025,089	4,838,567
TOTAL, NET OF FARM COSTS	303,724	285,920	955,245									5,110,375

7/24

Annex VIII. E.
Training Costs Analysis
is on file in the USAID.



ANNEX IX

SURVEY ANALYSIS OF AGRICULTURAL UNIVERSITIES
DOMINICAN REPUBLIC, 1988

Variable	INSTITUTION			
	ISA	UASD	UNPHU	UCE
LOCATION	Santiago	Sto Domingo	Sto Domingo	San Pedro
BEGAN AG STUDIES	1964	1962	1966	1972
SPECIALIZATIONS:				
-M.S.	-	-	Forestry Animal Prod	-
-B.S.	Agribusn Horticulture Forestry Animal Prod Irrig/Drainage	Animal Prod Soil Science Crop Prod Irrig/Mechanzn Veternarian	Crop Prod Soil/Irrig. Educ/Exten Ag Economics Plant Science Veternarian	Animal Prod
-H.S.	Agronomy	-	-	-
FULL-TIME FACULTY	40	63	9	6
Academic Level:				
-Ph.D.	9	3	2	-
-M.S.	17	54	7	6
-B.S./other	14	6	-	-
PART-TIME FACULTY	4	55	40	-
-PhD.	-	-	-	-
-M.S.	3	49	40	-
NUMBER OF GRADUATES	1,492	Not Avail	800	-
NUMBER OF STUDENTS (1988 CY)	262	1,500	553	629
LABORATORIES	Soil Science Tissue Cult Chem/Physics Biology Fitopathology Entomology Animal Nutr. Foo. Proc.	Fisiology Soil Science Plant Science Crop Protectn Food Science Pathology Surgery Anatomy	Soil Science Entomology Fitopath. Ver. Hospital Anatomy Anim.Nutrition	Soil Science Fitopath. Farmacology
LIBRARY VOLUMES	28,000	Not Avail	10,000	
LIBRARY COMPUTOR SYSTEM	Yes	No	Yes	Yes
TOTAL LAND AVAIL (Hectares)	2,312	331	719	2,324
LAND IN:				
-Structures	88	13	53	
-Crops	94	119	7	
-Pasture/Forage	38	188	414	
-Forest	2,000	-	36	
-Other	94	13	209	
PRODUCTIVE UNITS:				
-Dairy	80	410	314	
-Beef	30	-	755	
-Poultry	13,000	30,000	-	
-Eggs	6,500	-	-	
-Swine	140	50	-	
-Others	110	56	-	

2/80

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