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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

135p.

PROJECT PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

150-012

PORTUGAL - Rural Vocational Education

AID-DLC/P-2250

UNCLASSIFIED

1500012 (1)

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*1500012 PORTUGAL PD-ABF-106 *
* RURAL VOCATIONAL EDUCATION *
* FY77 TO FY80 ~~PD-AAC-004-A1~~ *

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PROJECT SUMMARY DESCRIPTION

LOAN AND TECHNICAL ASSISTANCE PROVIDED TO GOVERNMENT OF PORTUGAL (GOP) TO BRING SOCIAL SERVICES/EDUCATION CLOSER TO PEOPLE IN RURAL AREAS, AND PROVIDE TECHNICAL AND AGRICULTURAL TRAINING FOR THEM.
PROJECT CONSISTS OF THE PHYSICAL EXPANSION OF 4 RURAL VOCATIONAL INSTITUTES; 3 ARE IN MAINLAND PORTUGAL AT VILA REAL (NORTH), COVILHA (CENTRAL), EVORA (SOUTH), AND ONE IS IN THE AZORES. EACH INSTITUTE SHOULD BECOME ITS GEOGRAPHIC AREA'S PRINCIPAL SOURCE OF POST-SECONDARY TRAINING AND TECHNICAL ASSISTANCE.
LOAN WILL HELP FINANCE CONSTRUCTION, EQUIPPING AND PROVISION OF MATERIALS FOR CLASSROOMS, LABORATORIES, EXPERIMENTAL FARM FACILITIES, DORMITORIES AND SUPPORT FACILITIES. THE INSTITUTES ARE TO PROVIDE: 1)INDUSTRIAL, ANIMAL PRODUCTION, AGRICULTURAL AND OTHER RESEARCH; 2)POST-SECONDARY TRAINING; 3)TEACHE TRAINING FOR PRIMAR AND SECONDARY SCHOOLS; 4)TRAINING OF AGRICULTURAL EXTENSION AGENTS; 5)DATA CENTER.
SPECIAL SHORT COURSES AND PROGRAMS WILL BE CONDUCTED IN SUBJECTS TO UPGRADE FARMING SKILLS, TEACH LITERACY, HOME ECONOMICS, SANITATION, NUTRITION, CHILD CARE; SURVEY MANPOWER NEEDS, DEVELOP REGIONS ECONOMICALLY.
PROJECT IMMEDIATELY BENEFITS STAFFS OF THE INSTITUTES, STUDENTS, PERSONNEL IN STATE HEALTH, VOCATIONAL AND REGIONAL PLANNING ORGANIZATIONS, LOCAL FARMERS AND TECHNICIANS. INDIRECT BENEFICIARIES, IN ADDITION TO LOW INCOME FAMILIES INCLUDE THE REGIONAL UNEMPLOYED, LOCAL CONTRACTORS AND LOCAL BUSINESS AND INDUSTRY.
AID FUNDS WILL PAY UP TO 75% FOR CONSTRUCTION, EQUIPMENT COSTS AND SHORT-TERM U.S. TRAINING. GOP WILL PAY FOR NO LESS THAN 25% OF CONSTRUCTION AND OPERATING COSTS OF INSTITUTIONS.
OTHER DONORS: HOLLAND PROVIDES SPECIALISTS TO VILA REAL AND EVORA; UNIVERSITY OF READING, ENGLAND HAS EXCHANGED SPECIALISTS WITH VILA REAL. AZORES INSTITUTE IS WORKING WITH UNIVERSITY OF RHODE ISLAND UNDER SEPARATE GRANT.

DESCRIPTORS

VOCATIONAL EDUC	RURAL EDUC	EDUC FACIL	AGR EXTEN TRNG
TECH TRAINING	MGMT TRAINING	COOP MGMT TRNG	TEACHR TRAINING
EDUC FACL CNST	VOCATIONAL SCHL	EDUC LAB FACIL	LITERACY TRNG
DORMITORY CONST	HOME ECONOMICS	SANITATION EDUC	NUTR EDUCATION
MANPOWER SURVEY	CLASSROOM CNST	AGR EDUCATION	

SUB-PROJECT NUMBER: 00 BATCH NUMBER: 15

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

UNCLASSIFIED

AID-DLC/P-2250

September 12, 1977

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: PORTUGAL - Rural Vocational Education

Attached for your review are recommendations for authorization of a loan to the Government of Portugal ("Borrower") of not to exceed Six Million Dollars ($6,000,000) to assist in financing certain foreign exchange and local currency costs of goods and services required for the project. The project will assist in the physical expansion of four rural vocational institutes.

No meeting is scheduled for this loan proposal. We would, however, appreciate your advising us of concurrences or objections as early as possible, but no later than the close of business on Wednesday, September 21, 1977. If you are a voting member, a poll sheet has been enclosed.

Development Loan Committee
Office of Development
Program Review

Attachments:
Background and Recommendations
Project Analyses
Annexes - A through K

Project Paper

Table of Contents

List of Annexes

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE: A (A = ADD, C = CHANGE, D = DELETE)

PP

2. DOCUMENT CODE: 3

3. COUNTRY ENTITY: Portugal

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 150-0012

6. BUREAU OFFICE: A. SYMBOL: NE; B. CODE: 03

7. PROJECT TITLE (Maximum 40 characters): Rural Vocational Education

8. ESTIMATED FY OF PROJECT COMPLETION: FY 80

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 77; B. QUARTER 4; C. FINAL FY 77 (Enter 1, 2, 3, or 4)

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 -)

A. FUNDING SOURCE	FIRST FY B. FX	FIRST FY C. L/C	FIRST FY D. TOTAL	LIFE OF PROJECT E. FX	LIFE OF PROJECT F. L/C	LIFE OF PROJECT G. TOTAL
AID APPROPRIATED TOTAL	854	5,146	6,000	854	5,146	6,000
(GRANT)	( )	( )	( )	( )	( )	( )
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY		14,215	14,215		14,215	14,215
OTHER DONOR(S)						
TOTALS	854	19,361	20,215	854	19,361	20,215

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	PRIMARY TECH. CODE D. LOAN	E. 1ST FY F. GRANT	E. 1ST FY G. LOAN	H. 2ND FY I. GRANT	H. 2ND FY J. LOAN	K. 3RD FY L. GRANT	K. 3RD FY M. LOAN
(1) SA	600		600						
(2)									
(3)									
(4)									
TOTALS									

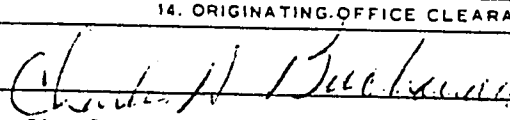
A. APPROPRIATION	N. 4TH FY O. GRANT	N. 4TH FY P. LOAN	Q. 5TH FY R. GRANT	Q. 5TH FY S. LOAN	LIFE OF PROJECT T. GRANT	LIFE OF PROJECT U. LOAN
(1) SA						6,000
(2)						
(3)						
(4)						
TOTALS						6,000

12. IN-DEPTH EVALUATION SCHEDULED: MM 12, YY 79

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA. BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

[ ] 1 - NO
2 - YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: 

TITLE: Charles A. Buchanan
Acting AID Representative

DATE SIGNED: MM 08, DD 20, YY 77

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

AID 1330-4 (3-76)

Part I - Summary and Recommendations

A. Recommendations

Loan to the GOP : $6.0 million
Terms: 25 years, 5 years grace period, 5 percent interest.

B. Description of the Project

The GOP is currently decentralizing its central government administration and bringing social services like education closer to those in outlying regions. The proposed loan supports the GOP in this effort.

The project consists of the physical expansion of four rural polytechnical (vocational) institutes; three are in mainland Portugal at Vila Real (North), Covilhã (Central) and Evora (South) and one is in the Azores. The expansion program is being undertaken to improve the capabilities of each Institute to become the principal source of higher level (post secondary) training and technical assistance in the geographic regions served by each.

The loan will assist in the financing of the construction, equipping and provision of materials for classrooms, laboratories, experimental farm facilities, dormitories and other support facilities, all of which are necessary elements in developing the capabilities of the Institutes to discharge their increased and broadened responsibilities.

Specifically, the Institutes are to be responsible for (a) much of the industrial, agricultural and other research required to meet the particular needs of each region; (b) a major share of post-secondary training of the regional population; (c) teacher training for primary and secondary schools, (d) training of agricultural/rural extension agents as part of a comprehensive training plan developed in conjunction with Extension Service of the Ministry of Agriculture (MAP); and (e) the dissemination, on a continuing basis, of new and practical information - of technological, agricultural and other nature - resulting from research or collected by data centers which the Polytechnics will establish.

Special short courses and special programs will be conducted in subjects which 1) will provide and/or upgrade the productive skills of farmers and workers; 2) programs and special courses designed to reach the "non-student" elements of the population (e.g. adult literacy, home economics, basic sanitation and nutrition, child care; 3) socio-economic surveys, manpower studies, and other research-oriented activities of particular pertinence to the region concerned and 4) procedures established to facilitate intercourse between the respective regional planning commissions and the Institutes, leading to an active role on the part of the Institutes

in the economic development of the regions.

The $6.0 million A.I.D. loan is to be administered by the Ministry of Education and Scientific Research (M.E.I.C.) and, pursuant to its request, will be divided equally with each Institute receiving $1.5 million of the A.I.D. funds. These contributions are to be provided as budget support to each Institute with the Government of Portugal (GOP) responsible for loan repayment.

In addition to the loan, A.I.D. will also provide $600,000 from an existing grant to the three mainland Institutes for a variety of technical assistance and participant training activities. Also, a separate grant agreement signed with the University of Rhode Island provides $600,000 for technical assistance support to the University of the Azores.

The loan forms part of an on-going expansion program of these Institutes begun in 1974 with GOP budget funds, which will continue beyond the projected two year disbursement period of the A.I.D. loan. The A.I.D. loan will permit an acceleration of the expansion program at a time when the GOP budget is stretched thin and when a maximum GOP self-help effort is being made by increasing the yearly operating budgets of the Institutes to meet costs brought about by the physical expansion.

C. Summary Findings

In Part III of this Project Paper, the technical, financial, social and economic analyses indicate that the project is feasible and ready for implementation. The designs, specifications, and contracting procedures to be used are in accordance with Portuguese law, and similar to practices carried out under previous A.I.D. loans to Portugal.

On the basis of a review by John Neave , Regional A.I.D. Engineer, an initial environmental examination was written and resulted in a negative determination, i.e. that no significant negative impact is foreseen on the environment. The examination and subsequent determination of no significant adverse impact is to be found in Annex A .

The economic, financial and social analyses indicate that the significant impact of the Institutes on their areas of influence - not only in formal education but in practical applied research and extension outreach - will considerably outweigh the costs involved. The location of the four Institutes in the more rural and lesser developed regions of the country is one of the GOP means of narrowing the investment gap between highly urbanized and more rural areas and will, in the long run, provide a higher skilled labor force and give rise to increased production in the four areas of influence.

The project meets all applicable statutory criteria as set out in the Statutory Checklist as attached in Annex K

The Acting A.I.D. Representative has signed the Section 611(e) certification, stating that Portugal has the capability to maintain and utilize effectively the project. Such certification is to be found as Annex B .

Part II - Project Background and Detailed Description.

A. Background

1. Current Events

Portugal has started on a rediscovery of its hinterland; the internal, rural and most remote areas of the country today are the foci of GOP programs to shift responsibility for resource allocation, public administration, taxation, planning and even the political process away from the power centers (Lisbon, Porto) which ruled in the past. For the first time in Portuguese history, elections were held in 1976 in Portugal's 310 municipalities; local assemblies were created to govern with participation of the governed; a new law grants broad authority for municipalities to tax locally replacing central government exclusive taxing; government ministries are breaking up into regional branches to plan and allocate resources locally; regional planning commissions are being created or reinforced to accelerate planning at the local level for local needs; technical teams have been stationed throughout the interior of Portugal to design and construct municipal infrastructures eliminating dependence on Lisbon based technicians; newly established airlines and public transport connect rural towns with Lisbon and Porto; new food storage and marketing infrastructure is going into place; educational services and facilities are moving inland. All this is underway to redress the historical imbalance and disparities between the developed areas on the Atlantic coast and the interior of the country. Lisbon, Coimbra, and Porto have enjoyed roles as traditional centers of wealth, bureaucratic control, decision-making and sources of patronage for all the outlying areas. This is ending.

A wave of consciousness came in with the 1974 revolution; concern was registered for the low living standards, ignorance and poverty prevalent in rural areas. It has become of great importance to the present government to know who these people are and how they have identified their needs. Most of the needs articulated most strongly in the rural areas are for the basic amenities long denied to them; specifically sanitation, health and education facilities are of first priority.

All want a better chance to become educated and learn new

ways of dealing with their environment. But the emphasis is no longer on the elitist type of schooling found traditionally in Lisbon and Porto institutions for law and medical training; the emphasis is on vocational training in the practical courses, skills and technologies that relate to needs of the regions. Students now want to take part in the changing society; they seek training in skills which can lead to good jobs; they want to be educated in a way that can bring about the improvements in living quality that their parents were helpless to do.

The 1976 Constitution emphasises the importance of regional identity and stimulating growth through programs that are fully consistent with regional needs; the GOP 1977-1980 three year plan sets forth the objectives and programs to bring about regional growth and in so doing, proposes dividing Portugal into seven regions, five on the mainland plus Madeira and the Azores. The regional boundaries are not original with the 1977-1980 plan but when approved will delineate the geographic areas that the four Institutes assisted by this loan will be responsible. (See Map on Page).

2. Regional Disparities

All this new emphasis on regionalism has surfaced for good reasons. Portugal is a country of markedly differing geographic regions, two of which are island groupings. Each region has its own geographic characteristics, customs and cultural roots. The families raised on the small family farm, traditional in the more densely populated North are in no way similar to rural workers on extensive landholdings in the sparsely populated South (Alentejo) region. Obviously, the populations of the Azores islands complex are totally different in their outlook from either of these. As one moves inland from the "developed" coastal strip principally between Viana do Castelo in the North to Setúbal (near Lisbon) the relative backwardness and poverty become easily apparent.

Life styles in these regions reflect differing customs, tastes, habits and values existing for centuries and have been, to a great extent, dictated by the geography itself and agricultural practices employed.

As in Spain and many Latin American countries, landowning patterns have characteristically run to extremes. In the North and Central regions small holdings and fragmented plots prevail. These small farms are handicapped by uneconomic size and out-

moded farming techniques. Nevertheless the traditional handing down of segments of the family property goes on because land ownership, beyond anything else,is sacred. In the south, where large landholdings (latifundios) were common, land use was also uneconomic. Lands were held by powerful landowners; workers owned nothing and were paid absolute minimal wages. Investment in agriculture declined from about 9% of the total investment in 1963 to about 4% in 1973. (Today many of these farms have been taken over by the State and/or farmers cooperatives, but production problems such as poor yields continue.)

These landholding patterns have been based on historical antecedents. The North and North-central regions have been areas of small proprietorship and subdivisions by inheritance, reflecting the practices brought by the Germanic invaders of the fifth and sixth centuries A.D. The region south of the Rio Tejo reflected the original Roman estate system, perpetuated at the time of the Reconquest, when medieval rulers awarded the warrier nobles and the Roman Catholic Church for their valor against the Moors. Widespread confiscation of church lands in the eighteenth century resulted in the sale of many estates to the rising bourgeoisie and perpetuated the absentee landlord system that has characterized this region in the twentieth century. Similar patterns of landownership based on similar historical antecedents are found in comparable regions of Spain.

The latest agricultural survey of Portugal revealed a total of 816,000 farms, of which 500,000 were over one hectare. Of these, 71% were less than five hectares and accounted for only 16% of the agricultural area. Medium-sized farms, those between twenty and 100 hectares, occupied only 10% of the total agricultural area, whereas the 0.9% of the farms that were over 100 hectares occupied 46% of the total agricultural area. A review of the land tenure system showed that 63% of the farms were worked by owners, 18.6 % by stock farm associations, 13.4% by tenant farmers, 1.5% by sharecroppers, and the balance by mixed-tenure arrangements.

Added to the land tenure problem is that Government investment in social overhead capital in the rural areas has been scant. This is obvious in the poor rural road systems, the poor state of irrigation, the lack of an effective agricultural credit scheme, the lack of adequate storage facilities and the rudimentary state of agricultural research, extension and technical education.

The principal reason for underdevelopment of Portugal's interior and insular regions has been the traditional over-centralization of political, administrative, and financial power in Lisbon. During the fifty years of Salazar's reign the most significant characteristic was an egocentric bureaucracy which discouraged the development of competing centers of influence outside Lisbon. Regional and local governments were denied both the authority and resources to act as or promote the establishment of local development institutions. The problem was aggravated by the general debility of the public services normally responsible for bringing about development. Such bureaucracies as the public health service, education system, and -- most important from the rural standpoint, -- agricultural extension service, lacked the staff, training, facilities, equipment, and -- too often -- motivation to be effective. The problem was most acute in the rural areas most distant from Lisbon.

3. Educational Constraints

The system of public education has only served to perpetuate the backwardness and chronic low productivity of Portugal's rural interior and island regions. The education system, which has itself reflected and perpetuated Portugal's urbanocentrism, has failed the rural areas.

Where there were schools, they provided students with an education largely irrelevant to their needs. More relevant technical training is available at the secondary level through state-sponsored apprenticeship programs or through study at "Industrial Schools", "Practical Agricultural Schools," or "Farm Manager Schools." These options, however, are not viable ones for students in the least developed areas. Economic pressure forces most students to leave school immediately after completion of the compulsory four years of primary education. (The drop out rate for Portugal as a whole is 50%). Students who might otherwise be financially able to continue their education, moreover, are discouraged from doing so by the acute scarcity of rural secondary schools. "Industrial" and "Practical Agriculture" schools are generally located in district capitals or larger towns, requiring rural students to board -- an expensive and inconvenient proposition.

Prospects are somewhat better for those seeking relevant vocational education (other than agriculture) outside the public schools. The Vocational Education Service of the Ministry of Labor offers technical training courses to adults at centers located in the industrial or commercial cities and towns throughout the country. The quality of these courses, however, and their relevance to the needs, has been questioned

and a general reorganization of the service is underway. More importantly, the service is barred by statute from providing vocational training in the area most important to rural populations -- agriculture. Adult rural vocational education has been the responsibility of the Ministry of Agriculture's Rural Extension Service. It is precisely in the preparation of rural extension workers, however, that Portugal's education system has again failed its rural population.

Agents of the Ministry of Agriculture's Rural Extension Service are generally graduates of either the Practical Agriculture or Farm Manager Schools who have subsequently completed post-secondary courses at the Technical University of Lisbon's Institute of Veterinary Sciences of Agronomy Institute. Before 1975, there were r ther Portuguese institutions of higher learning offering programs in agriculture.

Rural extensionists for the most part were trained in the cities and have had little identification with or commitment to the rural poor. All too often they have acted as consultants to the larger more influential land-owners. The principal center of training for these agents has been at the Lisbon Veterinary and Agronomy Institute.However, although the curriculum of this Institute includes considerable field work, the institute's location denies future extensionists the opportunity to study at close range the peculiar characteristics and problems of the areas in which they are to work. In a country as agriculturally, topographically, and climatically diverse as Portugal, where average holdings range from 3.7 hectares in Tras-os-Montes to 1,000 hectares in the Alentejo, and where rainfall runs from 87 inches annually in the Azores to 20 in parts of Tras-os-Montes, the importance of site specific experience to the success of an extension program cannot be over-emphasized.

The inefficiency of Portugal's agricultural post-secondary institutes in producing properly trained and motivated extensionists, however, is but symptomatic of a more fundamental deficiency in the country's system of higher education. The country's four universities -- one each in Oporto and Coimbra and two in Lisbon -- have traditionally stressed the classic and liberal disciplines. Only one, the Technical University of Lisbon, offered an extensive program in the sciences and engineering. Even there, however, the emphasis has been on the theoretical rather than the practical, on pure rather than

on applied research. The result of such an approach was a shortage by the late-sixties of mid and upper-level technicians, not only in agriculture, but in all fields.

In its decree law No. 402/73 of August 11, 1973, prior to the Revolution, the Portuguese Government took initial steps to correct this situation by authorizing the expansion of Portugal's system of higher education to ensure the "social and economic development of the country, which development requires an ever-increasing number of scientists, technicians and trained administrators, with critical and innovative capacities". The law provided for the establishment of 24 new Universities, Polytechnical Institues, and Teacher's Colleges throughout the country. The overall tasks of the new institutions were to "provide teaching at the highest level, promote continuing education and cultural expansion, promote investigation in the various fields of learning, and contribute, within the parameters of their mission of community service, to the resolution of both national and regional problems".

The country's full Universities, defined as "Multi-disciplinary institutions of high level learning and research", remained at the pinnacle of the educational hierarchy. Universities at which a given discipline -- generally a technically oriented discipline -- was particularly emphasized were designated University Institutes, equal in rank and offering the same level of degrees as the Universities. Polytechnical Institutes were to be "centers of professional teaching training, with particular responsibility for higher-level, short term teaching, designed to respond to concrete problems of practical application, and to promote applied investigation and experimental development with a view toward regional needs in the technological field and the service sector".

The sole University Institute established under decree law No. 402/73 was in Evora. Following the April 1974 coup, however, an additional University Institute was founded in the Azores. Polytechnical Institutes were authorized for Covilhã, Vila Real, Minho, Guarda and Faro, but have been established only in the first two cities. These University and Polytechnical Institutes will be the primary beneficiaries of this project. Basic information on these schools and their programs is presented elsewhere in this paper.

Within the general parameters set forth in decree law No. 402/73, the Institutes have been or are expected to be assigned the following specific roles:

-- Applied research appropriate to regional needs;

-- Consultant services for regional planning authorities;

-- Post-secondary general and technical education, including the on-site training of extensionists;

-- Institutional support for state extension services, including health, vocational education, and agricultural extension services;

-- Reproduction and dissemination of materials containing information of use or interest to the rural populations, either independently or in conjunction with state extension services;

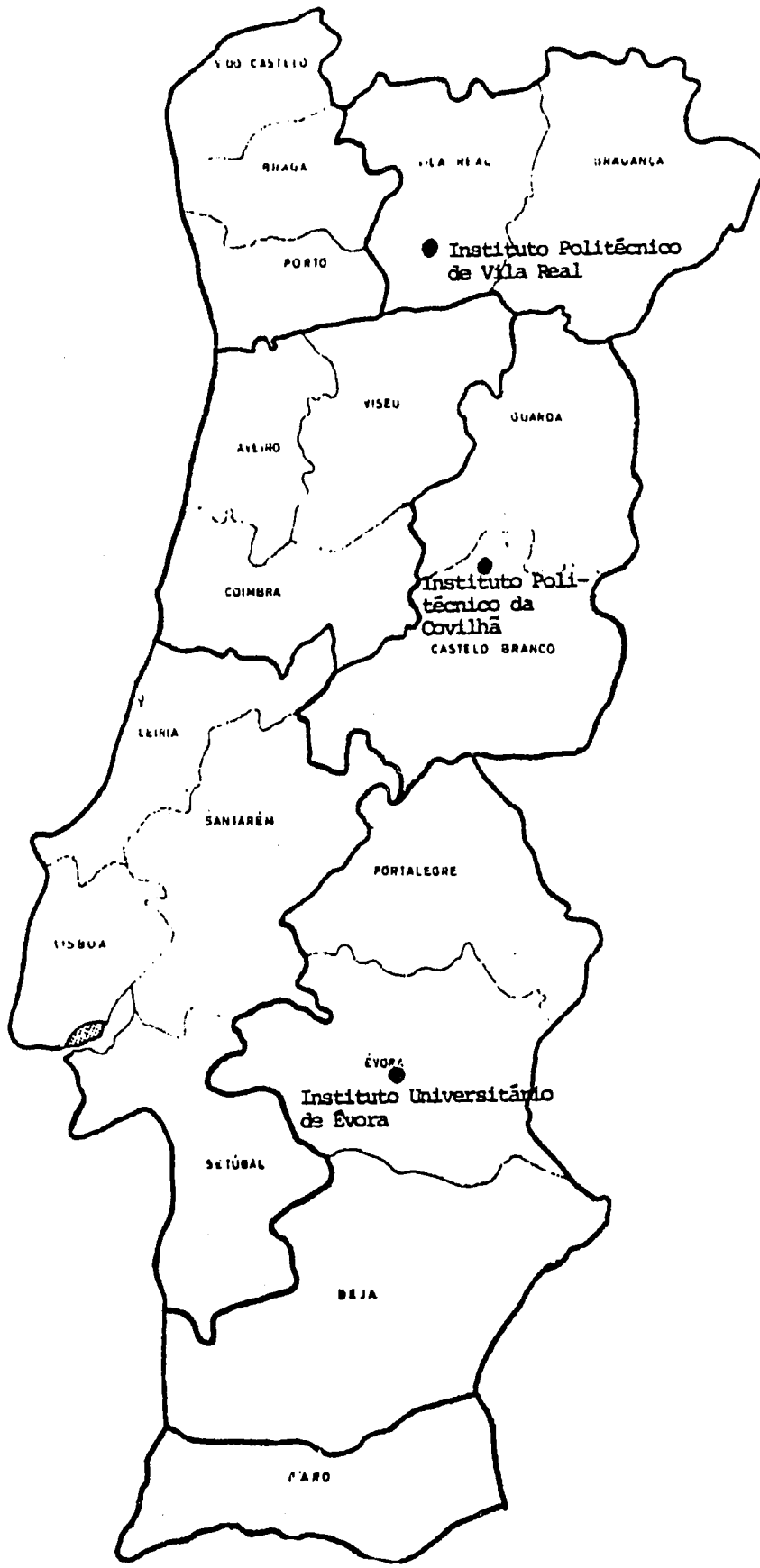
-- Primary and secondary teacher training;

-- Formal and non-formal adult education tailored to the needs of the region.

The GOP commitment to the concept of the Institutes as centers of regional development and continuing practical education is clear.

The areas of influence and responsibility of each of the four Institutes is shown on the following map.

AREAS OF INFLUENCE



Taking into consideration the situation faced by each Institute in addressing the deficiencies of their respective areas of influence, each Institute has tailored its curriculum and teaching programs accordingly. As can be seen from the departmental breakdowns given in Part III each Institute is bringing its available staff resources and facilities to bear on regional priorities.

All Institutes, however, are understandably concerned with training or retraining secondary level teachers. This is a fundamental responsibility of each Institute and training in the basic disciplines needed to be taught at the secondary level will be common to all four Institutes.

Other than teacher training, significant difference in curriculum structure are apparent among the four Institutes when one looks at the department breakdowns given in Part III.

For example, since the primary economic and social activity the areas around Vila Real and Evora are largely related to agriculture, the Institutes of Vila Real and Evora are emphasizing teaching and research in agriculture and animal production. Rural Extension is included at both Institutes as is training in soils analysis at laboratories to be constructed at each. On the other hand, as the Tras-os-Montes area around Vila Real offers Portugal's best forestry and mining potential, significant course and laboratory work is offered in geology and the mining sciences, as well as improved use of wood products and conservation of woodlands.

The Institute at Covilha naturally is oriented to the chief economic activity of the region which is the textile industry. The area around Covilha is Portugal's traditional textile center, particularly for wool products. Expansion of the industry is underway but much of the industry must be modernized - new technology must be applied to complex processes of wool dying, weaving, preserving, etc. Basic to textile engineering are the chemical and physical sciences; consequently, emphasis on these courses is understandable. Also, the chemistry and physics laboratories require modern teaching and research devices and supporting equipment.

The Institute in the Azores gives first priority to agriculture and fishing programs within its curriculum. The islands have very different soil, sea and climate conditions from the mainland yet the production potential for crops and the fishing potential in surrounding seas is not known. A.I.D. intends to finance under an existing feasibility study loan an agricultural and fishing sector study; this study will begin in October

1977 and will support work to be done by the Institute in these areas. The Institute recognizes the urgency of teaching its farmers and fishermen proper production techniques. As a result it has given a high priority to creating an extension service for the islands as none had existed before. To tackle the question of how to improve its fishing capability in the Azores, an oceanographic school and laboratory will be established with the assistance (under A.I.D. grant funding) of the University of Rhode Island.

The conclusion of all this is clear. The Institutes have geared themselves to meet the most pressing growth problems of their respective regions. They have focussed on practical educational and training systems to meet the aspirations of the local populations for better living conditions.

For their part, GOP agencies have demonstrated their eagerness to support and cooperate with the Institutes in a developmental role. In the Alentejo, for example, the Ministry of Agriculture has concluded a formal protocol with the University Institute of Evora to cooperate in supplying badly needed technical assistance.

Planning Commissions in Northern and Central Portugal and in the Azores, meanwhile, have already come to rely upon Institutes in their regions as "brain trusts" to be called upon in solving developmental problems. The Polytechnical Institute at Vila Real, for example, is currently assisting the Northern Regional Planning Commission in studies aimed at breaking the Douro Valley Region's traditional overdependence on the cultivation of wine grapes. At Evora, the Institute serves as a consultant to the GOP on two large irrigation dam projects now under construction in the region.

GOP support for the Institutes as centers of development in backward rural areas has been accompanied since the April 1974 Revolution by a series of complementary initiatives:

Decentralization: Administrative decentralization, a key element in any successful attempt to develop outlying areas, emerged as a key theme of the post-coup political dynamic. The country's new constitution, promulgated in April 1976, specifically calls for the creation, through subsequent legislation, of administrative regions which will be responsible

for their own socio-economic planning and execution and will coordinate the activities of national services within their boundaries. Embryonic forms of future regional administrations already exist in regional planning commissions set up during the early seventies in some parts of Portugal. These bodies have played a major role in the formulation of decentralization proposals advanced to date, and, as noted above, are cooperating extensively with the Institutes.

Rural Extension: Portugal's Rural Extension services are currently undergoing wholesale reorganization to make them more responsive to, and better prepared to deal with, the needs of Portugal's rural poor. The architect of the reform and current Director of the Service is Dr. Manuel Dias Nogueira, a former head of the highly successful Angolan rural extension service and formerly a Director at the Vila Real Polytechnical Institute.

Secondary School Construction: To address the educational needs of rural populations at a more basic level, the Ministry of Education has embarked on an ambitious secondary school construction program. 215 schools are to be constructed by 1980 under the program, to which A.I.D. is contributing $26,000,000 under separate loan projects.

Both the GOP and A.I.D. teams which have studied the needs of the Institutes, however, have recognized that they will require substantial investment over and above the GOP's current means if they are to have a reasonable developmental impact in their areas of influence in the near future. Physical facilities are adequate for current programs only in Evora; in no case are they adequate for the planned, and badly needed, program expansion. Equipment and teaching materials of all kinds are in critical short supply. The Institutes' staffs, most of whom are either natives of the various Institutes' areas of influence of refugee veterans of rural development programs in Portugal's former colonies, are a strong point. In discussions with USAID staff, their developmental orientation has been manifest; there appears little danger of the Institutes developing the "ivory tower" mentality that has in the past characterized Portuguese higher education. In many cases, however, their effectiveness as agents of regional development would be enchanced by specialized technical assistance and/or training in the United States, or third countries, i.e. Latin America. This project is designed to respond to the Institutes' needs in these areas, thus strengthening their capacity to serve as effective instruments

of regional development and, thus, serve as an essential component of the Government's rural development strategy.

4. Technical Assistance Support

The four Institutes included in this program are receiving specialized technical assistance from European countries; Vila Real has had some exchange of specialists with the University of Reading in England and Holland has provided some specialists to Vila Real and Evora.

In conjunction with this proposed loan, up to $600,000 has been set aside under an existing A.I.D. grant to Portugal to fund technical assistance to each of the mainland Institutes. The Azores Institute is already working on a TA program with the University of Rhode Island under a separate $600,000 grant. An illustrative list of the inputs to be made through these TA programs are set forth in Part III and will ensure that the Institutes are able to draw on good advice from U.S. specialists as required. Participants will also be given technically oriented visits to the U.S. using the A.I.D. grant.

While it has not been possible to develop a time-phased program for all technical assistance inputs funded under the existing A.I.D. grant, such a program will be obtained as a condition precedent. Major elements of this TA program are set forth in Part III of this paper, particularly as U.S. consultants are concerned. Visits to the U.S. of key Institute staff members for obeervation and short-term training will be programmed as part of GOP meeting the condition precedent.

B. ROLE OF THE MINISTRY OF AGRICULTURE

The role of the Ministry of Agriculture and Fisheries (MAP) in this project is not only important in that the end product is increased agricultural production and rural equity, but the MAP is intertwined in the goals and operations of the Institutes themselves. MAP is both their client in the training of extension agents and support staff, and an input into the operation of the Institutes in that technicians of the extension services will form part of the Institute's faculty. Furthermore, the various technical services of MAP will be a source of employment for many of the graduates of the Institute schools.

The extension service of the Ministry of Agriculture has been historically weak and rather ineffective. Actually two parallel, and in many cases, duplicating systems attempted to provide information and advice to the farmers. The GOP recognized that the system was woefully inadequate and as part of the present decentralization of the government bureaucracy it was decided to overhaul the entire Extension Service.

Decree Law 221/77 promulgated on May 26, 1977 deals with the reorganization of the Ministry of Agriculture, including setting up a new Extension Service. A new director has been named and the planning is now going forward on the basis of his proposed reorganization.

The Mission has had repeated meetings with the new director of the Extension Service during which he described MAP plans to build two Extension Training Centers at the Polytechnical Institute of Vila Real and the University Institute of Evora. MAP has worked closely with the Ministry of Education (MEIC) and with the directors of the two Institutes themselves and there is now general agreement to proceed. While the Training Centers will be located on the property of the Institutes (in both cases on the Institutes' Experimental Farm) the administration, day to day management and the funding for construction and equipping the centers will be the responsibility of MAP. Recognizing the complimentarity of this program to the goal and purpose of the loan project in increasing agricultural production and rural employment and training future extension agents, the Mission has urged MAP to consider using PL-480 counterpart funds to build up and equip the training centers.

One of the first steps contemplated in reforming the Extension Service is the joining of the two present systems into one and at the same time mount a training plan to not only train new personnel now being recruited, but to re-train and upgrade skills of existing personnel on modern extension practices.

The new extension service, as presently contemplated, will have between 5-10 two person teams of local agents responsible for not less than five nor more than seven freguesias, (smallest administrative unit in Portugal consisting of 200-300 farm families each). Each local team is to be made up of two people, one an agricultural technician trained in the basics of agricultural credit, marketing, and the production practices of the principal crops grown in the area, the other a female agent, who as a home economist, is trained in the basics of human nutrition, child care, hygiene and basic sanitation. Most importantly under the reformed service, they will both receive training in communication skills dealing with disadvantaged rural people, both farmers and their families.

Backstopping these teams, are teams of extension "specialists". Both the local agents and extension "specialist" are presided over on a type of county level by a "ccordinator". These three tier units are managed by a district "supervisor" who has a staff of personnel formally trained in applied agricultural research, production economics, rural youth organization, training, marketing credit, forestry plus other skills needed for that particular district. They will be in constant contact and can be drawn upon by the local extension agent for guidance as the needs dictate. This scheme is repeated on a regional level where the only difference lies in the degree of sophistication of the research being carried out. (See Annex C).

This plan, which has now been approved, is being introduced in two regions of the country, the irrigated areas of the Alentejo with Evora as the center, and the North Tras-os-Montes area with Vila Real as the center.

MAP realizes in order to successfully accomplish this ambitious plan, even though it has the full backing of the government, it will need to mount an extensive training program. At the present time it has a training center located at Caldas da Rainha, on the coast appeoximately 100 km. north of Lisbon. There it has already trained 40 of its present agents in farm mechanics and farm accounting, bookkeeping and management.

The training center at Caldas da Rainha has classrooms and

housing for 80 students. MAP realizes it will need additional training centers to reach its goal of 1,000 new agents per year over the next four years. (A recent World Bank study reveals mid-level Agriculture manpower requirements to be approximately 1,164 technicians per year beginning now). For this reason MAP intends to depend heavily on the Institutes in Vila Real and Evora and the services of the future Training Centers for its extension work in those two regions. In addition, short courses for farmers will be given at the Centers in cultivation practices, maintenance of farm records, bookkeeping, maintenance of mechanical equipment, use of fertilizers, home economics and other similar courses.The Centers will also be used to take qualified agents and train them up to the level of extension specialists.

In many cases, the new agents will be graduates of the Institutes themselves. MAP plans to have its faculty at the Training Centers teach courses to the students of the Institutes as well as to its own extension agents. Courses on extension will be taught by MAP personnel in most cases, and agricultural students at the Institute will be getting practical knowledge working with agents in the surrounding rural areas.

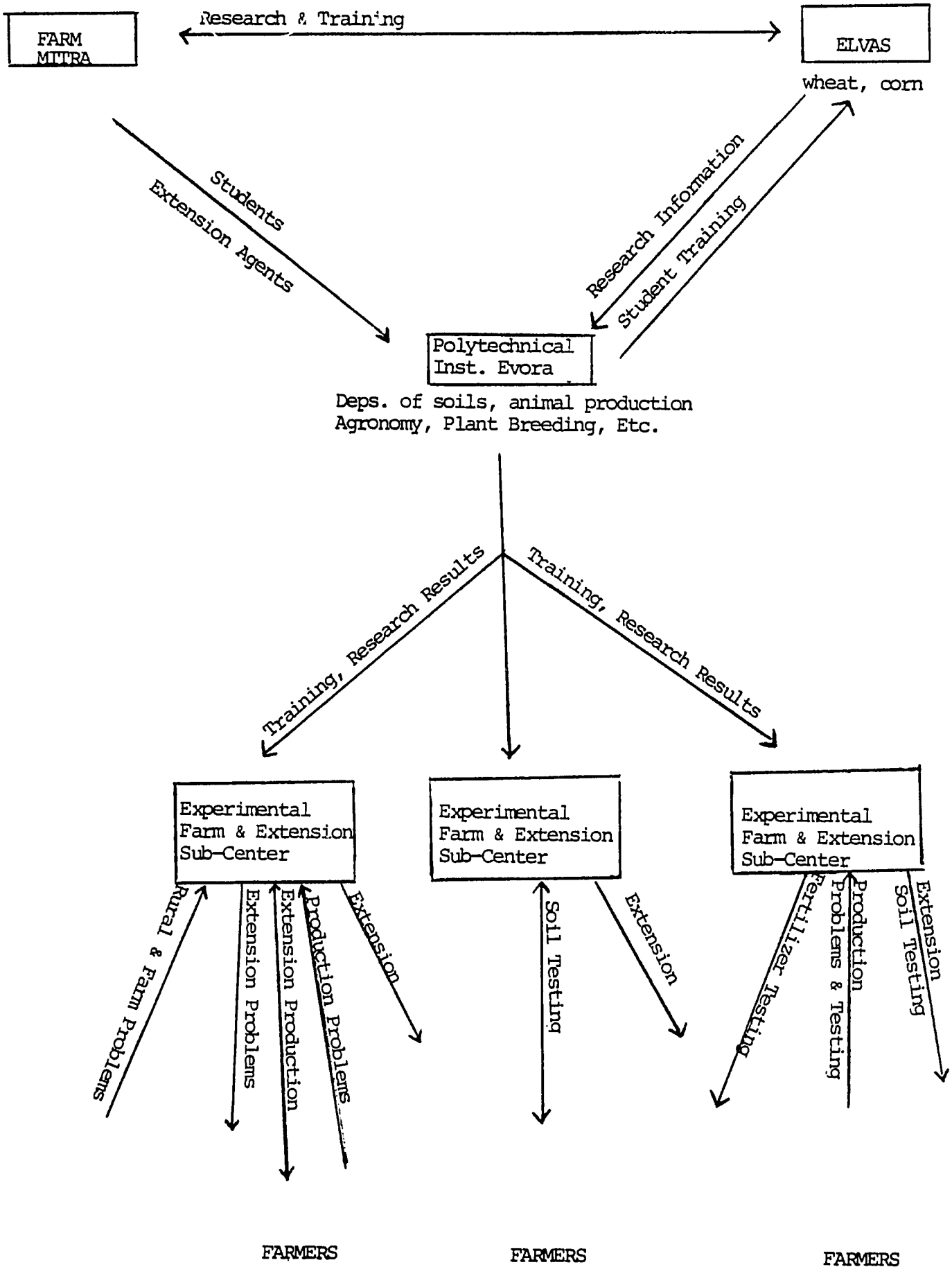
A working example, showing linkages, is the plan between the extension service of MAP and the Institute of Evora. The Institute at Evora presently has four farms distributed over its zone of influence, one located at Mitra, just outside of Evora (the main experimental farm) and the other three located in the Alentejo in different crop zones at Monsaraz, Almocreva and Outeiro. These experimental farms are used by the Institute as teaching and applied research farms for its own faculty and students. Land has been set aside for the MAP Extension Training Center on the farm at Mitra. Similar sub-center extension offices will be opened in the future at the other farms to serve as "bases of operation" for extension agents in the surrounding zones of influence. Thus the latest research and cultivation practices will be rapidly communicated out from the Institute's field research to the farmers in the area.

In addition, the Institute at Evora has an agreement with the MAP Research Station at Elvas (also located in the Alentejo) under which research work on wheat and corn

by the two institutions will be coordinated and exchanged in order to avoid duplication. The rural out-reach program of Evora that us now taking shape will, in terms of a systems approach, appear as follows:

MAP Extension Training Center

MAP Research Station



Evora believes that initially it can train between 150-200 agents a year for the MAP utilizing its system, with at least one third of them being trained as extension specialists, that is, qualified in an in-depth production technical specialist in one or more similar crops or livestock.

The plan of MAP will serve to strengthen the goals of MEIC and the Institutes and will insure a more practical application and approach on the part of the administration and faculty of each institute, as well as provide a marketable demand for graduates of Vila Real, Evora and eventually the Azores.

C. Narrative Logical Framework

Project Goals - The broad objectives to which this project contributes are (i) increased productivity, particularly in agriculture and industry and to an extent in extension services and teaching services, (ii) increased income and other economic outputs on the part of farmers and rural workers and (iii) greater access to economic and social benefits on the part of people living and working in the areas served by the four Institutes included in this program. Although it would be conceivably possible to measure the extent to which these goals were achieved (by some standard economic indicators and some social surveying), A.I.D. does not intend to do so. As a practical matter it is not likely that the goal-level benefits attributable to the project will be noticeable or verifiable until approximately 1980, or perhaps 1981, by which time A.I.D. is scheduled to have terminated its program in Portugal. Moreover, the nature of the goal-level objectives is such that their achievement cannot be attributed solely to the project (many other factors can and will impact on the objectives), thereby calling into question the usefullness of an evaluation conducted to measure the project's contribution to goal achievement. The major goal-level assumptions are (i) that the Institutes will be successful in reaching significant numbers of farmers, workers and other economically engaged people, (ii) that the potential exists for measurable increases in productivity, (iii) that they will act as a catalyst for regional development.

Project Purpose - To strengthen, upgrade and expand the capacities of four of Portugal's rural vocational institutions to provide formal and non-formal vocational education. Among the conditions that would indicate achievement of the project's purpose are (i) courses being conducted in subjects which will provide and/or upgrade the productive skills of farmers and workers; (ii) programs for training agricultural/rural extension workers and primary/secondary school teachers being carried out; (iii) programs and special courses designed to reach the "non-student" elements of the population (e.g. adult literacy, home economics, basic sanitation and nutrition, child care) being conducted; (iv) socio-economic surveys, manpower studies, and other research-oriented activities of particular pertinence to the region concerned being carried out; and (v) procedures established to facilitate intercourse between the respective regional planning commissions and the Institutes leading to an

active role on the part of the Institutes in the economic development of the regions. Reports of the GOP to A.I.D. as will be required under the loan, visits to the Institutes by A.I.D. representatives, and the observations of consultants could all serve as means of verifying whether the project purpose has been achieved. It is assumed (i) that the GOP intends to implement its decision to have the Institutes carry out their broadened responsibilities, and (ii) that the Institutes themselves are prepared to accept their new responsibilities and are prepared to make whatever changes may be necessary to carry them out.

Outputs - Laboratories, demonstration facilities and reproduction centers equipped and staffed with instructors properly trained in the use of the equipment; classrooms, libraries and other education facilities constructed and equipped; agricultural extension teachers trained in specialized fields such as soils analysis, artificial insemenation, farm machinery usage and maintenance, etc. staff members trained in course and curricula design using modern instructional methodologies; and staff trained in computer programming and teaching.

Inputs - Technical assistance, training, equipment and financing for construction. The specific needs of the Polytechnicos (Vila Real, Covilhã and Evora) have been tentatively identified and are described in the body of the paper.

Assumption - The role of the Ministry of Agriculture (MAP) in this project is crucial in the out-reach portion of the Polytechnical Institutes operation. MAP is both a client of the schools as a recipient for the trained extension agents and support staff and an input in that technicians of the extension service will perform as part time faculty of the institute.

Beneficiaries

A. Direct beneficiaries: This project will immediately and directly benefit the following groups/institutions:

-- The staffs of the Institutes who, by virtue of training and/or technical assistance provided under the project, will be better prepared professionally to carry out their teaching, research, and community outreach roles, and will develop valuable contacts with those involved in developmental activities in the United States and other countries;

-- Students enrolled in the Institutes, the quality of whose education will improve as a result of improved facilities, equipment, materials, and instructor competence made available under the project;

-- Secondary school teachers will be upgraded in their basic knowledge of teaching techniques and practices.

-- State health, vocational education, and -- especially -- agricultural extension services, which will be able to take advantage of expanded Institute facilities to support their own programs, and whose personnel will be better prepared as a result of Institute instruction;

-- Regional Planning Organizations, which will be able to call upon the talents of Institute staff trained under the project in regional problem solving and utilize data developed by Institute research activities;

-- Local farmers, who will be able to obtain practical, up-to-date agricultural and technical information from the Institutes, either directly or through extension services, and who will be able to attend non-formal Institute programs to perfect agricultural skills;

-- Local technicians who will be able to receive training at the Institutes in areas of regional need;

B. Indirect Beneficiaries: Additional indirect beneficiaries would include the following:

-- Low-income rural families whose productivity and standard of living can be expected to rise as a result of improved agricultural and other extension services and improved local planning initiatives;

-- Regional unemployed who will be put to work by construction arising under the project;

-- Local contractors who will undertake construction arising under the project;

-- Local business and industry, which will be able to take advantage of higher regional levels of education and practical skills resulting from Institute programs.

See Annex E for Logical Framework Matrix.

Part III - PROJECT ANALYSES.

A. SUB PROJECT TECHNICAL ANALYSES

The four polytechnical institutes are located in the Azores, Vila Real in the northeastern Tras-os-Montes area, Covilha in the central portion of the country and in Evora in the Alentejo area.

- UNIVERSITY INSTITUTE OF THE AZORES

1. Setting

The nine islands of the Azores archipelago lie 800 miles due west of Portugal in the Atlantic Ocean. The islands are characterized on one hand, by the lowest level of development in Portugal, (per capita GDP $247) high inter-regional disparities in quality of life indicators, and a deep-rooted sense of isolation and abandonment. This has led to massive emigration to the U.S., with its population declining some 20 percent between 1960 and 1975 (the present population is approximately 260,000). On the other hand, the islands are blessed with a temperate climate and fertile, volcanic soil conducive to increased agricultural/forestry production. Approximately 50 percent of the population can be classified as "rural poor" and are involved in either farming (about 50 percent of the Azores gross domestic product) or fishing (about 2 percent). (See Annex F for further details.)

2. The Institute

The University of the Azores (I.U.A.) initiated its academic activities in March, 1976 with an introductory semester consisting of a series of orientation and preparatory courses. Approximately 400 students were in attendance.

As a new University the I.U.A. is not bound by the classical traditions of the past. In the spirit of the Portuguese Revolution its orientation is toward the practical needs of the archipelago through, as in the other three institutes being financed under this loan, a combination of teaching, research and extension.

The program direction of the I.U.A. is based on meeting the broad manpower needs as identified in a survey carried out by the Regional Planning Committee of the Azores. The sectors covered in this survey were agriculture, education and administration.

Agriculture - It is estimated that the rural extension program will require two rural extension agents per village; one in animal

science and another in plant science. On this basis some 300 University trained rural agents will be required during the next five years.

In addition, there are plans to establish industrial plants in such areas as dairy production, meat processing, fish processing as well as the processing and/or canning of tobacco, sugar beets, chicory, tea, pineapple and horticulture products. The manpower needs required by these plants are estimated to be at least 100 graduates in agricultural and plant sciences.

Finally the marketing of agricultural and animal products will also require manpower with an adequate professional background. Approximately 50 graduates are estimated for these activities during the next five years.

Education - The manpower forecasts in this sector were estimated on the basis of the school enrollment forecasts in secondary education and the trained teachers required to meet these enrollments by 1980. Also taken into account were the labor force needs in adult education and training.

On this basis it was estimated that in 1980 the archipelago will require a total of 2,860 teachers. However, within this number no estimates were made of the attrition from the existing stock of 1,100 teachers and, therefore, there was no firm calculation of the number of new teachers needed. However, the study did calculate that in the present stock of secondary teachers some 75 percent did not have suitable qualifications. Thus, the I.U.A. will serve an important need by the provision of refresher courses and other types of in-service training in addition to the training of new secondary level teachers.

Administration - Both the public and private sectors have been considered in the survey. In the public sector the following general constraints and considerations were identified:

- Approximately 12 percent of the existing public administration posts were vacant and most of them require highly qualified personnel;

- Many of the existing staff are not suitably qualified for the posts they occupy;

- The demand for new qualified manpower in the public sector will increase substantially due mainly to the new political administrative organization of the Azores - the Regional Government - which will imply the re-organization of the local public administration, the creation of new departments and the rapid development of others.

It is expected that the I.U.A. will supply many of the new graduates needed to meet these manpower requirements as well as providing facilities for upgrading the existing staff of public

administrators.

In the private sector survey it was found that there are no bachelor or master degree graduates in the banking and insurance business. Furthermore, there is a critical shortage of adequately qualified manpower even in the largest enterprises. These shortages are likely to increase as planned private sector projects come on stream. It should be noted that several business administrators, accountants, and managers have already registered in evening courses at the I.U.A.

3. The Program

The I.U.A. is located on three islands of the archipelago: São Miguel, Terceira and Faial. It consists of five departments and two centers which were created as a first attempt to cover the priority areas in which higher education in the Azores should be concentrated. The priority areas were identified by the studies on the Azores undertaken by the Regional Planning Commission together with national and foreign consultants. The priority areas consist of the following:

Education
Livestock
Agriculture
Fisheries
Public Administration
Business Administration

The distribution of teaching/research/extension facilities over the three islands seeks to build on existing manpower strengths and facilities on different islands and provide teaching on those islands where the greatest potential lies in different areas of potentital growth. It also reflects an effort to decentralize regional administration away from São Miguel. The distinctive facilities which will be expanded under the program follow:

A. University Farm - At Terra Chã, near Angra on the island of Terceira the Government has recently provided the I.U.A. with a 130 acre tract of land valued at $250,000 to be used as a university farm. The development of the farm is very important for the more practical and operational aspects to the teaching, applied research and extension education programs of the Agricultural Department.

Students enrolled in Animal Production I, II and III will utilize the farm as a practical laboratory. Students preparing to be rural extension education agents will use the farm facilities for practical work experience. Finally, the farm will also serve as a demonstration center for farmers to observe various practical systems and practices which can be transferred and utilized on their farms.

Two agricultural programs have already started in the areas of animal and crop production with fourteen students enrolled in the animal production program and twelve in the crop production program. Although the programs have begun much is needed in terms of building renovation, equipment and technical assistance to assist the staff in carrying out an effective program.

With regard to facilities it should be pointed out that only one major building is located on the farm. This building will be remodelled for use as a dormitory for up to 12 students and will also include office space for farm records, etc.

Both dairy and swine facilities are planned and will be financed under the A.I.D. loan. A.I.D. financing will be utilized for the following facilities on the farm:-

- A swine system of facilities for 24 sows and 2 boars (2 breeds) will be established. The facilities will include farrowing and feeding quarters and be designed so that they can be duplicated by farmers in the Azores with very limited capital;

- A poultry operation is planned for the provision of short courses relative to the operation of poultry production in the Azores.

- A cow feeding and milking facility for 40 cows will be established. This facility will also be designed so that it can be duplicated by farmers in the Azores with minimum capital input.

At the teaching complex, A.I.D. financing will be utilized for building renovation and the construction of 4 glass and 2 plastic green houses for use in experimental plant development.

B. Fisheries -The Department of Oceanography and Fisheries is situated at the port of Horta on the island of Faial. Activities are centered around the following general areas: Oceanography and Marine ecology; Geology (submarine emphasis); and Fisheries and marine biology.

At present the Department is at an early stage of development with only three working staff at the faculty level. The Director, a geologist, has recently been joined by a second geologist and a marine biologist. It is anticipated that a trained fisheries biologist with some background in broader fisheries activities will be appointed in the near future. Two other appointments are expected to provide related support to fisheries activities while a third, a veterinarian, is expected to work in the area of fish processing technology.

Although no teaching is presently being undertaken at Horta a degree program is in an advanced planning stage. In line with the

felt needs for professional marine people within the Azores, the program will gradually expand from a limited student base.

More important than its formal teaching role, however, the Department's principal role will be the provision of knowledge and other inputs required for the improvement and expansion of fisheries activities in the Azores through applied research, extension, education and support services for the training of fishermen.

Applied research is planned to include an increased knowledge of the oceanography and marine ecology of the region, population dynamics of the important local fish species, exploratory fishing and development of fishing stategies and techniques, management (applied economics) aspects of fishing vessel operation and landing distribution. Extension education activities are planned to concentrate on the operation of short courses and the support of rural extension education programs through the provision of fisheries extension agents and specialist backstopping services. In addition, it is planned to provide inputs concerning fish processing technology to the Food Technology program which is to be based at Terra Chã on the island of Terceira.

In the area of education, other than the development of the University level Oceanography and Fisheries program, the Department is planning strong support and assistance to the development of a training program for young fishermen which is to be based at the Technical High School in Horta. This program is aimed at students beyond the compulsory high school level and will be of a vocational-technical nature. University support will consist of making available a training vessel and practical laboratory/workshop facilities, together with contributions for instruction as appropriate. A.I.D. will finance some remodelling costs of an existing building and laboratory equipment.

It should be noted that the Secretary of Agriculture and Fisheries of the Azores Regional Government has demonstrated his support for the University activities (especially applied research and extension education) by providing funds for a 17 meter training/research/exploratory fishing vessel and basic equipment in the areas of marine electronics, fishing vessel engineering and food technology.

C. Rural Extension Education - Technology in many areas of agriculture within the Azores is well advanced. However, it is limited primarily to the Agrarian Stations of the Government located on three of the nine islands. Production records on yields for sugar beets, milk, potatoes and wheat are excellent on the Government stations and a few large private operations indicating considerable potential for a variety of agricultural products. The small farmer does not enjoy the favourable crop yields or high production of meat and milk; thus, there appears to be considerable potential for technology transfer. Since the latter is the major thrust

of a comprehensive rural extension education program, it points out the importance of developing and implementing an effective program in the Azores.

It is planned that the rural extension program be divided into two separate components; education and service. Some service programs need educational programs to increase their effectiveness and value. However, the educational programs must be conducted by different personnel who will refer clients to the different services as needed.

The rural extension education and service programs for agriculture are planned to be jointly administered by the University and the Government. The existing stations (Fishing and Agrarian) are needed to implement an effective extension service that will serve each of the nine islands. The applied research center and facilities located at each station and sub-station provide excellent locations and demonstration facilities for the extension field staff. A.I.D. will provide loan financing for equipment such as jeeps and media equipment as is set out in greater detail below.

D. MEDIA TECHNOLOGY CENTER - In order to carry out an effective extension program it is important that the University develop an effective media center having the capability to produce the following:-

Radio programs - Programs via radio provide another effective method of communicating agricultural, fisheries and family information. Since a high percentage of the population has a very limited capability for reading, the radio could be an effective communication tool for the rural extension education and service program.

Publication and bulletins - As problem areas are identified, the University must have a strong capability to write and print publications for distribution to the general public. It will also need the capability to translate, rewrite and reprint existing USDA bulletins deemed valuable to agriculture and Fisheries development for the rural poor target population. It is recognized that in writing, publishing and distributing materials, the reading level must be carefully considered and observed.

The Media Technology Center needs the following facilities to carry out an effective outreach program:

Photography Laboratory - Such a laboratory needs the capability of black and white film development and printing plate preparation for offset printing and preparation and duplication of slides for instructional purposes. A.I.D. will finance needed equipment.

Graphic Arts Section - This is needed to provide the design capability necessary for the preparation of visual types of media. A.I.D. will finance necessary equipment and materials.

Print Shop - An offset printer, copier and other methods of reproduction will be financed by A.I.D. to provide printed material for the rural extension education program.

Audio-Visual Laboratory - Audio-visual equipment is critical to implement the rural extension education program. The audio-visual laboratory should house all types of equipment (hardware) needed to visually and auditorially project information to clients effectively. The audio-visual laboratory should also develop a library of software to be used in rural extension programs. Without sufficient and proper software or materials, the hardware will be of little value. Films, audio tapes, transparencies, charts, models and video tapes are examples of software that should be made available. The software will need careful design for utilization with certain client systems. Staff members who will be using the software should be involved in the process of its development. With this practice the materials will be specific, localized and used more often and effectively. As staff members are involved in development of materials, they can also learn to properly operate the hardware and the proper techniques for presentation. A.I.D. financed hardware is to include the following:

- Viewing screens;
- Slide projectors and dissolve unit;
- Portable overhead projectors;
- 16 mm film projectors;
- 8 mm film projectors;
- Audio tape cassette recorders;
- Filmstrip projectors;
- Video tape recorder, camera and monitor
- Slide viewers

Dehumidifying equipment will also be financed by A.I.D. as essential to proper audio-visual equipment storage.

It is necessary that the equipment be compatible in order that operation and maintenance is simplied, equipment is interchangeable and software is adaptable to all equipment.

E. Food Technology - Although the University is planning to delay implementation of a major program in food technology for several years it is intending to develop a nucleus of faculty to provide the following:

- service courses for the animal production and crop programs at Terra Chã;

- service programs for the oceanography and fisheries programs to be developed at Horta;

- specialist backstopping services for the rural extension program;

- a series of short courses aimed towards upgrading the food processing industry in the Azores;

- an initial capacity for problem solving activities for important industry problems.

The food technology activities are being based at Terra Chã on the island of Terceira where it is planned to assemble a group of five specialists - four of them are already contracted. It is planned to appoint a fish processing technology specialist at Horta, who is to work closely with the group at Terceira.

There is to be no A.I.D. construction financing for this component of the program but some laboratory equipment will be financed by A.I.D.

F. Technical Assistance - Considerable technical assistance is required to support the above described activities. The technical assistance component is already grant funded through a separate A.I.D. contract. The contract, between A.I.D. and the University of Rhode Island is presently in operation and provides technical assistance to the I.U.A. in agriculture and fisheries. It includes both long and short-term U.S. technicians. It also provides for both short and long-term training for counterpart staff in the U.S. and selected third countries.

The T.A. consultants have common functions of in-country training and course development, through assisting I.U.A. staff specialists (counterparts) to:

- plan and conduct university courses;

- plan and conduct rural extension education short courses;

- establish and operate laboratories for teaching, research and/or extension education;

- identify and recommend possible basic and applied research efforts;

The following consultants, either presently on-board or to be contracted as part of the grant, provide an essential element of the I.U.A. expansion program to which this loan contributes.

- Animal nutrition consultant
- Plant nutrition and disease consultant
- Diary and swine consultant
- Animal breeding and genetics consultant
- Soils consultant
- Agricultural marketing and credit consultant
- Forage crops consultant
- Specialty horticulture crops consultant

- Mechanized agriculture consultant
- Livestock management consultant
- Poultry production consultant
- Fisheries production economists
- Rural extension specialists (short-term)
- Communications personnel (short term)
- Food technology specialist.

4. Engineering Analysis

A. General Description -

Terceira Island - The I.U.A. at Terceira is composed of two principal parts: a) The main administrative and academic complex, including offices, classrooms, laboratories and proposed greenhouses, and b) the experimental farm with approximately 27 hectares of cultivateable land (59 hectares total land), the site for proposed swine production facilities, dairy herd feeding and milking facilities and some dormitory space. Prior to 1974, the main complex was a military hospital for rehabilitating the more seriously wounded military personnel from the Angolan and Moçambique wars. When the hospital facilities were no longer required, the structure and grounds was given to I.U.A. for its use. Although some vandalism to the buildings occurred at the time of closing of the hospital, and during the unoccupied interim before I.U.A. took possession, destruction was not serious and easily repaired. The ex-hospital buildings are admirably suited to conversion to I.U.A.'s use. For instance, former tiled diagnostic laboratories, operating rooms and recovery rooms become I.U.A.'s biochemistry, parasitology and microbiology laboratories. The ex-hospital wards become classrooms and libraries, and the old offices and doctors examining rooms become new I.U.A. administrative offices and instructors offices. In addition, I.U.A. inherits the ex-hospital staff housing which, in turn, will be used for I.U.A. staff housing.

São Miguel Island - The I.U.A. in Ponta Delgada, São Miguel, is located in old government buildings, but the buildings are suitable for renovation. One building requires only modest renovation, the other more extensive remodelling to make it suitable for classrooms and laboratories. In addition, one new building of 330 m^2 area is proposed to serve as an applied ecology laboratory.

Faial Island - The I.U.A. at Horta, Faial, is located in one ex-government building, also suitable for renovation, but will require an addition to the side of the building (of 300 m^2 area) to house the oceanography and fisheries laboratories.

B. Engineering Implementation:

Site selection - The sites for the two principal components of the I.U.A. Terceira, as well as the existing buildings on Faial and São Miguel, were fixed and no alternatives were available. However, all sites are well suited to their purpose with excellent drainage, good access and sufficient land for the planned use.

Design and Engineering Services - Terceira: Renovation and remodelling work at the administrative and academic complex is being accomplished through use of local artisans under the control of the Director of the I.U.A. Design of new buildings at the farm complex is being performed by an agricultural engineer, Dr. Dwaine Bundy, under contract from Iowa State University to the University of Rhode Island. Designs for the new buildings, particularly the swine production facilities and the dairy facilities with milking parlor are being made utilizing local materials and construction techniques that will be replicable throughout the islands at minimum cost. Review of Dr. Bundy's designs by the A.I.D. Regional Engineer in the Azores 4 August, 1977 found them complete, except for some construction details, and exceptionally well suited for demonstration teaching as well as design replicability.

São Miguel : Renovation work is again being undertaken by local artisans under the direction of the I.U.A. Design of the new ecology laboratory has been completed by the architechural firm of F. Valles, S.A., and review of the plans by the Regional Engineer is Lisbon found them complete and well thought out.

Faial : Again, renovation work will be carried out by local artisans under the direction of the I.U.A. Design of the building extension has been done by I.U.A. staff also, with the assistance of personnel from the University of Rhode Island. Review in Lisbon of the preliminary layout of the extension indicates its suitability for oceanography and fisheries laboratories; final design must yet be completed.

Construction methods - There are no new or unusual construction methods proposed that would present problems. Renovation work utilizes construction methods and materials completely familiar to local artisans and well within their capability to undertake. New construction on the experimental farm at Terceira is adapted to local practice and hence should offer no problem. For instance, the roofing system of the swine production facilities will use a rafter and purlin system of 6" and 4" Eucaliptus logs topped with asbestos-cement corregated roofing, a system well known and widely used on Terceira. Construction of laboratories on São Miguel and Faial will employ more conventional building construction methods well known to local or mainland construction firms. Construction of new facilities will be by contract with A.I.D. monitoring at appropriate points along the way. Day to day inspection of cons-

truction will be by technical personnel under contract to the I.U.A. or by agreement with the local office of the Ministry of Public Works.

Utilities - Utilities are available at all sites. At the various buildings being renovated, utilities that were in place will be used for the renovated buildings, requiring only minor changes in internal electric wiring and internal plumbing for the new purpose of the buildings.

At the remotest site, the University farm on Terceira, an existing pipeline brings water from a protected spring in the hills to a point within 300 feet from the new swine production and dairy complex. Electrial power is available approximately 0.6 km from the farm complex and will require that length of transmission and a stepdown 3-phase transformer installation at the farm. A new septic tank installation will also be required at the renovated building to serve as a dormitory on the farm site. These utilities have been taken into account in the cost estimates.

Cost estimates - For the farm buildings on Terceira, current unit costs for similar type construction were obtained by Dr. Bundy from local contractors and builders, and the unit costs used in estimating new construction costs. These costs, in turn, were escallated by 30 percent to bring final costs up to 1978 estimated prices when actual construction should take place. For the more conventional buildings including laboratories on São Miguel and Faial, a cost of Esc. 12.9 contos/m^2 (equivalent to US $322/$m^2$) was used which had already been adjusted to 1978 prices. While these costs per square meter are higher than estimating costs used on the mainland of Portugal, construction costs in the Azores have been traditionally higher than on the mainland. Therefore, the cost estimates appear reasonable.

Implementation plan - Terceira: Renovation of the existing building for the administrative and academic center began in January 1977 and is planned for completion in December, 1977. An inspection trip in July, 1977 indicated the renovation is well along, and given the timely delivery of certain equipment and materials already ordered (vacuum pump for laboratories, formica for laboratory table tops, etc) should be completed on time. Implementation timing showing completion dates of the new construction is as follows:

	Completion
Completion of designs	9-1-1977
Preparation of IFB	12-1-1977
Approval by A.I.D. (Regional Engineer)	1-1-1978
Bids received	2-15-1978
Review of bids & award contract	5-1-1978
Construction completed	12-31-1978

São Miguel : Rennovation work of the existing buildings also began in January, 1977 and is scheduled to be completed prior to December 31, 1977. Implementation timing for construction of the new ecology laboratory is approximately similar to that for the work on Terceira, with construction scheduled for completion in December, 1978.

Faial: Renovation work of the existing building is scheduled to begin in September 1977 and to be completed by December, 1977. Since the renovation work to be carried out is relatively minor, this schedule appears reasonable. For the new extension to the building for the oceanography and fisheries laboratories, the implementation timing is approximately similar to that for the work on Terceira, with construction scheduled for completion in December, 1978

C. Engineering conclusions:

After site visits, review of available engineering data, including the preliminary plans and the final plans and designs now underway, and discussions with personnel responsible for the implementation, it is concluded that the technical requirements of the proposed work are sufficiently well defined and designed to execute the various parts of the works on an orderly schedule. It is considered that the degree of engineering planning undertaken and the determination of costs are adequate to meet the applicable requirements of Section 611 (a) of the foreign Assistance Act.

Polytechnic Institute of Vila Real (IPVR)

The Setting

The northeastern Tras-os-Montes area is the least developed of Continental Portugal. This highly mountainous region is characterized by small and fragmentized plots of privately-owned land, high under and unemployment, and low health and educational achievement levels, all of which combine to motivate heavy outmigration to other areas of Portugal and abroad. Although Tras-os-Montes is relatively arid (with an average of about 20 inches of rainfall per year), agriculture (albeit usually subsistence farming), is the major economic activity of the area, constituting some 42 percent of the region's gross domestic production and employing 70 percent of its labor force. The population is mainly rural in complexion, with a density of only 25 inhabitants per square kilometer in some areas, and with only 10 percent living in urban settlements. (See Annex G for further details.)

The Institute

1) Role

The Polytecnical Institute of Vila Real is responsible for performing vital functions for the remote and backward Northern region including Tras-os-Montes in the areas of teaching, research and extension.

The IPVR believes its role is not only to help solve the technological and developmental problems of the area, but to provide an outlet to that portion of the population that would travel to the universities of the major cities, such as Porto and Lisbon, and remain there after graduation, thus exacerbating existing regional disparities or would not have access to higher education at all.

In this context it is noted that the majority of the student population of the first class (1975) consisted entirely of young people from the area of Vila Real, basically a middle class grouping; however, there was a shift in the second class of entrants (1976) toward students from poorer

families, particularly sons and daughters of small farmers and other rural dwellers. The teaching and research programs are heavily oriented towards agricultural subjects which reflects a practical concern for the needs of the region.

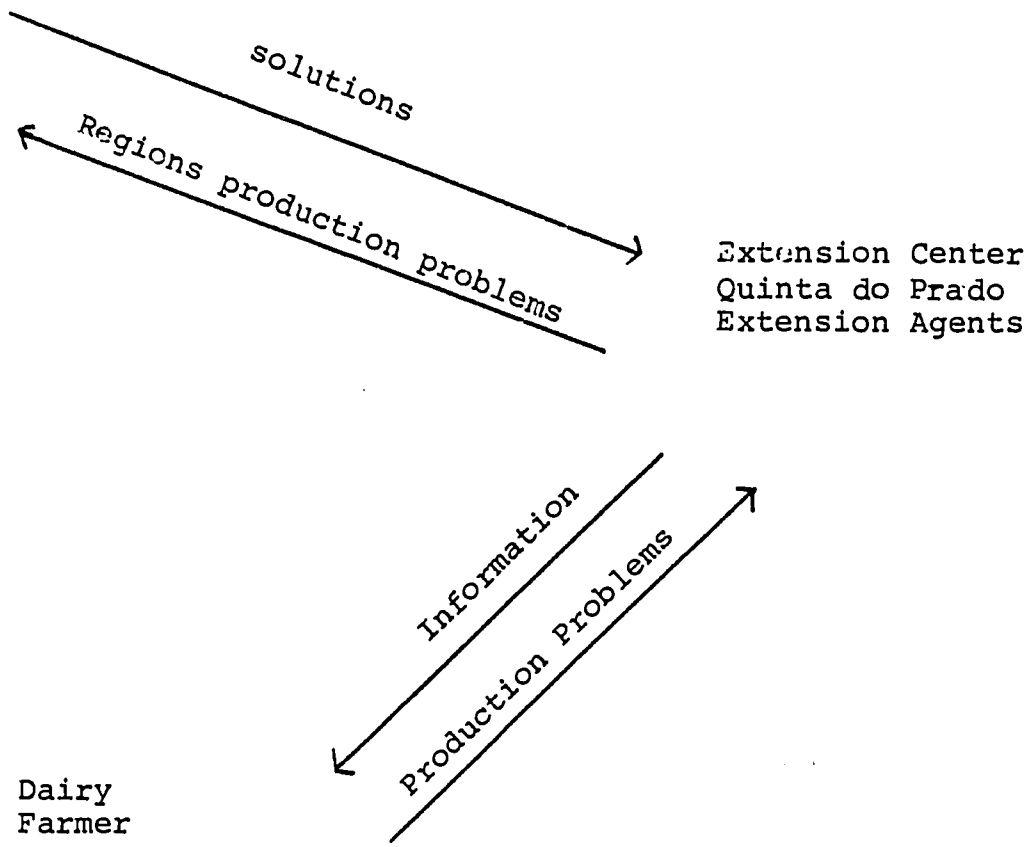
2) Program

The IPVR strives to provide training in those basic subjects which have been slighted in Portuguese technological education, namely to give these future technicians a solid basic groundwork in mathematics, physics and chemistry. The students then branch out into the three broad study areas; Agricultural Production, Animal Production and Forest Production. At the end of their three year course they are ready to enter the labor force with a bachelors degree. It is planned for some students to stay a fourth year and obtain their masters (licenciatura) degrees. Throughout all courses, emphasis of the Institute is on practical training; with the bachelors degree the student is well qualified to become, for example, an extension specialist, farm manager, agribusiness technician, or work as a soils analyst in the Institute's soils testing laboratories.

Graduates entering government service are expected to fill the vacancies on the bottom three lines of the M.A.P. (Ministry of Agriculture) (see Annex D) but as time and experience dictate they will be eligible for higher positions in the extension service. The Institute plans to set up an extension training center on their experimental farm under an agreement with the Ministry of Agriculture where agents, both new and those already in the extension service, will be trained or retrained. Some of the new extension agents will come from the student body and faculty members from the various disciplines will teach part-time at the center. Extension Agents will be involved in the applied research taking place in the various departments of the school. A systems diagram showing the animal production feed research unit's linkage with local dairy farmers would appear as follows:

IPVR Teaching
students & graduates

IPVR Research
Animal Production
Nutrition - Better Feeding
For Increased Milk Production
based on Experiments on the
Quinta do Prado



IPVR intends in the future to create sub-centers as outreach mechanisms in areas further from Vila Real.

The Institute is continuing to expand since it was initiated in 1975. It has yet to graduate its first group of students, but has completed the first two years of instruction with a total of 98 students and is getting ready to receive and even larger third group in the fall of 1977. Backed up by a present teaching staff of 40 professors plus 29 technicians, it expects to have its first graduating class of 36 bachelor degree students in 1979 with 62 to follow in 1980 broken down as follows:

Agricultural Production	
First Year	28
Second Year	16
Animal Production	
First Year	29
Second Year	15
Forest Production	
First Year	5
Second Year	5
Total	98

Thereafter, IPVR projects that the classes will increase in size reaching a total enrollment of 2,000 by 1980. This may be optimistic but demands for entry are rising rapidly and as facilities expand to accomodate new students they will be admitted.

In order to prepare students to effectively make a contribution to the rural sector, whether it be more efficient operation of farms, careers in the agricultural extension service or as technicians in agro-industry, IPVR breaks down its three main teaching areas of agricultural production, animal production and forest production into the following departments:

a. Biology
b. Economics and Rural Sociology
c. Rural Engineering
d. Plant Sciences
e. Forestry
f. Geosciences (including soils chemistry)
g. Mathematics and Physics
h. Animal Sciences
i. Communications and Printing (including library and audio-visual).

In order to carry out its objectives the IPVR has embarked on an expansion and modernization program (construction and equipment) to implement its goal of serving the North and Tras-os-Montes area through teaching, research and extension. The following describes the principal functional areas within which facilities will be financed under the A.I.D. loan.

A) General Administration - The A.I.D. loan will finance the construction and equipping of offices and administrative areas to be used by the entire institute. Such items as the administration building, the library, visual aids, reproduction and duplicating facilities for teaching material and instruction pamphlets for farms will be included in this portion of the program.

B) Experimental Farm - The Institute has purchased a 52 hectare farm on the outskirts of Vila Real (Quinta do Prado) where presently are located buildings, barns and stables. These existing structures are being renovated for classroom and laboratory use and IPVR is making plans for a future campus complex on the site. A.I.D. will make reimbursements from the loan for these renovations. Additional classrooms and animal machinery sheds are planned and will be built, utilizing pre-fabricated buildings wherever possible. Much of the work has been started and some classrooms and faculty offices are already in use. Laboratories for animal science, forestry and plant production, additional warehouses and work buildings and sheds, plus some dormitories will be built. The A.I.D. loan will provide financing for much of this construction and equipment needs as shown in the cost breakdown below. For an institute of this type, it is essential to have the practical end of the teaching facilities on the farm itself. The farm

will be used for practical agricultural teaching and applied research. Talks are underway between the Extension Service of the Ministry of Agriculture and the Ministry of Education on the possibility of an extension training center being built on the farm for training of extension agents.

C) Geosciences - This department emcompasses the sub-sectors of Geology and Soils, Chemistry and Climatology. This department and the Mathematics and Physics Departments represent core subject matters which all students are required to study. Instruction in these three areas is considered a prerequisite for understanding material offered in the rest of the curriculum.

In addition, Soils and Climatology are two functional areas where this department will be working directly with the community, primarily in performing soils analysis for farmers in the area. Heretofore soil samples had to be sent to Lisbon for analysis and reports back would often take 8 to 10 months. Few farmers took advantage of such a cumbersome service. The soils section plans to have in place by 1978 a soils analysis laboratory with a trained staff. A.I.D. will finance both construction and equipment costs of the laboratory.

The soils laboratory will have a research and teaching aspect as well. Students will be trained here to analyse and interpret results of soils tests for on-farm application. In addition technicians attached to the lab will perform on a continuous basis soil testing and determine fertilizer needs for all farming areas of the Tras-os-Montes region. The existence of this department will become increasingly important to this area and should contribute to increased crop production from better utilization of fertilizer through increased knowledge of soils profiles. In addition, the climatology section will train students in weather interpretation and the geology sections will teach and do research in mineral analyses to verify potential deposits of valuable ores and minerals in the mining areas of the Tras-os-Montes.

This department has requested technical assistance support under the existing technical assistance grant. For 1977, the Soils Section has requested the services of a U.S. soils analysis expert for one year to set up the soils analysis lab. This expert would train staff not only in the operation of the lab, but in the methodology of an out-reach system to teach farmers how to take soil samples from their farms to the lab and obtain a timely communication of the results, together with fertilizer recommendations, back out from the lab.

D) Animal Production - Animal production in the region of Tras-os-Montes is becoming increasingly important as an on-the-farm protein supplier to the family and as a source of income through the sales of dairy products and meat. Therefore the teaching of animal production together with applied research into the most adaptive and efficient producing breeds of cattle, sheep, swine, rabbits and poultry to the area is one of increasing importance. Different ways to carry this knowledge to the Tras-os-Montes small farmers is being studied by the animal production department. One of the ways this will be accomplished is by holding "field days" at the experimental farm and demonstrating to farmers the latest techniques on breeding, management and nutrition. Another method will be through the close cooperation between the departmental teaching and research staff and the Extension Service. The department has already purchased a herd of dual purpose Swiss cows, equally efficient in both milk and meat production, ideal for the one or two cow family farm operations characteristic of the region. This practical approach by the Department, reflecting the concern for the limited productive resources of the region, is that which guides the Animal Production Department and which they are instilling in their students. A.I.D. financing of facilities and equipment on the experimental farm will be used by this Department.

E) Rural Engineering - The Rural Engineering Department is rapidly assuming an importance in the area as small farmers, in an effort to increase yields, are reclaiming more land through terracing the steep hillsides and irrigation, as well as the mechanization of their farms. With regard to the latter, the rural engineering section is encouraging the use of the hand tractor together with its accompanying small implements, applying the appropriate technology concept to this region of labor intensive, small farm holdings. The tractor is produced in Portugal and the Rural Engineering staff has made several innovative improvements for use by farmers in the Tras-os-Montes. This department is training students to work in the region in the areas of farm mechanization, erosion control, water management, small scale irrigation and the installation of small earthen dams for water containment in the mountainous areas. A.I.D. will finance a variety of equipment for this Department.

F) Forestry - The Forestry Department has embarked on a program of training people to fill serious deficiencies at all technical

levels in this subsector. Without this input it will be difficult for the region to realize the economic potential forestry can bring. The needs are particularly crucial in upgrading existing forest specimens and in subsequent trasnformation of forestry products. Lack of training within Portugal has produced a stagnation of in production in forests. The Department plans to teach, do research and extend knowledge of tree farming and proper exploitation to farmers and other rural dwellers. Its aim is to improve production and quality selection of forestry species for the northeast of Portugal and improve utilization of forestry products. To carry this out, it will establish technological workshops to study proper tree cultivation, tree protection and utilization and treatment of wood and wood products. The A.I.D. loan will finance the construction of labs and staff offices and research, teaching and lab equipment.

G) Agricultural Production - This Department oversees all teaching and research activities related to vegetable and grain production. With perhaps the bulk of the student body majoring in this area, its impact is important on the sector. As intensive cultivation crops for both human and animal consumption increases, the department plans to emphasize applied research on the experimental farm in order to improve cultural practices in the zone.

At present it has five faculty members, four with good research capabilities. By 1978 it plans a department of 10 professors, three assistants and two secretaries. By 1980 this will be raised to 15 professors with Masters degree, 10 assistants and five secretaries.

The fields of emphasis will be plant breeding for new and improved varieties and improved cultivation practices. This department will concentrate on teaching and applied research to reach its objectives and work closely with the Extension Service and farmer groups to make sure that results of their efforts are disseminated. A.I.D. will finance construction of laboratories, classrooms, teaching and research equipment.

The IPVR Faculty amounts to 40 members of which 6 are female. Total staff at the IPVR is given in the following table:

Staff	Total	Male	Female
Academic	40	34	6
Technicians	29	23	6
Administrative	20	5	15
Repair and Farmworkers	37	16	21
Drivers and Specialized workers	7	4	3
Total	133	82	51

Technical Assistance

The following is an illustrative program which the Polytechnical Institute at Vila Real is planning to finance with its $200,000 portion of a separate technical assistance grant already signed with the GOP.

1. One U.S. soils analysis specialist - one year beginning fall 1977 (discussed above)

Scope of work: Assist the soils department to set up a soil analysis lab and train staff. Also develop methodology of outreach system to teach farmers how to take soil samples from their own farms and send to lab together with timely communication of results together with fertilizer recommendations back to farmer.

2. One U.S. Fertilizer Specialist - Phd- one year beginning Spring 1978.

Scope of Work: Assist the soils and soils chemistry section to develop curriculum for teaching course on fertilizers, components and chemical make-up. Will also work closely with research and extension on methods to transfer analytical data into practical recommendations. Will also do some teaching and practical application methods to students and extension agents, as well as train staff.

3. One U.S. Technician - Plant breeder or generalist in cultural practices with heavy field research background - six months - beginning January 1978.

Scope of work: Assist and advise the Agricultural Production Department to set up a system for field research in grains, egetables and pastures on the experimental farm. Should train research staff how to plan and utilize their farm (Quinta do Prado) in an intensive and efficient manner to obtain practical and adaptable results. After the period is up, two Vila Real staff (1 agronomist and 1 agricultural engineer) will go

to U.S. for a 3-4 months training period in the department of the U.S. technician.

4. One U.S. Technician - specialist in Animal Nutrition - Six months starting Fall/Winter 1977.
Scope of Work: Will set-up animal nutrition program, including curriculum, research and extension - also do some teaching.

Technical Analysis

1. General Description

The IPVR is composed of two principal parts: a) The main administrative offices, classrooms and basic science laboratories, and the soils laboratory located in two buildings within the town of Vila Real, and b) The experimental farm of 52 hectares located just at the edge of town, with a number of existing buildings and the site for all the new construction for additional classrooms, laboratories, as well as animal demonstration and production units.

The two buildings in town were formerly army barracks, given by the Army to the IPVR for its use approximately two years ago. These buildings have been extensively renovated within the past year, and are already in use by the 93 students now enrolled at the IPVR. The principal need remaining for these buildings is a transformer station to supply the higher power requirements for the administrative and teaching functions of the buildings; the transformer is expected to be in place before the end of the year.

Three buildings on the experimental farm (Quinta do Prado) are nearing completion of renovation. One building has been renovated for the administrative offices and the other two for classrooms. In addition, one new building is under construction, using IPVR budgeted funds, to provide laboratory space for the Department of Biology.

The Experimental Farm will also be the site of all future building expansion of the IPVR. Planned for the immediate future are three buildings (two in 1977 and one in 1978) for classrooms and laboratories, and various sheds and pavillions for cows, bulls and sheep.

2. Engineering Implementation:

Site Selection - The general site for the buildings was fixed by the purchase of the farm, with specific building sites yet to be determined. However, the planned sites for the buildings are on high ground, relatively level, with the rest of the farm land sloping towards the Rio Corgo. The site offers good drainage, good access and sufficient land for the intended use. The IPVR is presently evaluating proposals from a number of architectural firms to make a master plan for long-term development of the farm

complex and expansion of the IPVR after 1980 in order to increase enrollment to its ultimate goal of 2000 students. The planning contract is expected to be awarded within the next two months, to be completed by the fall of 1978.

Design and Engineering Services - Renovation and remodelling work at the two buildings in the town of Vila Real and the three buildings at the farm has been accomplished by laborers and artisans hired directly by the IPVR, including the farm workers. A recent site visit by USAID personnel with the Regional Engineer (John Neave) revealed a very high quality performance. Supervision of the renovation work has been by the Director of the institute assisted by two professors trained in rural engineering.

Design of the new buildings at the farm is being accomplished with the assistance of an engineer from the Porto office of the Minister of Public Works and one architect from Porto. Plans for the two buildings for 1977 construction as well as the sheds and pavillions for the cows, bulls and sheep are still in preliminary form. Completed plans and specifications to form the IFB are expected to be ready before the end of September. However, the physical size of the laboratories, offices, storage rooms, etc., have been determined, and therefore the physical size of the buildings is known. Considering the method of contracting the IPVR is using, this is the most important step in determining a firm estimate of costs.

Construction Methods - There are no new or unusual construction methods proposed that would present problems. Renovation work utilities construction methods and materials completely familiar to the local artisans, and is well within their capacity to undertake. New building construction proposed for 1977 and 1978 will be of the prefabricated type, similar to the new building now under construction using IPVR's budgetary funds. New construction for the animal sheds and pavillions will be of concrete and block construction with corrugated metal roofing system, methods well known to the area.

Method of Contracting and Bidding - The bidding and contracting method is the same as used throughout Portugal for buildings, and conforms to Decree-Law No. 48871 titled Regime do Contrato de Empreitadas de Obras Publicas. This method of bidding permits the IFB to contain only plans of the floor layout and elevation drawings to indicate how the building is to look from the exterior and, of course, specifications of materials, roofing materials, windows, and internal finishings (tiles, etc.). The bidder, in his proposal, indicates the type of building to be constructed together with any deviation from external appearance, and includes details of the method of construction -- i.e. the detailed design. The contract is awarded to the lowest bidder whose type of building proposed meets the needs and objectives of the building required and does not objectionably alter the exterior appearance

of the building. This method of bidding, therefore, does not require that detailed construction plans be made prior to bidding. It was on the basis of acceptance of this method of bidding and contracting that the preliminary floor layout plans were judged adequate to meet the requirements of Section 611 (a) of the FAA.

Cost Estimates - The cost estimates for the two new classroom/laboratory buildings were obtained by applying the unit square meter cost as obtained by the recent bids for the similar building under construction by IPVR with their budgetary funds to the square meter requirements of the two new buildings to be constructed with A.I.D. funds. Because the recent bid prices were less than two months old and because the buildings are similar in all respects, this was deemed adequate for cost estimating. Nevertheless, a 26 percent cost increase was added to cover inflation anticipated over the construction period. This is judged to be reasonable in light of current inflationary trends in Portugal.

The cost estimates for the animal shelters and pavillions were obtained by applying unit costs for concrete, concrete block, roofing, piping, etc. obtained from local contractors to the estimated quantities taken off the preliminary drawings. The final cost estimates appeared reasonable.

Utilities - Utilities are available at all sites. As mentioned above, a new transformer will be required at the town site to handle the higher power requirements and is expected to be in place before the end of the year. At the Experimental Farm, a new 0.5 km. long transmission line for electric power and a new transformer for the higher farm power requirements will be needed. Also, additional electrical distribution from the transformer to the various farm buildings will be required, as will additional water distribution piping. These requirements have been included in the cost estimates for the 1978 construction program. Septic tanks for sewage disposal are included in the bid prices for individual buildings.

Implementation Plant - Renovation of all the existing buildings is virtually complete and all are expected to be finished for the fall semester beginning in October, 1977. An inspection trip by USAID representatives in mid-August verified that fact.

Implementation timing showing completion dates of the various phases of the new construction is as follows:

Completion of designs	10- 1-77
Preparation of IFB	11- 1-77
Approval by A.I.D.	12- 1-77
Bids received	1-15-78
Review of bids and contract award	3-15-78
Construction completed **	8-30-78

** In time for fall 1978 semester use.

3. Engineering Conclusions:

After the August 1977 site visits by USAID staff, review of available engineering data including preliminary plans in preparation, discussion and review of bidding and contracting procedures, and discussions with the personnel responsible for the implementation of the work, it is concluded that the technical requirements of the proposed work are sufficiently well identified and designed to execute the work proposed for A.I.D. financing properly and on an orderly schedule. It is considered that the degree of engineering planning undertaken and the determination of costs are adequate to meet the applicable requirements of Section 611 (a) of the Foreign Assistance Act.

University Institute of Evora

The Setting. The Alentejo consists of vast arid rolling hills and plains between the Tejo River and the southern (Algarve) coastal strip. It is characterized by low population density rates (as low as 19 inhabitants per square kilometer) and an outmigration of about one-third of its people from 1960 to 1975. Agriculture is the significant economic activity in the region, contributing more than half of the GDP and employing more than half of the labor force; more than 80 percent of the agricultural labor force are migrant farm workers who earn approximately $4.00 per day (in 1975). This results in a situation in which the per capita income equals 75 percent of the national average. Land tenure patterns for farms are much different from other regions: the Alentejo is the land of the latifundia, many of which since 1974, have been nationalized and are now under cooperative or collective organizations of production. The Alentejo was an area of ferment after the Revolution but with the basic structural changes largely accomplished it is realized that the quest for economic gain is only beginning under the new tenure arrangements. The drop in production must be reversed if the agrarian reform is to be effective. A new law of agrarian reform was passed by the Assembly of the Republic on August 11, 1977 which sets forth the basis for future reforms. (See Annex H for further details.)

The Institute

1. Role

The University Institute of Évora (I.U.E.) is rapidly becoming the single most influential institution in this volatile agrarian reform area; its developmental impact is being achieved primarily through teaching, research, extension and community assistance. Particularly active in promoting and improving the extension outreach concept, IUE takes its role as catalyst for the Alentejo region seriously. In fact, last year, the Institute hosted the first seminar held in Portugal on rural extension. As a result rural extension is now taught at the school as an integral part of the curriculum and plans are in process with the Ministry of Agriculture to have an Extension Training Center located at Evora on the grounds of the Institute.

2.Program

The I.U.E. has undertaken a vast expansion program since its initiation in November, 1975 in terms of teaching and research personnel, facilities and students. The expansion phase will continue at least through 1979/80 when student enrollment will level off at approximately 1,000. Presently there are 318 students enrolled and 50 faculty members. Approximately 40 percent of the students are women.

Degree programs, which include the bachelors, masters (licenciatura) and doctors, are now being offered in the following specializations:

a) Animal Production
b) Rural Extension
c) Social Sciences
d) Bio-physics
e) Business Administration (with Agricultural option)
f) Social Ecology

In addition it is planned to add the following degree specialties:

a) Teachers Training (secondary)
b) Vegetable Production
c) Water and Irrigation Management
d) Aquaculture

Situated as it is in a great agricultural production region, it is understandable that the major portion of the I.U.E.'s program is concentrated on subject matters pertaining directly to agriculture and rural development in the broadest sense. Furthermore, as will be discussed below, the research, extension and community assistance activities will be aimed at the rural growth problems of the Alentejo region.

In carrying out its program the I.U.E. has established various Departments. The more important are the following:

a) Biology
b) Mathematics, Physics and Chemistry
c) Ecology - Physical and Social
d) Plant Sciences
e) Economies
f) Aquaculture
g) Animal and Plant Health
h) Sociology
i) Animal Science
j) Rural Extension
k) Rural Improvement

A.I.D. will provide assistance, pursuant to this loan, for renovation of many existing facilities, construction of new facilities and purchase of equipment. Principal renovation work will take place at the Espirito Santo building, a large 17th century structure, and at the experimental farm.

In addition, new facilities are to be constructed and equipped at the experimental farm site, for which the majority of the A.I.D. loan allocated to I.U.E. will be utilized. As more fully explained in the Engineering Analysis below, A.I.D. will finance the construction and equipping of new multi-purpose buildings for classrooms, laboratories and technology workshops and a meterological station. These facilities will be utilized by the Departments and Divisions set out above in carrying out their programs. Some of the principal current activities of the major Departments, in addition to their teaching functions, include the following:

Rural Extension - The philosophy of the I.U.E. is to use its experimental farm for purposes similar to that described for Vila Real and the Azores. That is, practical applied research will be conducted on crop and livestock problems of the area; results will be fed through the Extension Service out to farmers in the region. Extension agents will join students in classrooms and the laboratory work. New farming and cropping systems are being experimented with using wheat, forage, corn and dry land rice combinations. Such experiments will continue along with experiments of new design planting and harvesting machines. Dairy production and technology also is being researched with student participation on a nearby active dairy farm recently turned over to the IUE. Likewise, negotiations are underway with the M.A.P. for an extension training center to be built on the farm for training future extension agents or retaining agents presently employed. In addition, farm facilities are being utilized for practical training of farm mechanics and farm machinery operators and for in-service training for agricultural and irrigation technicians. The Plant Sciences Department is utilizing the farm to establish a data bank for the Alentejo region with practical information regarding soils, climates and crop rotation information. Some of this information has already been collected for the Evora District but the entire soil testing and advising service will be considerably expanded as the soils lab is constructed.

Ecology - Currently this department is planning a study of the impact of the Alqueva Dam on the ecology of the region. The study will be multidisciplinary and involve the economics and social science departments as well. It will also prepare a biophysical plan for the Alentejo to establish erosion control techniques.

Economics - This department is planning a project to establish a socio-economic data bank with reference to agriculture within the region.

Plant Sciences - This department is utilizing the experimental farm to concentrate on applied research in various cereals grown in the region - wheat, rice, sorghum, corn, oats and rye - through the selection and testing of better yielding varieties. This is important as yields have been dropping and the Institute, through research and extension, hopes to assist in reversing this trend.

Engineering Analysis

1. General Description

The IUE facilities are dispersed over three separate sites: a) A group of three buildings within the town of Evora, the most significant being the old Colégio do Espirito Santo, originally constructed in 1706; b) The experimental farm (Herdade da Mitra) located approximately ten kilometers from Evora; and c) A new site approximately four and a half kilometers from Evora in the direction of the experimental farm, which will be the site for five new combined classroom and laboratory buildings.

The group of buildings within the town have undergone renovation and remodelling to the extent necessary to accept the students enrolled for the school year beginning October 1977. Additional floor space, access areas and classrooms will be renovated and remodelled based on phased planning over the next three years as the enrollment increases and additional space is required. Because of the ancient construction of the Colegio do Espirito Santo, the building does not lend itself readily to adaptation of the rooms to laboratories. Therefore, this building (as well as the other buildings in town) will contain only the main administrative offices and classrooms for teaching basic courses not requiring laboratories. The Colegio building must be seen to be appreciated; many of the rooms, now adapted as classrooms, retain the ancient tiled murals completely circling the classroom walls, and an old chapel is retained as a national museum.

The buildings at Mitra Farm (the experimental station) are also undergoing renovation, and are expected to be ready for the school year beginning in October, 1977. Some of the more modern buildings on the farm required little renovation, and have been

easily adapted to laboratories, classrooms and an auditorium; still another building was easily converted into student dormitory space. The Conventinho Internato, an old convent building on the Mitra Farm site, required more extensive remodelling to adapt it to small apartments for visiting lecturers, as well as laboratories and study rooms for special research projects in animal physiology and nutrition. An inspection trip by USAID representatives and the Regional Engineer in August, 1977 showed that the work was progressing rapidly, and excellently, with modern, adequate lighting and plumbing being installed while at the same time retaining the beauty and character of the ancient buildings.

2. Engineering Implementation

Site Selection - Sites of all the existing facilities being renovated are, of course, fixed, but all have good drainage, reasonable access and sufficient land for the planned purpose. The new site for the five new buildings, while also fixed since the land has already been purchased and the buildings fixed in location on the site, has excellent drainage and access and sufficient land for future expansion or for experimental crop systems.

Design and Engineering Services - Since its inception, the IUE has employed one full time architect under whose direction the designs and supervision of construction of both the renovations and the new construction has been and will continue to be carried out. Particularly in the renovation work, this young architect has shown a fine appreciation for the modern utilities required for a school of this type and the ability to get the utilities installed while still maintaining the beauty and dignity of the original old buildings. The new buildings are, of course, of modern design, and since they are located on a separate site, will not architecturally or esthetically clash with any of the buildings in town or on Mitra Farm.

Construction Methods - There are no new or unusual construction methods proposed that would present problems. Renovation work utilizes construction methods and materials completely familiar to the local artisans, and is well within their capacity to undertake. New construction will utilize the building system proposed by the successful bidder, who must show a record of experience and successful use of that building system, and therefore no problems are anticipated with the new construction.

Method of Bidding and Contracting - Bidding and contracting procedures for the new construction will be the same as explained above for bidding and contracting at the IPVR, and will conform to Decree-Law No. 48871. For review of the bids and proposals, and subsequently for the recommendation for award of contract, the IUE has established a "University Grant Committee", composed of four members, of which one member is the architect employed by the Institute. For renovation work at the old building sites (for example, Conventinho Internato), contracts are also awarded to local firms, as opposed to the Institute hiring individual artisans, but renovation contracts are on the basis of unit prices only because of the difficulty in estimating final quantities, while new construction contracts are on the basis of lump sum.

Cost Estimates - Cost estimates were made on the basis of average square meter costs secured from local contractors for the type of construction contemplated. The estimated cost used was Esc. 16,600/m2 for a complete building two stories high including foundations, utilities, laboratory benches, sinks, partitions, doors, windows, roof, etc. Equivalent dollar costs are $415.00/m2 or $38.56/ft.2 These costs appear reasonable for the type building involved.

Utilities - Water supply at the site of the new construction will be by a new well. Otherwise, utilities are readily available at all sites. As a matter of interest, the water supply at the renovated Conventinho Internato will be by renovated aqueduct, originally constructed well over 300 years ago, that brings water from a subterraneam catchment in the foothills of a higher range of hills approximately 1.5 kilometers away. The aqueduct discharges water into a reservoir partly alongside and partly underneath the Conventinho, from where it will be pumped into the new distribution system. Obtaining the water from the reservoir by bucket will no longer be required.

Implementation Plan - First phase renovation of the existing buildings is well along and will be completed for the school year beginning in October, 1977. Second phase renovation work is scheduled to begin in 1978 with third and final phase renovation due to begin in 1979 or 1980 as required for build-up in student enrollment. A.I.D. financing is concerned only with the first and second phase.

For the new construction, the IFB has been issued and bids are to be received by the IUE on September 22, 1977. Implementation timing is as follows:

	Completion date
Completion of designs	Completed
Preparation of IFB	Completed
Approval by A.I.D.	
Bids received	9-22-1977
Review of bids and award contract	11-15-1977
Completion of construction **	12-31-1978

** While a shorter length of time for construction would have been preferable, Architect João Vas Martinez realizes that twice a year, at planting and at harvest, the workers must return to the fields and would not be available to the contractor at those times. Since this time represents approximately four months out of each year, a longer than usual construction period was given.

3. Engineering Conclusions

After the August site visit by Mission staff, review of engineering data including the IFB for the new construction, discussion and review of bidding and contracting procedures, and discussions with the personnel responsible for the implementation of the work, it is concluded that the technical requirements of the proposed work are sufficiently well identified and designed to execute the work proposed for A.I.D. financing properly and on an orderly schedule. It is considered that the degree of engineering planning undertaken and the determination of costs are adequate to meet the applicable requirements of Section 611(a) of the Foreign Assistance Act.

Technical Assistance

The following is an illustrative program which the Polytechnical Institute at Evora is planning to finance with its $200,000 portion of a separate technical assistance grant already signed with the GOP.

1. Library/Learning Resources/Reproduction Center expert - One U.S. Tech - 6 months - October, 1977.

Scope of work: Design, develop and train people in the operation of a Library, Resources and Reproduction Center. This individual should have a practical background in the above and could be utilized by the other two (three?) institutions,

staying in Portugal 1 year and dividing his time - should have knowledge of Portuguese, or at least Spanish.

2. One U.S. expert on Extension service and Agricultural Research - 1 year - October, 1977.

Scope of work: To help design, develop and put into practice a system methodology that will link the research activities of the Institute to the extension activities in the area. Must be experienced in farm management, soils and other aspects of agriculture. Will train counter-parts. Should speak Portuguese.

3. Agriculture and Fisheries expert - 6 months - 1978.

Scope of work: Organize a fisheries extension service, fisheries resource management and set up curriculum for an Agriculture Dept. This will be important as the Alqueva dam comes on stream.

4. Computer specialist - 6 months - October, 1977.

Scope of work: Help identify equipment and programming needs for IUE data bank program - train computer maintenance staff and design data collecting models (questionnaires).

Polytechnic Institute of Covilha

The Setting - The central,interior region around the town of Covilhã is a predominantly mountanious one, with water courses, upland areas, and plains, (such as the Cova da Beira, with its excellent soil and large irrigation potential). Despite relatively low productivity, agriculture is the main economic pursuit, contributing one-third of the GDP and one-half of employment; manufacturing accounts for 28 percent of the output and nearly 20 percent of employment (eighty percent of manufacturing enterprises employ less than 20 people). The area is the main industrial center of wool production in Portugal, yielding some 30 percent of its national wool output. High unemployment and a shrinking labor demand has resulted in heavy outmigration; population has declined some 10 percent since 1970, with density currently at 30 inhabitants per square kilometer. (See Annex I for further details.)

1. The Role

The Polytechnical Institute of Covilhã (I.P.C.) was officially created in 1971 but did not start functioning until early in 1975. Similar to the other Institutes being assisted pursuant to the A.I.D. loan, the I.P.C. was created to address the needs of its area of influence. More specifically its initial emphasis is to provide training to fill manpower needs in the textile industry which, through 100 small and medium sized businesses, employs approximately 10,000 people in Covilhã. In addition, it will make an impact on the lack of secondary school teachers in the region through the training of physics, chemistry and mathematics teachers. It also intends to make an impact in agricultural training to service the basically small farm holdings of the area.

This role for the Institute is based on a manpower survey of the region for the time-period 1978-1982 which includes the most important development programs planned such as the creation of an industrial park in Covilhã, construction of an irrigation network and development of irrigated fields in Cova da Beira, and the modernization of the wool industry in Covilhã.

To fulfill existing needs and to cover these programs it has been estimated that 280 accountants, managers and textile engineers will be needed. With regard to secondary education the survey estimated that 320 additional teachers will be

required to teach Physics, Chemistry and Mathematics in schools located in the area of influence of Covilhã. These needs will also absorb the graduates of I.P.C. without difficulty.

2. The Program

The program of the I.P.C. is based on three concepts:

a) The creation of courses of a technological subject matter and others of interest for the development of the region;

b) Establishment of applied research directly connected with local activities;

c) Assistance to the local community through cultural extension to raise the quality of life and rural extension to increase primary sector productivity.

In carrying out its program the I.P.C. has a realistic phased expansion scheme in consideration of the overall lack of budgetary funds and available teaching staff.

Its first priority, given the industrial nature of its immediate area and the needs of the many small textile mills and other firms, has been the establishment of programs in Textile Engineering and Administration and Accounting which were initiated in the 1974/75 academic year. Beginning in the 1976/77 year degree programs in teacher training for physics, chemistry and mathematics were established. Numbers of students enrolled in these courses are as follows:

	1974/75	1975/76	1976/77
Textile Engineering	57	79	61
Accounting and Business Administration	86	105	123
Teacher Training - Chemistry and Physics	-	-	17
Teachers Training - Mathematics	-	-	34
Total	143	184	245

With specific regard to Textile Engineering several areas of specialization are provided including spinning and weaving, dyeing and finishing and mechanics of textile machinery. In addition, short courses are being planned to permit textile workers to upgrade themselves professionally.

With regard to the student population, females represent 36 percent of the student body. The faculty numbers approximately 60 of which 15 are female. In addition, there are 40 employees consisting of technicians, administrative, general service and office personnel.

A.I.D. loan funds will be utilized by the I.P.C. to pay for renovation of existing facilities and construction of new facilities for classrooms and laboratories, the purchase of lab equipment and the purchase of vehicles to provide student transportation. In addition, under the technical assistance grant A.I.D. will fund a variety of long and short-term technical assistance and provide for short-term visits of I.P.C. staff to relevant institutions in the United States. The technical assistance plan is discussed in greater detail below.

Future plans of the I.P.C. include the establishment of a rural extension center, the development of courses in tourism industry, creation of a textile museum and establishment of a cooperative program with Vila Real (I.P.V.R.) in the training of technicians in agricultural and animal sciences.

The overall plan is to have an operating set of facilities for up to 1,200 students by 1985 with some 600 programmed by 1980 at which time the teaching staff would reach 80.

Technical Analysis

1. General Description

The Polytechnic Institute of Covilhã will be centered in two large buildings within the town of Covilhã. The buildings were constructed in four expansion phases; the first phase begun in 1973 and the other phases at one year intervals thereafter. Phase one constructed half of building I and it is completed; phase II begun half of building II and it will be completed in September 1978. Phase III work is underway on the second half of building I and Phase IV work began recently on the remaining half of building II. Although the two buildings (referred to as Main Campus) are separated by a well travelled road, they are connected by an overhead pedestrian bridge at the second floor level.

Phase I work was for 7 classrooms, 2 laboratories and auxilliary offices, although some of the classroom space is presently being used for administrative offices until the completion of Building II. Phase II work is to eventually house the Directors and administrative offices, staff offices, 16 classrooms, library and amphitheatre. Phase III work will be on the textile laboratories and workshops, and Phase IV will construct the physics and chemistry laboratories, additional staff offices, archives and health center. Suitable rest rooms,

and other necessary facilities are provided throughout the complex.

Located approximately 20 kilometers from Covilhã is the Institute's experimental farm "Quinta da Lageosa". No construction is planned at the farm at this time. Future plans of the Institute include acquiring a nearby building from another institute for a student residence hall and a cultural extension center, as well as acquiring another old set of buildings for a textile museum; in addition, the Institute intends to create a rural extension center at the experimental farm to work in co-operation with the IPVR in training courses, research and demonstration exercises for agriculture and livestock improvement.

Engineering Implementation

Site selection - All the buildings of the Main Campus are under construction and therefore the site is fixed. However, the site is considered quite adequate for the intended use.

Design and Engineering Services - The entire design work has been done by the Grupo de Planeamento e Arquitectura (DPA), a Portuguese planning and architectural firm. A review of all the plans for all four construction phases in Lisbon by the Regional Engineer indicate they are exceptionally complete, well conceived and professionally executed.

Construction methods - A review of the architectural drawings indicated that the construction methods to be used are conventional for Portugal and no new or unusual construction methods are being employed that would present problems.

Utilities - All utilities are readily available to the site, as the site is within the town limits of Covilhã.

Construction costs - On the basis of work already completed or bid and contracted for, the average unit construction cost is Esc. 7,561/m2 (US $188/m2 or $17.50/ft2). These construction costs compare very favorably with estimated unit costs from other areas for similar type construction. Total cost for the 16,400 m2 of construction (including cost of design by GPA) will be approximately Esc. 124,860 contos (US equivalent $3,121,500) of which A.I.D. will reimburse the Institute $1,117,475.

Implementation Plan - Because all of the works to be financed on a reimbursable basis by A.I.D. are underway, it is sufficient to say that much of the Phase III construction work is expected to be completed by December, 1977, with Phase II scheduled for completion in September, 1978 and Phase IV scheduled for completion in July, 1979. All work began subsequent to January 1, 1977.

Engineering Conclusions

After review of final engineering plans and designs and other engineering data available, review of cost estimates, and discussions with the personnel responsible for the implementation of the work, it is concluded that the technical requirements of the proposed work are sufficiently well designed to execute the work on an orderly schedule. It is considered that the degree of engineering planning undertaken and the determination of costs are adequate to meet the applicable requirements of Section 611(a) of the Foreign Assistance Act.

Technical Assistance

The following is an illustrative program which the Polytechnical Institute at Covilhã is planning to finance with its $200,000 portion of a separate grant package already signed with the GOP.

1. Textile Chemical Engineer - 6 months - September, 1977 - February, 1978.

   Scope of work: Help design and develop a program in textile chemistry - train assistants and do some teaching.

2. Textile Dyeing Engineer - 6 months Sept. 1977 - February, 1978.
   Scope of work : Help design and develop a program in Textile Dyeing-Train assistants and do some teaching.

3. Planning Economist - 6 months - February/July, 1978
   Scope of work: Design and develop course curriculum, teach and train departmental assistants who will later go to States to work under him for training period.

4. U.S. Professor - Small Business Administration and Management - 6 months - February/July 1978 - should also have knowledge of farm record keeping and accounting - (might possibly have to be two separate individuals).
   Scope of work : Design and develop curriculum, teach and train assistants who will later go to States for short term training.

AZORES

DESCRIPTION	YEARS T1 1977	T2 1978	T3 1979	T4 1980	Beginning Date	End Date
Island of San Miguel Conversion of Existing Building.						
1. Remodeling of existing building for Technical Installation of Cattle Breeding.	50,000				Jan. 77	Dec. 1977
New Construction						
1. Construction of hot-houses for Experimental Farm of Production Unit of Horti-Fruti-Flower-Culture.		60.,000			Feb. 78	Dec. 1978
2. Dormitory remodeling, fencing, road, and electricity at demonstration farm.		40,000			Jan. 78	Dec. 1978
3. Construction of stable and attached building for Milk Production Unit.		65,000			Jan. 78	Dec. 1978
4. Construction of facilities for swine Production Unit.		80,000			Jan. 78	Dec. 1978
To be carried over	50,000	245,000				

DESCRIPTION	YEARS T1 1977	T2 1978	T3 1979	T4 1980	Beginning Date	End Date
Carried Over	50,000	245,000				
5. Construction of stalls for bulls, picking hall, washing and sterilization lab., Technology lab., warehouse, additional halls, for Physiopathology Unit of Reproduction.		30,000			Jan. 78	Dec. 1978
Equipment						
1.						
1. Benches, tables, chairs, shelves, desks and stools, for Biochemistry, Nutrition, Soils Animal and Plant Hygiene Laboratory.	50,000					
2. Plant material for Experimental Farm of Production Unit of Horti-Fruti-Flower Culture.		75,000			Jan. 78	Dec. 78
To be carried over	100,000	350,000				

DESCRIPTION	YEARS T1 1977	T2 1978	T3 1979	T4 1980	Beginning Date	End Date
Carried over	100,000	350,000				
3. Audiovisual material for Training Center of Extension Agents.		12,500			Jan. 78	Dec. 78
4. Mechanical Milking, pasteurization, refrigeration, etc. for Milk Production Unit.	75,000				Jan. 78	Dec. 78
5. Tractors, agricultural implements, sowing machines, etc. (list Proj.2), for Experimental Farm .	65,000				Jan. 78	Dec. 78
6. Equipment as (list to Proj. 3,) for Physiopathology Unit of Reproduction		42,500			Jan. 78	Dec. 78
To be carried over	240,000	405,000				

DESCRIPTION	YEARS T1 1977	T2 1978	T3 1979	T4 1980	Beginning Date	End Date
Carried over	240,000	405,000				
7. Equipment (list to Proj.5) for Support to Rural Extension Service.	140,000				Jan. 78	Dec. 78
8. Vehicles, 1 Truck, 1 Jeep, 1 pick-up to experimental Farm (Pr.2)		25,000			Jan. 78	Dec. 78
9. Seven vehicles for support to Proj. 5 to Rural Extention Service	42,500				Jan. 78	Dec. 78
Isl. of Horta - Conversion of Existing Building.						
1. Remodeling of existing building for installation of Oceanography and Fisheries Laboratories.	12,500	137,500			July 77	Dec. 78
Equipment						
Equipment for marine biology laboratory.	112,500				Jan. 78	Dec. 78
To be carried over	547,500	567,500				

DESCRIPTION	YEARS T1 1977	T2 1978	T3 1979	T4 1980	Beginning Date	End Date
Carried over	547,500	567,500				
Isl. of San Miguel (Ponta Delgada) Improvement and New Construction.						
1. Improve the main building with ventilation and roofing.	7,500				Jan. 77	Nov 1977
2. Remodel Class-rooms.	137,500				Jan. 77	Dec 1977
3. Preliminary design of Science, Education and Administration Accountancy and Library Dept.	17,500				Jan. 77	Dec 1977
4. Construction of/Ecology Lab. Applied		106,250			Nov. 77	Dec 1978
Equipment						
1. Equipment for Applied Ecology Lab (Proj. 6.) (Microscopes, scales, installed equipment).		75,000			Jan. 78	Dec. 1978
2. Furniture and Audio visual equipment.	20,000	21,250			Jan. 78	Dec. 1978
Administration Totals:U.S.$	730,000	770,000	Total in US$ 1,500,000 ($ 1,5 million)			

COVILHÃ - IPC (2nd page)

(US Dollars)

Description	YEARS			Beginning Date	Ending Date
	1977	1978	Total		
Brought forward	791,800	516,925	1,308,725		
2. EQUIPMENT					
2.1. Textile laboratory in the Main Campus	14,325		14,325	Sept 77	
2.2. Physics laboratory in the Main Campus	75,700		75,700	Sept 77	
2.3. Chemistry laboratory in the Main Campus	43,700		43,700	Sept 77	
2.4. Reproduction Centres in the Administration Building - Main Campus	25,000		25,000	Sept 77	
2.5. Office and classroom equipment for Administration Building - Main Campus	32,550		32,550		
SUB TOTAL	191,275		191,275		
GRAND TOTAL	983,075	516,925	1,500,000		

COVILHA -IPC

(U.S. Dollars)

DESCRIPTION	YEARS			Beginning Date	Ending Date
	1977	1978	Total		
1. CONSTRUCTION					
1.1. Construction of Library, Gen. Admin. Bldg. Classrooms for Accounting (II Phase) - Main Campus	125,000		125,000	Jul 77	Sept 78
1.2. New Construction of Labs and workshops (III Phase) Main campus	112,500		112,500	Jan 77	Dec 77
1.3. Installation of electrical system in labs & clasrooms (III Phase) - Main Campus	73,050		73,050	Jan 77	Dec 77
1.4. Install sewer in technical boilers (III Phase)- Main Campus	90,000		90,000	Jan 77	Dec 77
1.5. Construction of supporting wall (III Phase)- Main campus. Support North side.	75,000		75,000	Aug 77	Dec 77
1.6 New construction for physics and chemistry labs & offices for professors - Main campus (Phase IV)	125,000	516,925	641,925	Jun 77	Jul 79
1.7. Study of Projects: Elaborate architecture & Engineering Design - Main Cam Pus	35,000		35,000	March 77	
1.8. Remodelling of student Center - Residences	156,250		156,250	Jul 77	Dec 77
Sub Total (to be carried forward)	791,800	516,925	1,308,725		

E V O R A

U.S. Dollars

Description	YEAR			Beginning Date	Ending Date
	1977	1978	TOTAL		
1- CONSTRUCTION					
1.1. Conversion of existing buildings for Administration services	12,500		12,500	Jan.77	Dec. 77
1.2. Remodelling of Expirito Santo College for physics, math, soils, biology, chemistry classrooms ..	25,000		25,000	Jan.77	Dec.77
1.3. Remodelling of Conventinho Internato and others (Mitra) for offices, animal science, plant physiology and animal nutrition labs, etc.	72,500		72,500	Jan.77	Dec.77
1.4. Construction of the Meteorology Station (Mitra).....	3,750		3,750	July 77	Dec. 77
1.5. Construction of multipurpose buildings for classrooms, labs and technology workshops	250,000	500,000	750,000	November 77	Dec. 78
1.6. Remodelling of "Soares" building for main library	-	150,000	150,000	February 78	Dec. 78
SUB TOTAL (To be carried forward)	363,750	650,000	1,013,750		

EVORA (2nd page)

U:S: Dollars

Description	YEAR			Beginning Date	Ending Date
	1977	1978	TOTAL		
Brought forward	363,750	650,000	1,013,750		
2 - EQUIPMENT					
2.1. Educational equipment for students and staff	25,000		25,000		
2.2. Office equipment and drawing classroom	7,500	7,500	15,000		
2.3. Soil testing lab equipment	172,500		172,500		
2.4. Copying equipment.....	27,500		27,500		
2.5. Lab and technology work-shops	75,000	117,500	192,500		
2.6. Agriculture machinery for teaching		20,000	20,000		
2.7. Library equipment		33,750	33,750		
SUB TOTAL	307,500	178,750	986,250		
GRAND TOTAL	671,250	828,750	1,500,000		

IPVR (Vila Real) ANNUAL PLANNED INVESTMENT AND OPERATING COSTS TO BE SUBMITTED TO USAID FINANCING
(U.S. DOLLARS)

DESCRIPTION	YEARS T1 1977	T2 1978	T3 1979	T4 1980	Beginning Date	End Date
A. Development of I.P.V.R.						
1. General remodelling of Administrative Building and facilities.		221,250			Jan. 77	Dec. 77
2. Administrative Support Equipment Office furniture, supplies and vehicles.	58,375	162,500				
3. Audio-visual and learning materials for library	45,250	27,500				
B. 1-Experimental Farm						
1.1 - Remodel the existing building and warehouse, barns and worksheds		21,750			Mar. 77	April 1978
1.2. - Repair walls, terracing of existing utilities of entire farm		12,750			July 77	December 1978
1.3. - Repair and pave roads		19,500			Nov. 77	" "
1.4. - Install a water system, for human, animal and laboratories utilities		24,750			Jan. 78	August 1978
1.5. - Install a sewer system		40,000			Jan. 78	August 1978
1.6. - Construction of 3 pre-fabricated classrooms		87,500				April 1978
1.7. - Workshop for farm equipment.		62,500				April 1978
To be carried over...	103,625	680,000				

I.P.V.R. (Vila Real) ANNUAL PLANNED INVESTMENT AND OPERATING COSTS TO BE SUBMITTED TO USAID FINANCING

(U.S. DOLLARS)

DESCRIPTION	YEARS				Beginning Date	End Date
	T1 1977	T2 1978	T3 1979	T4 1980		
Carried over.....	103,625	680,000				
B. 2 - General Equipment						
2.1.-Install electrical system transformer at farm		37,500				
2.2.-Vehicle (bus) for transportation		25,000				
2.3.- Furniture for offices and classrooms		100,000				
2.4. - Fire equipment	6,750					
2.5. - Vehicles (2 small cars & 1 pick-up), for supervision	18,750					
C. Library Equipment and Supplies						
1 - Cameras & duplicator w/material	22,750		27,500			
2 - Audio-visual and learning - aid material	13,625					
3 - Educational Materials (books, pamphlets and maps)	16,000					
4 - Office and Library furniture	2,875					
C. Furniture						
1 - Classroom furniture	33,875					

I.P.V.R. (Vila Real) ANNUAL PLANNED INVESTMENT AND OPERATING COSTS TO BE SUBMITTED TO USAID FINANCING

(U.S. DOLLARS)

DESCRIPTION	YEARS				Beginning Date	End Date
	T1 1977	T2 1978	T3 1979	T4 1980		
D.1. Specialized Equipment for Research and Teaching						
1 - Soil testing for determining fertilizer needs	88,250	75,000				
D.2.- Technical Assistance and Training						
1. External: soils and fertilizer technician	1 year					
2. External: Staff/Faculty members		1/2 year				
* - U.S. (except for $12,500 from Portugal)						
* + - Origin U.S. & Portugal						
+ - Origin Portugal						
E. 1 - Animal Production: Construction						
1. - Nutrition: Barns, stable	5,000					September 1977
2. - Animal husbandry cattle: barns, stable	37,500					July 1978
3. - Sheep: Barns, stable	12,500					February 1978
4. - Nutrition: Labs		250,000				June 1978
5. - Physiology: Swine, rabbits, poultry: housing	43,750					June 1978

I.P.V.R. (Vila Real) ANNUAL PLANNED INVESTMENT AND OPERATING COSTS TO BE SUBMITTED TO USAID FINANCING
(U.S. DOLLARS)

DESCRIPTION	YEARS				Totals	End Date
	T1 1977	T2 1978	T3 1979	T4 1980		
2 - Animal Husbandry: Equipment						
1. Nutrition: labs	23,625					
2. Artificial lab. insemination	15,625					
3. Animal Husbandry Balances	11,250					
4. Cows, sheep	2,625					
	458,375	1,167,500			$1,625,875 (A.I.D. financing up to $1,500,000 Balance to GOP)	

B. Financial Plan

The A.I.D. loan for $6 million forms part of the physical expansion of the four Institutes. In accordance with the request of the Ministry of Education (M.E.I.C.) the loan is to be divided equally among the four Institutes, each to receive $1.5 million of the A.I.D. funds.

The various construction and equipment elements to be paid for pursuant to the $6 million loan have been specified in detail and are broken out in tables as set forth herein. Detailed equipment lists have been prepared to back up the equipment summaries and are on file at USAID/Lisbon. Although some specific equipment items may change the list is reasonably firm.

The construction elements have been discussed above under the Engineering Analysis and all preliminary plans, and some final plans, have been reviewed to obtain a reasonably firm estimate of costs. All work for which A.I.D. loan funds will be used was begun after January 1, 1977. Retroactive financing under the A.I.D. loan was authorized to this date by STATE 028539.

The bulk of assistance to the various Institutes is being, and will continue to be, provided by the Government of Portugal through its yearly budget contributions through the Ministry of Education. The education sector in general is receiving increased priority from the GOP as measured by its budgetary increases. For instance, the proportion of the education budget to the total budget increased from 11.4% percent to 20% percent in 1976.

With specific regard to the Institutes to receive assistance under the loan, budgetary support from the GOP has been increasing year by year as set out on page . It should be noted that the amounts for 1978 are those requested by each Institute and do not reflect approved budgets as the 1978 budget is still under consideration by the GOP. It is approved in February of each calendar year.

The A.I.D. loan fits into the continuing expansion program of the various Institutes. Although the general overall scheme for each Institute is well defined, the specific elements may be modified and the pace of the overall development determined by the amount of budgetary resources available and the recruitment of teaching personnel. Thus, it cannot be said that there is a specific total project cost which will determine overall project completion as in, for example, a road construction project.

The Institutes are operating now with varying degrees of success and new investment capital provides a larger base for the teaching, research and extension programs.

We are satisfied that, in determining the expansion program, the most critical elements have been given priority and the sequencing of the various construction and equipment elements are rational.

A certain level of operating costs must be provided each year, however, to assure proper utilization and maintenance of all physical facilities. The GOP has been providing adequate budget amounts for this purpose and is expected to continue doing so in the future.

A budgetary table follows on the next page for CY 1977 and CY 1978 investment and operational projections.

OVERALL FINANCIAL PLAN AND DISBURSEMENT PROJECTIONS

Institute	CY1977 AID LC	CY1977 AID FX	CY1977 GOP LC	CY1977 GOP FX	CY1978 AID LC	CY1978 AID FX	CY1978 GOP* LC	CY1978 GOP* FX	CY1979 AID LC	CY1979 AID FX	CY1979 GOP LC	CY1979 GOP FX
Azores												
Construction	225,000		100,000		318,750		385,100		200,000		200,000	
Equipment	53,500				275,875	151,500			200,000	75,375		
Operations			1,092,500				1,155,325				1,000,000	
Evora												
Construction	363,750				450,000		275,500		200,000		200,000	
Equipment	115,250				125,125	100,000			53,625	92,250		
Operations			762,825				772,500				800,000	
Vila Real												
Construction	98,750		142,500		414,125		532,031		200,000		300,000	
Equipment	51,735				299,250	228,250			100,000	107,890		
Operations			906,725				1,596,094				1,500,000	
Covilha												
Construction	391,800				516,925		299,800		400,000		100,000	
Equipment	33,895				25,000	41,000			25,000	57,380		
Operations			704,525				689,475				700,000	
Subtotals												
Construction**	1,079,300		242,500		1,699,800		1,492,431		1,000,000		800,000	
Equipment	254,380				725,250	520,750			378,625	332,895		
Operations			3,466,575				4,213,394				4,000,000	
TOTALS	1,333,680		3,709,075		2,425,050	520,750	5,705,825		1,378,625	332,895	4,800,000	

A.I.D.		G.O.P.	
LC 1977	1,333,680	LC 1977	3,709,075
FX 1977	0	LC 1978	5,709,075
LC 1978	2,425,050	LC 1979	4,800,000
FX 1978	520,750	Total	14,214,900
LC 1979	1,387,625		
FX 1979	332,895		
Total	6,000,000		

*1978 and 1979 figures provisional. Based on amounts submitted to MEIC by the Institutes for 78 budgetary request.
**Total of $1 million (estimated $250,000 per Institute) for land as part of GOP contribution not included in this table.

BUDGETARY HISTORY

VILA REAL - TOTAL

	Port. Escudos (1,000)	US $
1974	6,000	236,126
1975	24,323	956,093
1976	33,451	1,115,033
1977	41,969	1,049,225
1978	85,125 (1)	2,128,125 (1)

EVORA - TOTAL

	Port. Escudos (1,000)	US $
1974	11,864	466,903
1975	25,023	983,608
1976	25,433	847,767
1977	30,513	762,825
1978	41,200 (1)	1,030,000 (1)

COVILHÃ - TOTAL

	Port. Escudos (1,000)	US $
1974	181	7,123
1975	13,465	529,285
1976	26,815	893,833
1977	28,181	704,525
1978	36,771 (1)	919,275 (1)

AÇORES - TOTAL

	Port. Escudos (1,000)	US $
1976	14,000	466,667
1977	47,700	1,192,500
1978	61,617 (1)	1,540,425 (1)

(1) Provisional. It is the proposal for operating expenditure submitted by the Institutes to D.G.E.S. (MEIC)

Note : Exchange rates used 1 US$ = 1974 - 25.41
1975 - 25.44
1976 - 30.00
1977 - 40.00
1978 - 40.00

Source : World Bank Report.

C. Economic Analysis

It is not practicable to attempt a quantification of streams of benefits arising from the project, but there is a significant number of beneficial economic effects which will come about as a result of the project activities.

1. Secondary teachers will be trained to make better use of educational materials and facilities. The return to the education sector from investments made in personnel and facilities will be sizeable.

2. Graduates of the Institutes will fill important middle level manpower gaps in the agricultural, industrial and education sectors in the areas of influence of the Institutes. This should have relatively rapid productivity gains in these sectors once graduates begin to enter the labor market.

3. The research and extension components of the project should have increasing relevance to the various economic, as well as social, problems which now impede the growth process in these relatively disadvantaged areas of the country. Research is designed to be of a practical nature and to focus on specific problems faced in each of the regions. The various research programs discussed above in the context of each Institute is an indicator of this statement. Furthermore, the tie-in that three of the Institutes are planning with the Extension Service of M.A.P. is a practical mechanism to translate research results into an extension outreach. Such services to farmers as soils analyses done at the new soils laboratories will begin at once and should lead to better growing practices and higher crop yields. Not to be taken lightly either are the in-service training programs, both planned and on-going, to directly upgrade the skills of a variety of people including technicians, farmers and industrial workers.

Finally, the rectification of the past neglect of rural areas should be taken into consideration as an important economic goal. By locating the Institutes in the relatively less developed regions of the country the strategy is to attract economic factors of production to the interior regions and redress the imbalance between them and the large urban areas of Lisbon and Porto. This project is an integral part of a rural development strategy - together with other A.I.D. financed secondary education, basic sanitation, housing and health center programs - which, we believe, will contribute to stemming the rural to urban migration. In economic terms this project is one element in a joint Portuguese-United States scheme to dynamize the rural sector and provide it the means to enjoy the benefits of balanced national growth.

D. Social Analysis

This project intrinsically has strong social overtones and will deliver important social benefits to the areas of influence of each Institute.

First, the needs for improved teacher training at the secondary level has been singled out by the GOP and in World Bank analyses as one of the major weaknesses of the education sector; improving the qualifications and skills of secondary teachers is being addressed with urgency by the GOP through diverse means including training at the four Institutes participating in this project. There is perhaps no single channel through which the young can achieve fuller social gains in life than being exposed to good schooling. This loan will expand and improve facilities in each Institute to train and retrain secondary teachers on an accelerated basis to raise the quality of secondary education in the respective regions. Training teachers "in loco" as can be done at these Institutes will permit course content to be tailored to the local social customs and needs of the areas.

Second, for the rural workers, farmers and families, the presence of a nearby research and outreach mechanism developing useful, relevant information to improve crop yields will be important to increasing returns to labor input and result in a greater social equity. Increased return to small farms, or farm workers in cooperatives can break the poverty cycle. Children of families so benefitting will be better clothed, housed, fed and will have a chance to grow up in an improved quality of living.

Third, students attending these Institutes and gaining practical, remunerative education will become productive members of society; they will be equipped to bring about changes in their towns, villages and family farms which before they felt helpless to change. Nothing is so important to maintaining an individual's dignity than achieving real identity as a useful member of his local society. Many students would not have been able to enter the crowded universities of Lisbon or afford living in the major cities - these Institutes open new avenues for higher learning. Students studying in or near their own homelands should identify more closely with the desire to being about changes and look at their homelands as areas of promise rather than areas to be abandoned for the cities in search of a future.

Fourth, the women of these regions are participating fully in schooling and are ambitious to take part in a changing society. Young women make up about 30% of enrollments and for those who could not either afford to move to the major cities or who would not be permitted to do so alone by their families now find a solution in these regional Institutes.

In sum, these Institutes were created to bring about social and economic improvements in the regions - they have started the process and now are well on their way to fulfilling the missions.

E. Women in Development

The role of women in this project can be addressed on various levels.

The present Portuguese Government has given a new impetus to professional women playing a strong role in Portugal's economic development. Most secondary school teachers are women; increasing numbers are entering universities; considerably more occupy positions within the GOP.

Women are now joining the facilities and staff of the Institutes assisted under this project in ever increasing numbers. For example, in Vila Real, six women professors have been added to the academic faculty of 34, plus six technicians, 15 administrative, 21 repair and farm workers, 3 drivers to bring the total up to 51 women out of a total of 133. Furthermore, about thirty percent of the student enrollment at the institutions are now women in a country which heretofore emphasized educating males. According to the Institutes themselves, the trend is toward increasing numbers of female students in enrollment applications.

In Covilha, the trend is even more accelerated with 15 of the total academic faculty being women and 36% of the student body. There are an additional forty female employees consisting of technicians, administrative, general service and office personnel. In the case of Evora 10 individuals of the 50 member faculty and 40% of the students are women.

As for future employment for the female graduates of the Institutes, the extension service of the Ministry of Agriculture plans to hire approximately 1,000 new agents per year over the next four years. Nearly half of these agents will be women in keeping with the plan of having one male and one female agent work as a team in the rural areas. In addition all of the Institutes plan to train their own laboratory and research technicians from the ranks of their

brighter graduates. Obviously many of these future technicians will be women. The A.I.D. Mission in Lisbon has emphasized the importance of utilizing women with the Ministry of Education and with the Institutes themselves.

In the case of the Covilha Institute, which emphasizes the training of textile technologists and secondary teachers in the basic sciences, the employment of women in the sector should increase from the 36% female students presently being trained. Covilha also plans to give short courses to technically up-grade workers already in the textile mills. Most of these workers are women.

Lastly, women have traditionally worked in the fields or been employed on the farms in Portugal. They will benefit, as will the men, from the higher incomes and return to labor expected to result from the project.

PART IV - Implementation Arrangements

A. Administrative Arrangements - The Ministry of Education (MEIC) will be in charge of the administration of the loan and will be the point of coordination with USAID/Lisbon to the four Institutes. A commission was estalbished in March 1977 to prepare this project with USAID/Lisbon and is charged with implementation responsibility within MEIC for the project. The Commission consists of two agricultural economists and one engineer under the supervision of the Chief of Cabinet of the Secretary of State for Education.

However, each Institute will be responsible for the preparation of final plans, specifications and equipment lists, bidding and award of contracts; the Institutes will also be responsible for construction supervision and installation of equipment, with monitoring by MEIC and A.I.D.

We believe that these arrangements are quite good and that all parties including the Institutes can carry out their tasks adequately. This is based on the Institutes' experiences of the past two years in renovation, construction and equipping of their facilities.

Field visits by MEIC and A.I.D. staff have confirmed the capabilities of the Institutes to carry out their expansion programs.

A.I.D. will monitor the project through site visits ~~and make~~ USAID's local hire engineer supplemented by TDY visits by the Regional Engineer, John Neave, who is fully acquainted with the technical aspects of the project.

B. Financial Arrangements - A.I.D. disbursements will be utilized for both the dollar and local costs of the expansion programs of each of the Institutes, including construction and equipment costs.

As A.I.D. will pay for eligible costs undertaken since January 1, 1977 there will be a reimbursement shortly after conditions precedent are met to pay for renovation and construction work as well as equipment for which expenses were incurred after January 1.

C. Evaluation Plan

In addition to normal project monitoring, an evaluation of the project will be conducted at the end of calendar year 1978 (or possibly early 1979) to determine if the outputs anticipated from the project and the project purpose are being achieved. Earlier evaluations are not considered appropriate as the Institutes will only have graduated their first classes by June 1978 and the destination and ultimate disposition and employment of these graduates cannot be observed until the end of CY 1978. Given the anticipated phase-down of the USAID/Lisbon staff over 1978-1979 plus the specialized nature of the project, the evaluation may have to be conducted by TDY personnel from AID/W.

Among the more important questions to be examined during the evaluation will be the following:

1. Are facilities in place and operating as planned.

2. Are the secondary teachers trained and occupying (or returning to) positions in regional secondary schools.

3. Has their training measurably improved their ability to impart to students a higher quality secondary education (this would be non-quantitative and based on personal interviews or survey questionaires.)

4. Has there been a close and productive relationship maintained with the agricultural extension service and are the extension agents trained (or recycled) appropriately located at extension posts in the region. In effect, are the Institutes having the desired effect on upgrading the quality of extension service being provided to the regional rural populations.

5. Are the extension agents obtaining useful, relevant information on a continuing basis from the research conducted at the Institutes experimental farms and laboratories.

D. Waiver Request

Vehicles purchased under this loan will be procured in Portugal where they are assembled. A waiver of normal A.I.D. procurement regulations is hereby requested to make such vehicle purchases in Portugal on the grounds that vehicles imported from the U.S. would not have either experienced mechanics nor spare parts in Portugal and could therefore not be maintained properly. Cars and vans assembled in Portugal by Ford and General Motors are not models manufactured by these companies in the U.S. They are models designed for European sales and the component parts are manufactured in England and Germany and shipped to Portugal for assembly. The vehicles to be purchased are almost exclusively service vehicles like Jeeps, small vans, passenger buses, etc., and possibly tractors and motorized farm machinery. Specifically the vehicles anticipated to be required will be:

2 - small passenger busses (Vila Real)
7 - jeep-type or service van (Azores)
1 - truck (Azores)
2 - small passenger van (Azores)
1 - pick-up truck

In the aggregate these vehicle purchases are not expected to exceed $250,000.

E. Procurement of Shelf Items

1. The Administrator's Memorandum for Members of S.O.G. dated January 21, 1977 set forth policies applicable to local currency procurement of shelf items and stated:

> Imported shelf items having their source and origin in countries included in Code 899, but not in Code 941, are eligible for financing as local costs if the unit price of such goods does not exceed $2,500 and if the total of such does not exceed 10 percent of the total local costs financed by A.I.D. for the project, or $10,000, whichever is higher.

It is understood that this policy pertains to project financing not under FAR rules.

2. While FAR procedures will be followed for all construction and remodeling costs forseen under the project, the local currency equipment procurement portion of the loan will be on actual cost reimbursement basis and thus non-FAR.

It is estimated that the total value of shelf items of equipment procured with loan funds will be $1,358,255. The 10 percent ruling would limit this procurement to $514,635.

3. Furthermore, the $2,500 limit on the unit price of goods would prevent procuring certain pieces of equipment needed for the experimental farms. These items include animal inseminators, milk analyzing equipment and others which would cost in the neighborhood of $ per unit.

4. Consequently, authorization is requested to (1) increase the 10 percent limit to 27 percent to allow the $1,358,255 value of shelf procurement to be made and (2) increase the per unit cost limit to $ in order to accomplish the objectives of the project.

INITIAL ENVIRONMENTAL EXAMINATION

Project Location: Three sites in Portugal
(Vila Real, Covilhã and Evora)
Three islands in the Açores
(Terceira, Faial and San Miguel)

Project Title:

Funding: FY77 - $6,000,000

Life of Project: 2 years

IEE Prepared by: John W. Neave, Regional Engineer 8-18-77

Environmental Action Recommended:

Negative Determination

Concurrence: Charles A Buchanan Jr Date 8-19-77
Charles A. Buchanan Jr
Acting AID Representative

Assistant Administrator's Decision: Date_____

Approval:_____

Disapproval:_____

I. Examination of Nature, Scope and Magnitude of Environmental Impacts

Description of Project

The project consists of assisting the Government of Portugal construct the physical facilities and supply laboratory and training equipment for two University Institutes and two Polytechnical Institutes for training secondary school teachers, agricultural farm extension workers and other mid-level technological workers. The Institutes will also be involved in research in the areas of animal production, animal health, forestry, soils, textile manufacture and fish production from the ocean. The University Institutes are located at Evora, in the south central (Alentejo) region of Portugal, and in the Açores. In the Açores, there are three branches of the Institute, one located on the island of Terceira, one on the island of Faial, and the third on the island of San Miguel. The Polytechnical Institutes are located at Vila Real in the central northern region of Portugal, and at Covilha just north of the center of the country.

Wherever possible, existing buildings no longer needed by the government or the military have been turned over to the Institutes for their use, budgeted funds being given by the Government and augmented by A.I.D. for the renovation of the buildings to the new use. The two most remarkable buildings so obtained by the Institutes are an ex-military hospital in the Açores and a former secondary school (and before that use, a monastary) in Evora.

New construction, therefore, has been kept to a minimum. The following table gives the area covered by new construction in each location.

TABLE I

Areas of New Construction

Location	Areas in Square Meters	Purpose
Açores, Terceira, Demonstration Farm	1,751	Farm buildings for swine production and dairy complex
Açores, Terceira Main campus	670	Greenhouses
Açores, Faial	300	Oceanography laboratory
Açores, San Miguel	330	Ecology laboratory
Vila Real Demonstration Farm	925	Classrooms, Laboratories
Vila Real Demonstration Farm	1,000	Farm buildings for animal husbandry
Covilhã	9,200	Classrooms, laboratories
Evora	4,500	Classrooms, laboratories

Environmental Setting

Terceira, Açores: The main campus is composed of an ex-military hospital complex with staf housing contained on approximately one hectare of land, and the Instituto Universitário dos Açores (I.U.A.) is in the process of acquiring an addition eleven hectares of open farmland adjacent to the complex where the greenhouses will be constructed, the remainder of the land to be used for animal husbandry projects aimed at upgrading the beef and dairy herds on the island. The site is in a pastoral setting on high ground (elevation approximately 200 meters) overlooking the Atlantic Ocean. The hospital had been in existence for from ten to fifteen years, and the change from hospital to school poses no problems environmentally. The adjoining eleven hectares has been farmed and grazed in traditional Açorian fashion for centuries and the animal husbandry projects envisioned will in effect continue with the same land use.

The Demonstration Farm, where new farm buildings will be constructed, is located in a rural area high in the Terceira hills. The farm will continue to be operated as it has in the past, but using more modern methods of crop control, crop rotation, animal care and production techniques, etc., for the training of farm extension workers and as a demonstration area for the surrounding farmers. In the swine production facilities, for instance, a system will be installed for capturing the swine waste and recycling back to the land as opposed to the traditional method of letting the swine roam at will. The dairy milking pavillion is to demonstrate better quality control of milk production than can be obtained by traditional methods of milking dairy herds in the fields under all weather conditions, including rain, when the milk becomes diluted and contaminated. A maximum of 12 students will be resident on the farm at any one time, so no problems of increased population of the area should occur. Because the Açores are blessed with a minimum of insects, no use of insecticides, pesticides or associated chemicals is envisioned or planned.

Faial, Açores: The Faial campus of the I.U.A. is located in one renovated building in the town of Horta, and the new construction will be an annex to this building to house an oceanography and marine ecology laboratory. The staff of this branch of the I.U.A. will be very limited, and is meant to provide knowledge for improvement and expansion of fisheries activities in the Açores through applied research, extension,

education and support services for the training of fishermen.

San Miguel, Açores: The main campus, located in the town of Ponta Delgada, again is located in renovated and remodelled buildings, but will require one new building to house an applied ecology laboratory. In addition to its teaching role of basic science courses, this branch of the I.U.A. will contain a media technology center for producing radio programs and publications to augment and implement the rural extension education program of the I.U.A. This media center will support both the fisheries branch at Horta and the agricultural and animal husbandry branch at Terceira. The ecology laboratory will apply itself to ecological problems throughout the islands, but the early investigations will center around the disease Trichonomas which causes abortions in cattle and the loss of the calf as well as potential sterility of the cow.

Vila Real - The Instituto Polytecnico of Vila Real's (IPVR) administrative offices and main teaching complex is located in two large renovated and remodelled ex-army headquarters and barrack buildings within the town of Vila Real. The purpose of the buildings has changed, but the external appearance, numbers of people in attendance, utilities and other facilities remain virtually the same as in years past.

The demonstration farm, located in a pastoral setting just without the town, contains 52 hectares of farmland and a number of existing buildings that are being renovated for purposes of administration offices and classrooms. Because of the difficulty in remodelling these old buildings into laboratories and demonstration workshops, three additional buildings are planned for new construction that will be designed for their intended purposes. Additional buildings are planned for the future, but there is ample room and all new construction will be in accordance with a master plan being developed by a local architect/planning firm. The new farm buildings (more like sheds, actually) for animal husbandry and upgrading dairy herds will be constructed on virtually the same site as the old sheds, at present in an unrepairable state. The remainder of the farm, its purposes and its manner of operation will be approximately identical to that described above for the demonstration farm on Terceira, Açores.

Covilhã - The main campus of the IPC has the largest program of new construction. However, it is located within the town of Covilhã on the site of some old buildings that were beyond repair. The old buildings were razed, and the new campus and buildings are now under construction. The new buildings were designed by a local architectural firm and are not obtrusively more modern than the surrounding buildings and therefore esthetically acceptable. All utilities for the new buildings are readily available from the town and will not strain the town's resources to accept the new buildings.

Évora - The main administrative and teaching complex of the IUE is perhaps the most interesting of all the schools being assisted by A.I.D. The main building was originally constructed in 1706 as a university, and has arched ceilings and murals of tile around many of the walls. When the university functions were transferred to Coimbra, the structure was passed to the Church and was used for many years as a monastary. Early this century the Church gave up the building and it was transformed into a secondary school. With the recent construction of more modern secondary schools,

the building was finally passed to the IUE for its immediate needs for administrative offices and classrooms. Renovation work has included suitable (and modern) lighting and other facilities, and the staff architect and others have done a remarkable job in fitting in these utilities without detracting from the beauty and dignityof the original building. A few of the rooms, the old chapel for instance, have been retained intact and are now designated as national monuments. However, transforming rooms of this ancient building into modern laboratories for teaching chemistry, physics, etc. proved impossible, and therefore five new two-story buildings for basic science classrooms and laboratories will be constructed on a new site approximately 4.5 kilometers from the outskirts of Evora. The new site is well situated to accept the new building, is well drained and has ready access to electric power. Water for the buildings will come from a new well.

The demonstration farm of the IUE is located approximately ten kilometers from Evora and already contains sufficient buildings suitable for renovation that no new construction is required. Interestingly, one of the buildings under renovation was formerly a small convent, originally thought to have been constructed in the 16th or 17th century. This ex-convent is being transformed into small apartments for visiting lecturers and for classrooms and workshops for special graduate-level studies and projects. Again, the IUE has done a remarkable job of restoration, fitting in modern lighting and plumbing without detracting from the beauty of the original building. The water supply to this building will be by an ancient aqueduct requiring only minor repairs, the source of water being an aquifer (spring) in the hills approximately 1.5 kilometers from the site.

Identification and Evaluation of Environmental Impacts

As indicated by the Impact Identification and Evaluation Form, only two sub-areas were identified as having potential environmental impact.

The first was an impact through increasing the population, and this referred to the additional numbers of people, as students, that would be drawn to the school sites, and the ability of these addtional numbers to be absorbed by the

environment. Enrollment in the schools will be stabilized by the year 1885 at a maximum of 2000 students per school. Actual enrollment is being estimated at somewhere between 1200 and 2000 students per school. Given the dispersion of students between the various components of the schools, each school except Covilhã having a minimum of two components (i.e. main campus and demonstration farm), it is judged that no local environment will be overtaxed nor no local facility will be overwhelmed by the influx of students. For the one location where all the students will have to be absorbed by one city, Covilhã, the IPC plans to obtain a building from another institute for remodelling into a Cultural Center and student residence center. However, Covilhã is a town of over 26,500 people as of the 1970 census, and at the projected rate of growth will be close to 30,000 by the year 1980 when the student enrollment will be nearing its peak. It is judged that the environment of Covilhã could absorb the maximum number of students by the early 1980's without straining the environment or any of the facilities of the town.

Second, a socio-economic change in economic/employment patterns was identified, but as a secondary effect. Certainly if the polytechnical school system is the success it is hoped it will be, there will be a great secondary effect. For instance, better education of the populace in turn giving rise to better employment due to the more highly qualified secondary school teachers to be trained at the polytechnicos. Better quality milk for children in the Açores, if the farmers accept the advice of polytechnico-trained farm extension workers and begin the practice of milking cows under cover instead of in the fields in all weather conditions. A greater number of live births in cattle in the Açores and therefore an economic gain to the farmers and dairymen if the Trichonomas research in the ecology laboratory at Ponta Delgada, San Miguel, is successful. An upgraded and more highly productive dairy cow should give economic benefits to the farmers of northern Portugal if the animal husbandry projects and extensions are successful at the IPVR. From the examples given, and others too numerous to list, it can be seen that the training given at the polytechnicos will result in great beneficial secondary impacts, although such impacts are not possible to quantify at this time.

Conclusions

Therefore, the conclusion must be reached that this project has no significant harmful effect on the environment of Portugal or the Açores and that a negative determination shall be made.

as

IMPACT IDENTIFICATION AND EVALUATION FORM

Impact Areas and Sub-areas 1/	Impact Identification and Evaluation 2/
A. LAND USE	
1. Changing the character of the land through:	
a. Increasing the population	L
b. Extracting natural resources	N
c. Land clearing	N
d. Changing soil character	N
2. Altering natural defenses	N
3. Foreclosing important uses	N
4. Jeopardizing man or his works	N
5. Other factors	
_____	_____
_____	_____
B. WATER QUALITY	
1. Physical state of water	N
2. Chemical and biological states	N
3. Ecological balance	N
4. Other factors	
_____	_____
_____	_____

1/ See Explanatory Notes for this form.

2/ Use the following symbols:
N - No environmental impact
L - Little environmental impact
M - Moderate environmental impact
H - High environmental impact
U - Unknown environmental impact

ab

IMPACT IDENTIFICATION AND EVALUATION FORM

C. ATMOSPHERIC

1. Air additives ——— N
2. Air pollution ——— N
3. Noise pollution ——— N
4. Other factors

D. NATURAL RESOURCES

1. Diversion, altered use of water ——— N
2. Irreversible, inefficient commitments ——— N
3. Other factors

E. CULTURAL

1. Altering physical symbols ——— N
2. Dilution of cultural traditions ——— N
3. Other factors

F. SOCIOECONOMIC

1. Changes in economic/employment patterns ——— M (Secondary effect)
2. Changes in population ——— N
3. Changes in cultural patterns ——— N
4. Other factors

IMPACT IDENTIFICATION AND EVALUATION FORM

G. HEALTH

1. Changing a natural environment ——— N

2. Eliminating an ecosystem element ——— N

3. Other factors

——— ———

——— ———

H. GENERAL

1. International impacts ——— N

2. Controversial impacts ——— N

3. Larger program impacts ——— N

4. Other factors

——— ———

——— ———

I. OTHER POSSIBLE IMPACTS (not listed above)

——— ———

——— ———

——— ———

See attached Discussion of Impacts.

9b

ANNEX B

Rural Vocational Education Loan

CERTIFICATION PURSUANT TO SECTION 611 (e) OF THE
FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, Charles A. Buchanan Jr, Acting AID Representative, the principal officer of the Agency for International Development in Portugal, having taken into account, among other things, the maintenance and utilization of projects in Portugal previously financed or assisted by the United States, do hereby certify that in my judgement Portugal has the financial and human resources capability to maintain and utilize effectively the project to be financed by this loan.

This judgement is based upon consideration discussed in the Project Paper to which this certification is attached.

Charles A. Buchanan Jr
Acting AID Representative

The Portuguese Educational System

The education sector is at present going through a period of transition as a result of structural change taking place in Portugal.

In the past the Portuguese educational system was designed to cater to a privileged minority, thus protecting and preserving the status of the social elite.

Today Portuguese society demands from the educational system equality of opportunity, access to all levels of education and the professional qualifications to participate adequately in a process of socio-economic development.

The Ministry of Education - MEIC - which is the decision center of the educational system is also undergoing a period of transition.

The formal educational system offers the following structure:

Pre-Primary
Basic
- Primary
- Preparatory

Secondary
Higher Education

Pre-Primary Education - This level of education is not compulsory and it has been offered in private schools. It is in general an expensive schooling likely to be found only in urban areas.

The age group attending this level of education is 3-6 years. Children who have attended pre-primary education are more advanced when they start the compulsory schooling at the age of 7. These are in general children of urban families who can afford to pay for this education. Inequality of performance is noticeable among children who have attended pre-primary education and those who have not.

In 1974/75 the pre-primary school enrollments amounted to 40,000 which means less than 10% for the rate of enrollment of the age group 3-6.

Basic Education - Basic Education is of 6 years duration, beginning at the age of 7. It is divided into two levels:

Primary grades 1 to 4
Preparatory - grades 5 and 6

Primary education is conducted in separate schools and there is a relatively satisfactory coverage with regard to primary school buildings. School enrollment in primary education has been decreasing over the time period 1970-1975 as a result of a reduction in birth rates. The efficiency of primary education is rather low, however, with about 25% repeating the school year. The high repetition rate is attributed to the following:

a. low quality of teaching, including poorly trained teachers, rural schools with only one classroom and one teacher for the four grades and urban schools utilizing the shift system which reduces the time pupils spend in school.

b. low nutrition levels of children.

c. lack of compulsory pre-primary education.

d. lack of medical assistance and lack of special education to retarded and handicapped children.

Preparatory Education -Preparatory education is offered by three different methods:

1. formal preparatory schooling;

2. televised instruction of grades 5 and 6;

3. a complementary cycle attached to primary schools.

These last two alternatives still account for 20% of the enrollment in preparatory education but they are often lower quality instruction than that given in formal preparatory schooling where teachers are required to have higher qualifications and specialization.

In the transition from completion of primary education to initiation of preparatory education there are a high number of dropouts. This number amounted to 20% of those who graduated in grade 4 over the time period 1970-75. This means that the six year compulsory education system is not yet fully implemented. This phenomenon occurs more frequently in rural than urban areas.

Secondary Education - Secondary education is of 5 years duration divided into two levels:

a. the general secondary - grades 7 to 9

b. the complementary - grades 10 and 11

There are several options available for the general secondary which are conducted in different schools. These options are:

a. the academic secondary school or lyceum - grades 7-9

b. the technical secondary school - grades 7-9

c. the unified secondary school - grades 7 and 8

However, efforts are being made to revise this system with the introduction of the unified secondary education which is already operating on an experimental basis for grades 7 and 8 is expected to start operating for grade 9 this coming academic year. This change in the structure of secondary education is expected to eliminate the existing bias against technical schooling and to postpone the age of decision of selecting a professional option.

The complementary secondary education is either a pre-university cycle or teacher training education and covers grades 10 and 11 in the first case and grades 10-12 in the second case.

Higher Education - Higher education offers 3 year "Bacharelato" degrees and 5 year "Licenciatura" degrees.

The enrollment in higher education has increased substantially in 1974/75 and 1975/76, 16% and 60% respectively, relative to 1970/71. This was due to lower admission standards after April 1974, which has facilitated the increased access of secondary education graduates into higher education institutes. Access to higher education is now however, being limited through admission exams. It is also being more diversified and regionalized in order to give students living outside the big urban areas the opportunity to obtain higher education. Diversification aims at offering courses more oriented to practical life, in particular to train students to be able to participate in the process of the socio-economic development of Portugal.

Enrollments and graduates by level and type of education for 1970/74 and 1974/75 are given in Table 2 and Table 3 attached. It shows that the number of graduates in 1973/74 and 1974/75 were higher than in 1970/71.

With regard to educational buildings, there are great disparities in terms of quality, quantity and spatial distribution. Greater shortages are found at secondary and preparatory levels where the shift system is widely used.

Average ratios of pupil per classroom by level and type of education (except for higher education) are given in Table 4 for 1970/71, 1973/74 and 1974/75. These ratios are generally high but their regional values show great disparities. Furthermore, a high proportion of the existing stock of school buildings is not adequate for this function, needing urgent rehabilitation or modernization.

In 1976, estimates of the needs for classrooms, showed the necessity of an additional 7,000 classrooms for primary education, 8,000 for the preparatory cycle and 6,000 for secondary education. Concerning equipment, it was found that there is a general shortage in basic education. In secondary education some equipment like laboratories and workshops are underutilized although still in good operating condition. With regard to higher education, situations of complete lack of scientific and educational equipment are frequently found.

The situation regarding teaching staff is not better. Though it seems that, in general, there are not significant quantitative shortages in teachers, in terms of staff quality the situation is very deficient. Most of the teaching staff do not have teachers training qualifications and many do not even have adequate appropriate qualifications of a general nature.

In pre-primary education the staff with adequate training is very small. This could prevent pre-primary schooling from becoming compulsory in the short run. In 1974/75 there were 1,750 pre-primary teachers (see Table 6) and only 7 pre-primary teacher training schools in Portugal, where enrollment for the same year was 3,064.

In Table 5 pupil/teacher ratios are shown and in Table 6 the existing stock of teachers, by level of education for 1970/71, 1973/74 and 1974/75. These average ratios are within acceptable ranges but teacher qualifications are still rather low.

In primary education a great proportion of the teaching staff do not have a higher education degree. Table 7 shows the percentage of the existing stock of teachers who had teacher training, by level of education for 1970/71, 1973/74 and 1974/75.

The enrollments in teachers training courses by level of education is shown in Table 8. If these enrollments are compared to the existing stock of teachers the conclusion is that they are strikingly low, particularly in Basic and Secondary teachers training courses.

During the time period 1971-74 public expenditure on education increased by 280%. In 1975, there was a substantial increase in public expenditure on education as a result of substantial increases in salaries; the latter have a great weight on recurrent expenditure.

The educational sector's participation in GDP has been increasing over 1971-1976 from 2.3% to 5.4%. Also the increasing weight of education expenditure in total public expenditure has expanded in the same time period from 11.4% to 20.5%.

Table 9, shows GDP, Total Public Expenditure and Public Expenditure in Education for 1971-1976.

The structure and organization of the present educational system has only partially changed relative to before April 74. The main objectives of the system before April 74 were the expansion of compulsory education to 8 years, which has not yet been implemented, and the introduction of the "Bacharelato" degree in higher education together with the diversification and regionalization of this level of education. This has been partly implemented with the creation of some University Institutes and Polytechnicos in different regions of Portugal.

In summary the changes that have taken place during the last three years are as follows:

- Gradual expansion of Unified Secondary Education with the objective of postponing decisions on professional options and also elimination of the socio-economic discrimination prevailing in secondary schooling with its two branches, lyceum and technical.

- Changes of curricula and teaching programs and methods in order to cater to the new socio-political order.

- Modernization of educational methods.

- Institutionalization in school management of students, teachers, and administrative staff.

- Substantial improvement in salaries, social security and general working conditions of the teaching staff, particularly at Basic and Secondary levels.

Though there were improvements in the Portuguese educational system, much is yet to be done. Some shortcomings and bottlenecks detected are the following:

- Almost non-existence of pre-primary education

- Low internal efficiency of the system, which continues to be plagued with great numbers of repeaters and a high dropout rate.

- Lack of definition of objectives in Secondary education.

- Excessive centralization and great regional disparities.

- Lack of managerial skills of administrative and teaching staff to run the schools.

- The short compulsory education - (only 6 years).

NOTE: Most of the information given in the text and tables refer to Mainland Portugal.

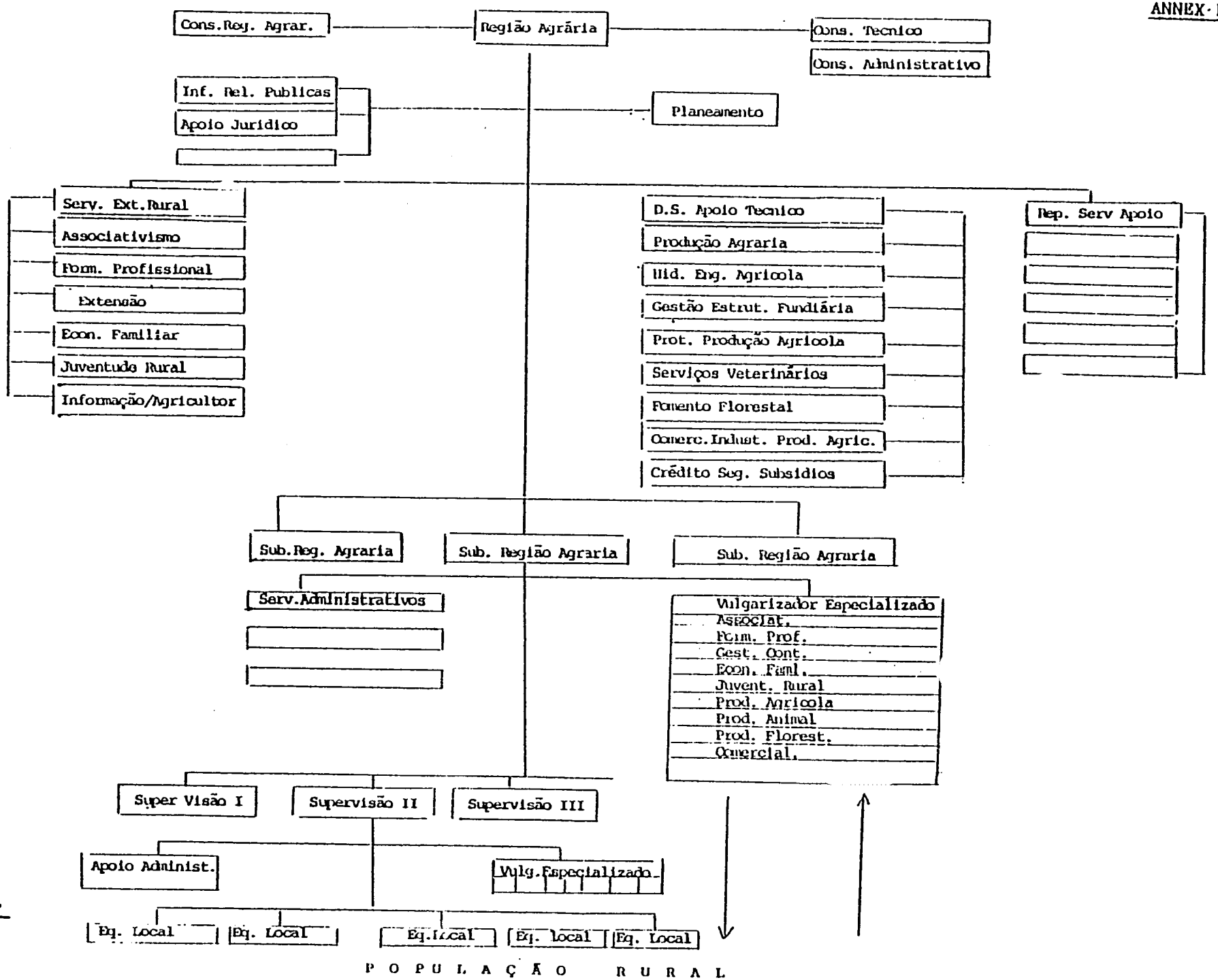
Sources:

1. Diagnostico da Situação e Estrategias de Desenvolvimento do Sector Educação
GEP, MEIC Março 1977 (Preliminary draft)

2. D.C.P. Ministerio do Plano
Report on Social needs and Standard of living (1st Version)
Preliminary draft for the Development Plan (1977-80)
Chapter on Education
April 1977

3. World Bank Report
March, 1977

ANNEX · D



CERAT NO. 1

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Polytechnical Institutes

Narrative Summary, Program Goal:	Objective Verifiable Indicator Measures	Means of Verification	Assumptions
1. Increase Agricultural Production 2. Increase rural employment 3. Increase income of the poorer strata of the population 4. Increase income of people in poorer regions 5. Catalyst for Regional Development	1. Increased agricultural production in areas of influence of Institute 2. Increase real rate growth in rural areas 3. Increase investment inflows to areas of influence of 4 Polytechnical Institutes	1. Regional statistics 2. National Income Accounts	1. Decentralization system is viable 2. Country politically and economically stable
Project Purpose: 1. Provide technical educational facilities to poorer areas of the country 2. Train future agricultural extension agents 3. Train technicians to manage agro-industry in rural areas such as coops, processing plants, textile plants, etc. 4. Train teachers for rural area 5. Service Rural Areas	Conditions indicating purpose has been achieved. 1. Enrollment of 4 Institutes increase from 1,076 to 4,000 (1980) 2. No. of extension agents trained will go from 0 to 500 in 1980. 3. No. of graduates employed in rural enterprises since beginning of project expected to be 300 by 1980.	1 Increased demand for graduate of Institutes 2 Extension service records 3. Regional statistics on number of rural job demand in areas	Extension service of Ministry of Agriculture and Ministry of Education sign agreement to cooperate on Extension Training Centers
Outputs 1. 4 Polytechnical Institutes constructed in rural areas. 2. Increased the number of male/female technicians 3. Increase the number of trained extension agents to service the agricultural section.	Magnitude of outputs 1. Number of classrooms 2. Number of soil testing labs for areas 3. Number of jobs generated in rural areas as result of project	GOP Statistics	Institutes have increased student enrollment
Inputs AID - up to 75% construction, equipment costs and TA for consultants and short-term US training. GOP-no less than 25% construction and increasing operating budget for institutions, 30% in real terms	Implementation Targets	AID Records	Approval of loan

ANNEX B

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The Azores Region

The Azorean archipelago is situated in the Atlantic Ocean about 800 miles from mainland Portugal. There are 9 islands in the archipelago with a total area 233,400 hectares. The 9 islands are not homogeneous in their level of development and high regional disparities are to be found among them. The climate is temparate and the area has a moderate to high rainfall. The islands are of volcanic origin and their soil is generally fertile. There is a lush vegetation, with an abundance of crops and pastures and thick pines and eucalyptus forests at the higher altitude.

These characteristics endow the islands with suitable conditions for the development of agriculture. The steep slopes with excellent pastures and forages encourage dairy and meat production, while potential exists for expanding food crop production in the lowlands. A wide variety of plants can be grown. But, on the overall, the archipelago can be considered a poor region whose population has been deprived of education and whose economy has been stagnant for many years. As a result, massive emigration has always taken place.

Over 50 percent of the Azorean population is classified as rural poor involved in farming and/or fishing to provide their way of life. A comprehensive program of education is being developed by the regional government to improve the social and economic conditions of the small farmer and fishermen. In addition, a rural extension program will provide improved cropping practices, research information and new techniques via the most effective lines of communication.

Total estimated population during the time period 1960/1975 was:

	Population Thousands	Index
1960	327.5	100
1970	285.0	87
1975	259.4	79

There was a decrease of about 20% in total population in the time period 1960/1975. This seems to be due to a low birth rate coupled with a high rate of emigration. It is estimated that between 1960 and 1975, 121,300 of Azoreans

have emigrated. This number represents about 37% of the 1960 population.

Agriculture represents 47 percent of the GDP of the islands with fishing representing another 2 percent. Trade (including banking and insurance) and Industry follow with 12 percent and 10.5 percent respectively.

The structure of GDP in 1974 (at current prices) in dollars was as follows.

	US$ (in thousands)	Percentage Share
Agriculture, Forestry and Livestock	$ 51,452.5	47.0
Fishing	1,920.0	1.8
Industry	11,472.5	10.5
Construction	5,085.0	4.6
Energy	982.5	0.9
Trade, Banking and Insurance	13,850.0	12.6
Transportation	8,410.0	7.7
Other Services	16,365.0	14.9
Total	$109,537.5	100.0

Total labor force in 1950, 1960 and 1970 and its distribution among the main economic sectors was:

	1950	%	1960	%	1970	%
Primary	69,210	64.1	64,286	60.1	42,515	49.2
Secondary	16,352	15.1	17,864	16.7	15,017	17.4
Tertiary	22,471	20.8	21,898	23.2	29,083	33.7
Total	108,043	100.0	107,048	100.0	86,345	100.0

The Institute

1. Role - The University of the Azores started its academic activities in March 1976 with an introductory semester, consisting of a series of courses and attended by 400 students.

The Region Around Vila Real

The Polytechnical Institute of Vila Real (IPVR) is located in the northeast in the Tras-os-Montes area, a mountainous region characterized by extremely small farms. It is the poorest region of Portugal and is characterized by heavy outmigration, a high rate of underemployment and low health and educational standards.

The region is inadequately equipped with water, electricity and sewerage facilities, the road system is poor, health delivery systems are rudimentary and agricultural services - such as credit and extension - are very limited. In summary the physical and social infrastructure is seriously deficient and badly in need of modernization. Extensive GOP programs are presently underway to rectify this situation.

Nevertheless, rural northeastern Portugal is an important producer of certain agricultural commodities. For example, the region produces some 40% of the cattle raised in Portugal.

Tras-os-Montes, encompassing the districts of Vila Real and Bragança, is bounded on the north and east by Spain, on the south by the Rio Douro and on the west by a mountain range that separates it from the Minho area. These mountains cause the clouds moving from the West toward Tras-os-Montes to precipitate before reaching the area and, as a result, this region is arid and parched in comparison with the lush green of the Minho. On the western side of the mountains the average rainfall approaches 100 inches, but on the Tras-os-Montes side the average is less than twenty inches. The dryness and the composition of the soils have made this a region of cereal cultivation, principally rye, and animal grazing. The soils are generally lacking in carbonates, but some vineyards are noticeable in the patches of good soil area. The higher altitudes are characterized by forests of pine and deciduous oak. The pina variety of pine is prevalent to about 3,000 feet and makes up half the forest cover.

The region's population amounts to 453,500, about 5 percent of Portugal's population. Average population density in the region is 42 inhabitants/km^2 but in certain areas within the region it is only 25 inhabitants/km^2, about one-quarter of the country's average. The region's population decreased by 4 percent between 1970-75, the result of an outflow of 6.5 percent and an inflow of 1.5 percent, mainly returnees from

the former colonies. It is estimated that 80,000 returnees have settled in this region. The age structure of the population shows that 40 percent is less than 20 years old and 15 percent more than 60 years old. Only 10 percent of the region's population lives in urban settlements.

The labor force is about 159,000, slightly less than 1970 (160,000). However, the unemployment rate increased from 5 percent in 1970 to 12.5 percent in 1975 which ranks this region among the highest in the country in percent of labor force unemployed.

The production structure of the region shows a heavy dependence on agriculture from which 42 percent of the region's product is originated and where almost 70 percent of the region's labor foce is employed. However, the agricultural output of the region was only 8 percent of the country's overall agriculture output. An important activity is hydro-electric power production which in 1970 was more than one quarter of the country's production, though only 4 percent of the region's small towns do not have electricity and per capita consumption is just 25 percent of the country's average. Mining is also of relative importance in the region's economy producing some 18 percent of the country's output, principally, tin and iron. The potential in mining seems to be rather promising; it is estimated that iron deposits are 510 million tons and tungsten deposits are also substantial.

With regard to agriculture , 75 percent of the region's land surface is cultivated. Most of the agricultural land is non-irrigated (about 93 percent) and the largest natural pastures of the country are located here. Principal agricultural production is in cereals (wheat, maize, rye and barley,) potatoes, olive oil, dry fruits and wine. The latter is produced mainly in the southern part of Vila Real near the Douro Valley where Port wine is produced in a monoculture type of agriculture.

According to the latest agricultural census, half of the agricultural land is occupied by enterprises between 4 to 20 hectares in size. The percentage of enterprises with an area smaller than 20 hect is 98 percent with a highly fragmented land holding pattern. 50 percent of the holdings are under 2 hectares. Many farmers cannot read or write. According to the latest agriculture census, 43 percent of the region's farmers are illiterate and only 2 percent have high school, college and university background. Approximately 60 percent of farmers are over 45 years of age.

Livestock represents about 55 percent of the agricultural enterprises of the region and is largely of a subsistence nature, the animals being used both for meat and dairy products, as well as to work the land. Forestry output represents about 15 percent of the GNP of the region. The main products

are pine and eucalyptus trees. Industrialization of wood products is almost non-existent in the region. The number of agriculture and livestock professionals in the region is quite low. Most farmers live from subsistence agriculture, due to the small size of holdings and to the lack of technical background and cooperation with other farmers. Though some cooperatives are already organized they are mainly limited to the wine industry. There is a heavy dependence on the primary sector and regional industrialization is needed to prevent out migration. Manufacturing industry in the region is rather insignificant, (representing 2.5 percent of the regional GNP.)

The Region Around Évora

"The Alentejo has no shade" is an old saying in this part of Portugal. These vast arid plains in southern Portugal are the zone of influence for the Polytechnical Institute of Évora. Évora is situated in the three districts south of the Tejo river that form the Alentejo. The area amounts to 23,500 km^2 which corresponds to one fourth of the total area of Portugal. Most of it is an extensive land-locked plain at an altitude of 200 to 300 meters above sea level.

The population density of this region is low compared to the country's average which was 100 inhabitants/km^2 in 1970. It was 24.3 in Évora, 19.0 in Beja and 24.0 in Portalegre for the same year.

Total population of this region is 516,600 which corresponds to almost 6% of the total population of Portugal. However, the population in this region has been decreasing over time and it is estimated that over the time period 1960-1975 it diminished by 168,700. This was the result of heavy outflows mostly to other areas of Portugal and to a lesser extent abroad some directly related to political disturbances over the agrarian reform measures. In addition, the birth rate of the region is rather low when compared to the country's average. Economic activity of the region is centered mainly on agriculture. In 1970 more than 50% of the region's gross output and labor force originated in agriculture though it only contributes 16% to the country's agriculture product and 13% to the country's agriculture labor force.

A high percentage of the agriculture labor force are migrant farm workers, in fact, more than 80% in 1970. Wages in agriculture are rather low compared to other sectors of the Portuguese economy and although they have increased substantially in relative terms since 1974, their daily average in 1975 was 170$00 ($4.25) for men and 130$00 ($3.35) for women. Since most of the labor force of this region is to be found in agriculture, and taking into account the low level of wages, it is not surprising that average income per capita in the region is below the country's average. In 1970 GDP per capita annual income for Portugal was 20,000 Escudos ($500) and for this region it was 15,000 Escudos ($375).

Another feature of agriculture in this region is the large size of the farms. In the district of Évora, 72% of agriculture land was occupied by 275 farms with an area greater than 500 hectares each. In Beja and Portalegre this area was about 47% and the number of farms greater than 500 hectares were 292 in the District of Beja and 234 in the District of Portalegre.

After April 1974, land reform introduced deep structural changes in this region, mainly in the land tenure pattern, and income distribution.

As far as industry is concerned, in 1970 some 19% of the district's labor force was employed in this sector in Évora, 11% in Beja and 15% in Portalegre. Industrial output in the same year was about 14% of the region's total output, a percentage well below the country's average which was about 41%. Within the industrial sector, mining employs around 3 thousand people and contributed 26% to the country's output in this sector.

Employment in the region has declined from 222,000 in 1970 to 201,900 in 1975. However, since total labor force has also declined (by 5.5%), the rate of unemployment in 1975 was 8.9% a rate well below the country's average.

The Institute

Lying in the center of one of the most active agrarian reform sectors, the Alentejo, Évora is in an unique position to have a significant impact on the surrounding rural areas through the training of future extension agents in agriculture as well as short courses for farmers.

While various groups are exploiting this volatile situation, the Ministry of Agriculture is drafting legislation needed to put into operational effect the turn-over of farm lands to the peasants in the zone.

Agriculture production is dropping in the area due to political disturbances and changing ownership of properties, in the following - cereals (wheat, corn - sorghum for animals), meat (includes poultry), and oil seeds, which caused agricultural imports to increased and prices to rise.

The Covilhã Region

The area of influence of the Covilhã Polytechnical Institute (IPC) is the interior of the Central Region bounded by the River Douro to the north, the Tejo to the south, a mountainous region to the west (which forms a barrier in the center of Portugal) and to the east the border with Spain (Provinces of Salamanca and Cáceres).

It is a predominantely mountainous region with water courses, upland areas and plains which are excellent for cattle and forestry. The Guarda region is also excellent for horticulture while the southern area of Castelo Branco has the largest pine forest area in Europe.

Cova da Beira, which is part of the IPC area of influence, has excellent soils for agriculture. It is entirely utilized for that purpose through an irrigation improvement plan of 18,000 hectares. Planned by the regional planning office are the construction of 4 dams with an approximate capacity of 200×10^6 m^3 together with construction of 143 km of irrigation canals.

At the same time, the area is the main industrial center of wool in Portugal, it has about 100 enterprises, 10 thousand workers and contributes 30 percent of the national production. Total population in the region is estimated at 447,000, some 40,000 less than in 1970. Population density is rather low: about 30/km^2 an average which is one-third of the country's average. It has had a heavy out migration though recently this phenomenon has been reduced. Furthermore, some 30,000 "retornados" from former colonies have settled here.

The age structure of the population shows a high proportion of people 60 and more years old. In 1975, this percentage was 21% while the country's average was 15.4+. Urban population amounted to only 14% of the region's total, concentrated in 3 main urban centers.

The region's labor force today is estimated at 167,000, about 18,000 less than in 1970. The unemployment rate is almost 10% (16 thousand) twice its level of 1970.

The productive structure of the region shows that 36 percent of its output originated in agriculture which accounted for 28 percent of output and 18 percent of employment, the main industry being wool textiles.

According to the 1968 Agriculture Census, 80% of the region's land surface was cultivated either in agriculture, livestock or forestry. Most of the land is non-irrigated. The region's agricultural contribution to the GDP was 8 percent.

The size of agriculture enterprises varies; it is small in Guarda and medium in Castelo Branco; fragmentation is rather frequent. The main agriculture products are potatoes, cereals, tomatoes, olive oil, cork, wine and fruits. However, productivity in agriculture is considered low. Livestock is relatively important, specifically pigs, sheep and goats. Castelo Branco district is the largest producer of sheep and goats. It is also an important wool producer and, thus, is the heart of the wool industry. Pine is the most important class of forest wood to be found in the region.

Mining contributes some 18 percent of the country's mining output; the most important minerals are tin, copper and tungsten. The copper deposits in Panasqueira are estimated to be enough for 20 years.

In 1970 the region's contribution to the country's manufacturing was about 3 percent. The number of enterprises increased by 10 percent from 1970 to 1974 but only one-fifth of them employed more than 20 people. The manufacturing centers within the region are Covilhã for the wool industry and Vila Velha de Rodão for pulp and paper industry. With about 40 percent of the country's cloth production, Covilhã is the principal wool center. There now exist 110 textile mills, most of them small, and 10,000 people. In the industry very few possess technical degrees those that do attend courses in France, Belgium and England.

This industry has undergone great difficulties since 1974 particularly in foreign markets, to which a great proportion of its output is exported. However, forecasts predict an expansion of existing plants and new factories are being attracted into the area.

Income per capita in the region for 1970 was estimated at $307 which is two-thirds of the country's average. The average agriculture salary is approximately $100 per month and 60 percent of non-agriculture workers received less than $150 per month.

In the education sector, there is an underutilization of primary education resources. The classroom/pupil ratios are 1:23. There has been a decrease in the primary school age

population due to both a reduction in birth rate and out-migration. At the secondary education level there is over-capacity utilization of available resources. Enrollment rates are 80 percent for basic and 27 percent for secondary education.

The situation in health is rather unfavourable. The doctor/population ratio was 1:2,500 and infant mortality was 43 percent. The number of deliveries without medical assistance was 34 percent. The number of hospital beds per thousand population is 4.6 which is below the country's average.

To summarize the main constraints to the region's development are:

- Productive structure highly dependent on a backward agriculture (low land and labor productivity) and on wool industry.

- Underutilization of agriculture, forestry and live-stock potential and lack of development of agro-industry due in large part to a shortage of skilled manpower.

- Non-existence of rural extension services, and deficient marketing channels.

- A shortage of adequately skilled manpower (at all levels). The wool industry is outmoded.

- Lack of an adequate communication network.

- Very low living standards: bad housing, deficient health and educational facilities.

MINISTRY OF EDUCATION AND SCIENTIFIC INVESTIGATION

Sr. Glenn O. Patterson
Director, Program of Economic and Technical
Cooperation
United States Embassy
Avenida Duque de Laure 39
Lisbon

Reference: DRE 1.8

I have the honor of transmitting the attached loan proposals for $6,000,000 financing by the U.S.A.I.D. prepared by the Polytechnic Institutes of Vila Real and Covilha and the University Institutes of Evora and Azores, which have been approved by his excellency the Secretary of State of Scientific Investigation.

As you will observe, the note preceding the proposals themselves makes reference to the criteria used in elaborating the proposals, the major concerns of this Ministry in this area, and the reasons for not being able at this time to quantify the specific technical assistance portion of the project. (Sending participants to the U.S. and the bringing to Portugal of specialists.)

I regret only being able to forward the attached project proposal at this moment, and am most appreciative of the invaluable assistance that has been provided to this Ministry within the U.S.A.I.D. program. I offer to you my best compliments.

Date: March 15, 1977

Emilio Augusto Pires
Secretary General

Margarida — Your copy

S. R.

MINISTÉRIO DA EDUCAÇÃO E INVESTIGAÇÃO CIENTÍFICA

SECRETARIA-GERAL

ANNEX J

— JAB

Exmº Sr.
Glenn O. Patterson
Director de Cooperação Económica e Técnica
Embaixada dos Estados Unidos da América
Av. Duque de Loulé, nº - 39
Lisboa

SUA REFERÊNCIA	SUA COMUNICAÇÃO DE	NOSSA REFERÊNCIA	DATA
		DRE 1.8	

ASSUNTO:

TEXTO: Junto tenho a honra de enviar a V.Exª as propostas de assistência por parte da U.S.A.I.D. apresentadas pelos Institutos Politécnicos de Vila Real e Covilhã e Universitários de Évora e Açores, as quais mereceram aprovação de Sua Excelência o Secretário de Estado da Investigação Científica.

Como V.Exª se dignará verificar a "Nota Prévia" que antecede as propostas refere os critérios utilizados na sua elaboração as principais preocupações do MEIC neste domínio a indispensável articulação com outros Departamentos Governamentais e o motivo da não quantificação dos encargos inerentes aos projectos de Assistência Técnica (envio de bolseiros e estagiários e vinda de peritos).

Lamentando o facto de só neste momento ser possível o envio do trabalho anexo e grato pela preciosa colaboração que tem sido prestada a este Ministério no âmbito da U.S.A.I.D. apresento a V.Exª os meus melhores cumprimentos — e protestos de grande consideração.

Emílio Augusto Pires
O SECRETÁRIO-GERAL

Anexo 6 docs.   Recebido 15 Mar 1977

PORTUGAL: RURAL VOCATIONAL EDUCATION ANNEX K

150-K-012

6C(1) - COUNTRY CHECKLIST

Listed below are, first, statutory criteria applicable generally to FAA funds, and then criteria applicable to individual fund sources: Development Assistance and Security Supporting Assistance funds.

A. GENERAL CRITERIA FOR COUNTRY

1. FAA Sec. 116. Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in consistent pattern of gross violations of internationally recognized human rights?	Yes. Project will upgrade and provide support for vocational and technical training institutions in rural areas of Portugal where such training is urgently needed.
2. FAA Sec. 481. Has it been determined that the government of recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully?	No.
3. FAA Sec. 620(a). Does recipient country furnish assistance to Cuba or fail to take appropriate steps to prevent ships or aircraft under its flag from carrying cargoes to or from Cuba?	The Secretary of State waived the applicability of this section with respect to furnishing of assistance on August 20, 1975.
4. FAA Sec. 620(b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement?	Yes.
5. FAA Sec. 620(c). If assistance is to government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government?	No such situations are known to exist.
6. FAA Sec. 620(e) (1). If assistance is to a government, has it (including 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?	The present GOP has taken no such actions to our knowledge. The GOP is taking steps to compensate or return formerly U.S.-owned property to U.S. persons whose property was taken by "People's Commissions" or similar groups during the leftist period in Portugal

A

7.	FAA Sec. 620(f); App. Sec. 108. Is recipient country a Communist country? Will assistance be provided to the Democratic Republic of Vietnam (North Vietnam), South Vietnam, Cambodia or Laos?	No. No.
8.	FAA Sec. 620(i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression?	(a) No. (b) No.
9.	FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction, by mob action, of U.S. property?	No.
10.	FAA Sec. 620(l). If the country has failed to institute the investment guaranty program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason?	Although Portugal has not instituted such a program, the A.I.D. Administrator does not consider it in the best interests of the U.S. Government to deny assistance for this reason. Talks are underway for establishing such a program.
11.	FAA Sec. 620(o); Fishermen's Protective Act, Sec. 5. If country has seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters,	No instance of any such seizure or imposition of any such penalty or sanction is known to have occurred.
	a. has any deduction required by Fishermen's Protective Act been made?	(a) N.A.
	b. has complete denial of assistance been considered by AID Administrator?	(b) N.A.
12.	FAA Sec. 620(q); App. Sec. 504. (a) Is the government of the recipient country in default on interest or principal of any AID loan to the country? (b) Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds, unless debt was earlier disputed, or appropriate steps taken to cure default?	(a) No. (b) No.
13.	FAA Sec. 620(s). What percentage of country budget is for military expenditures? How much of foreign exchange resources spent on military equipment? How much spent for the purchase of sophisticated weapons systems? (Consideration of these points is to be coordinated with the Bureau for Program and Policy Coordination, Regional Coordinators and Military Assistance Staff (PPC/RC).)	The President has taken into account each of the listed considerations as to current military expenditures by the GOP and has determined that the actions of the GOP have not been such as to inhibit U.S. aid to Portugal.

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14. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?	Portugal has not severed diplomatic relations with the U.S.
15. 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 AID Administrator in determining the current AID Operational Year Budget?	Portugal's payment obligations to the U.N. are current.
16. FAA Sec. 620A. Has the country granted sanctuary from prosecution to any individual or group which has committed an act of international terrorism?	No
17. FAA Sec. 666. Does the country object, on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there to carry out economic development program under FAA?	No
18. FAA Sec. 669. Has the country delivered or received nuclear reprocessing or enrichment equipment, materials or technology, without specified arrangements on safeguards, etc.?	No
19. FAA Sec. 901. Has the country denied its citizens the right or opportunity to emigrate?	No.

B. FUNDING CRITERIA FOR COUNTRY

1 Development Assistance Country Criteria

a. FAA Sec. 102(c), (d). Have criteria been established, and taken into account, to assess commitment and progress of country in effectively involving the poor in development, on such indexes as: (1) small-farm labor intensive agriculture, (2) reduced infant mortality, (3) population growth, (4) equality of income distribution, and (5) unemployment.	Since project is funded with Security Supporting Assistance funds, these criteria are not applicable.
b. FAA Sec. 201(b)(5), (7) & (8); Sec. 208; 211(a)(4), (7). Describe extent to which country is:	N.A.
(1) Making appropriate efforts to increase food production and improve means for food storage and distribution.	N.A.
(2) Creating a favorable climate for foreign and domestic private enterprise and investment.	

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(3) Increasing the public's role in the developmental process.	N.A.
(4) (a) Allocating available budgetary resources to development.	N.A.
(b) Diverting such resources for unnecessary military expenditure and intervention in affairs of other free and independent nations.	N.A.
(5) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangements, and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.	N.A.
(6) Otherwise responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.	N.A.
c. FAA Sec. 201(b), 211(a). Is the country among the 20 countries in which development assistance loans may be made in this fiscal year, or among the 40 in which development assistance grants (other than for self-help projects) may be made?	N.A.
d. FAA Sec. 115. Will country be furnished, in same fiscal year, either security supporting assistance, or Middle East peace funds? If so, is assistance for population programs, humanitarian aid through international organizations, or regional programs?	N.A.
2. Security Supporting Assistance Country Criteria	
a. FAA Sec. 502B. Has the country engaged in a consistent pattern of gross violations of internationally recognized human rights? Is program in accordance with policy of this Section?	Department of State memoranda identifying countries being reviewed for possible human rights violations do not list Portugal as a possible violator. This program is in accordance with policy of Section.
b. FAA Sec. 531. Is the Assistance to be furnished to a friendly country, organization, or body eligible to receive assistance?	Yes.
c. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?	Since project is a loan, this criterion is not applicable.

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6C(2) - PROJECT CHECKLIST

Listed below are, first, statutory criteria applicable generally to projects with FAA funds, and then project criteria applicable to individual fund sources: Development Assistance (with a sub-category for criteria applicable only to loans): and Security Supporting Assistance funds.

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

GENERAL CRITERIA FOR PROJECT.

1.	App. Unnumbered; FAA Sec. 653(b) (a) Describe how Committees on Appropria-tions of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than $1 million over that figure plus 10%)?	(a) The Committees will be notified in accordance with normal Agency procedures. (b) All necessary notifications will be made.
2.	FAA Sec. 611(a)(1). Prior to obligation in excess of $100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?	(a) Yes. (b) Yes.
3.	FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?	Prior to the execution of the loan agreement, the agreement must be approved by the Assembly of the Republic of the Government of Portugal.
4.	FAA Sec. 611(b); App. Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per Memorandum of the President dated Sept. 5, 1973 (replaces Memorandum of May 15, 1962; see Fed. Register, Vol 38, No. 174, Part III, Sept. 10, 1973)?	This is not a water or water-related land resource construction project.
5.	FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed $1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project?	Yes. See Annex B of the Project Paper.

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6. FAA Sec. 209, 619. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. If assistance is for newly independent country, is it furnished through multilateral organizations or plans to the maximum extent appropriate?	This project is not susceptible of execution as a regional project and the project will not necessarily encourage regional development programs. Portugal is not a newly independent country.
7. FAA Sec. 601(a); (and Sec. 201(f) for development loans). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.	Construction contracts awarded under the project will foster private initiative and competition. The flow of international trade will be slightly increased since approximately 15% of the loan proceeds will be used to finance equipment procurement from the U.S. Expanded vocational training will result in improved technical efficiency of industry, agriculture and commerce.
8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).	The impact of the loan on U.S. private trade and investment abroad will be negligible.
9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.	See the financial analysis in the Project Paper. Because this loan fits within the context of continuing GOP support of the institutions, it is not possible to quantify relative levels of financial contributions.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency and, if so, what arrangements have been made for its release?	No.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria a. FAA Sec. 102(c); Sec. 111; Sec. 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production, spreading investment out from cities to small towns and rural areas; and (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions?	Not applicable since project funded from Security Supporting Assistance funds.

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b. FAA Sec. 103, 103A, 104, 105, 106, 107. Is assistance being made available: [include only applicable paragraph -- e.g., a, b, etc. -- which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.] N.A.

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

(2) [104] for population planning or health; if so, extent to which activity extends low-cost, integrated delivery systems to provide health and family planning services, especially to rural areas and poor;

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

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

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

(b) to help alleviate energy problem;

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

(d) reconstruction after natural or manmade disaster;

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

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

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(5) [107] by grants for coordinated private effort to develop and disseminate intermediate technologies appropriate for developing countries.

c. FAA Sec. 110(a); Sec. 208(e). Is the recipient country willing to contribute funds to the project, and in what manner has or will it provide assurances that it will provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country)? N.A.

d. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing? N.A.

e. FAA Sec. 207; Sec. 113. Extent to which assistance reflects appropriate emphasis on; (1) encouraging development of democratic, economic, political, and social institutions; (2) self-help in meeting the country's food needs; (3) improving availability of trained worker-power in the country; (4) programs designed to meet the country's health needs; (5) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and Voluntary Agencies; transportation and communication; planning and public administration; urban development, and modernization of existing laws; or (6) integrating women into the recipient country's national economy. N.A.

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

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g. FAA Sec. 201(b)(2)-(4) and -(8); Sec. 201(e); Sec. 211(a)(1)-(3) and -(8). Does the activity give reasonable promise of contributing to the development: of economic resources, or to the increase of productive capacities and self-sustaining economic growth; or of educational or other institutions directed toward social progress? Is it related to and consistent with other development activities, and will it contribute to realizable long-range objectives? And does project paper provide information and conclusion on an activity's economic and technical soundness? N.A.

h. FAA Sec. 201(b)(6); Sec. 211(a)(5), (6). Information and conclusion on possible effects of the assistance on U.S. economy, with special reference to areas of substantial labor surplus, and extent to which U.S. commodities and assistance are furnished in a manner consistent with improving or safeguarding the U.S. balance-of-payments position. N.A.

!. Development Assistance Project Criteria (Loans only)

a. FAA Sec. 201(b)(1). Information and conclusion on availability of financing from other free-world sources, including private sources within U.S. N.A.

b. FAA Sec. 201(b)(2); 201(d). Information and conclusion on (1) capacity of the country to repay the loan, including reasonableness of repayment prospects, and (2) reasonableness and legality (under laws of country and U.S.) of lending and relending terms of the loan. N.A.

c. FAA Sec. 201(e). If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds $100,000, has country submitted to AID an application for such funds together with assurances to indicate that funds will be used in an economically and technically sound manner? N.A.

d. FAA Sec. 201(f). Does project paper describe how project will promote the country's economic development taking into account the country's human and material resources requirements and relationship between ultimate objectives of the project and overall economic development? N.A.

e. FAA Sec. 202(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources?	N.A.
f. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?	N.A.
3. Project Criteria Solely for Security Supporting Assistance FAA Sec. 531. How will this assistance support promote economic or political stability?	This project contributes to Portugal's attempt to decentralize governmental administration and upgrade the standard of living of its regional poor. Such equalization is crucial to the country's social, economic and political stability.
4. Additional Criteria for Alliance for Progress [Note: Alliance for Progress projects should add the following two items to a project checklist.]	
a. FAA Sec. 251(b)(1), -(8). Does assistance take into account principles of the Act of Bogota and the Charter of Punta del Este; and to what extent will the activity contribute to the economic or political integration of Latin America?	N
b. FAA Sec. 251(b)(8); 251(h). For loans, has there been taken into account the effort made by recipient nation to repatriate capital invested in other countries by their own citizens? Is loan consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress (now "CEPCIES," the Permanent Executive Committee of the OAS) in its annual review of national development activities?	N