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**PROJECT ASSISTANCE COMPLETION REPORT**

**AGRICULTURAL EDUCATION PROJECT**

532-0082

JUNE 1994

Clearances:

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## **1. PROJECT PURPOSE AND OBJECTIVES:**

The Agricultural Education Project was designed to address the critical need for trained agricultural specialists to assist in revitalizing the agricultural sector in Jamaica. The goal of the Project was to contribute to the resuscitation of the agricultural sector in Jamaica. The purpose of the Project was to develop and expand the Jamaica College of Agriculture (COA) at Passley Gardens and expand and improve the Knockalva Agricultural School (KAS).

The Project objectives were to:

- provide trained agriculturalists to improve Jamaica's agriculture and economy;
- expand the number of graduates from both the COA and Knockalva;
- train agricultural instructional staff and to develop agricultural education curricula islandwide;
- increase and improve the buildings and technical facilities at COA and Knockalva;
- conduct community outreach in agricultural education nationally;
- provide high caliber extension officers so that the Ministry of Agriculture can provide improved services to Jamaican agriculture; and
- expand curricular and research services in agricultural education nationwide through non-formal education.

## **2. PROJECT DESCRIPTION:**

The project was authorized in August of 1984 with a Project Assistance Completion Date (PACD) of August 1989. In 1990 a Project Paper Supplement was executed extending the PACD to August 1994 to allow for completion of U.S. degree training and short-term technical assistance to support returning participants and increase administrative effectiveness at both institutions.

In November of 1991, the Mission was informed that funds obligated to projects in fiscal years 1985 and prior would be returned to the U.S. Treasury if not disbursed by September 30, 1992. Project grant and loan funds were reduced. As a result of the reduced funding: 1) the GOJ had to absorb remaining construction costs; 2) the PACD was shortened from August 31, 1994 to August 31, 1993 and consequently, three participants whose degrees would not be completed until after the new PACD were transferred to the Caribbean and Latin American Scholarship Program (CLASP); and 3) remaining FY 90 funds were reallocated between participants, the College of Agriculture-Jamaica Foundation (COA-JF) and agreed upon construction costs.

Construction, technical assistance and training were components of the original project. These components exhibited varying degrees of success. The 1990 inclusion of the College of

Agriculture - Jamaica Foundation is addressed separately below. Financial considerations are summarized in this report.

Technical Assistance:

Under the Project J\$2,987,976 million was disbursed for technical assistance (TA). The primary contractor was Louisiana State University (LSU) Agricultural Center. The project agreement was signed in 1984. The LSU team made substantial contributions to the upgrading of the College of Agriculture through the improvement of its administrative procedures. The Ministry of Education (MOE) and the College were at odds over the direction of the college and the LSU team found itself stifled. USAID provided support to the team through its efforts to bring to the attention of the Ministry the need for enactment of the changes proposed by the LSU team. The Ministry responded in late 1989, replacing the Dean with a new person and empowered the position to make the necessary changes to comply with the Project Agreement.

In 1991 the Project was amended to allow for the training of COA and Knockalva Agricultural School faculty. The LSU contract was amended to refocus the technical assistance, through short-term assignments, to specifically identified needs of the College. The amendment of the project and the contract allowed sufficient time to reallocate resources to administrative and budgetary structures within the College and implement the plans developed during the original contract.

A total of 31 professional technical advisors, in 16 disciplinary areas for a total of 212 person months, were provided.

Construction:

The construction component of the Project included the new physical facilities and improvements to existing facilities. The program at the COA and KAS was modified in the fall of 1986 reflecting the impact associated with the de-obligation of US\$3 million from the Project. Long delays in the initial start-up of project activities and other delays during the life of the project triggered a severe bottleneck in construction.

One serious effect of the de-obligation was the inability of the receiving institutions to adequately process and secure inventory provided under the project. Another negative effect was the removal of half the number of faculty housing from the construction profile resulting in a shortage of residential housing.

Procurement:

Due to the magnitude and variety of items to be procured, A procurement services agent (PSA), AAPC Inc., assisted in the procurement of imported items. This activity was handled through the MOE as a Host Country Contract. The MOE was responsible for receiving and inventorying those items procured, clearing them through customs and arranging their transportation to the COA and KAS. This activity was poorly coordinated at the Ministry level.

There were several other flaws in the activity: 1) a lack of prioritization of the institutions' needs by the faculty and administration of the two institutions and the failure to train those responsible for developing procurement lists as to what information was required and its proper format for transmission through USAID to the PSA; 2) the failure of the PSA to meet the terms of its contract with the MOE; 3) the failure of the MOE to properly process the arriving commodities through customs and to arrange for secure storage and rapid transshipment to the COA and KAS; and 4) the removal of the contract store facility from the construction profile as a result of the de-obligation of funds seriously hampered the efforts of the receiving institutions to properly process and secure the incoming inventory.

A major defect in the procurement process was the aborted procurement of books needed to update the library collections at the COA and KAS.

A range of items were procured to support academic laboratory program, residential housing, food preparation and service and tutorial farm development.

Training:

The original project identified the training objectives in terms of person months accomplished. An amendment to the project later revised training objectives to reflect the number of persons in training to the degree level. The amendment also allowed for training at the B.Sc and Ph.D degree levels.

The extension of the project from the original PACD of August 1989 to the current PACD of 1993, allowed the addition of several participants and the completion of extended programs. Overall, the returning participants have had an immediate effect on the development of the College. Each has taken up their teaching and administrative positions with vigor and show great determination in their work.

With the exception of two individual programs, all training was completed by the current PACD, August 31, 1993. The two programs are being continued under CLASP and are scheduled for completion in August 1994.

### Curriculum Development Center (CDC):

The curriculum development initiative had two central components: (1) the creation of the CDC to assess and address the agricultural educational courses being taught in primary secondary schools, and (2) assistance to the COA faculty in the evaluation and modification of the institution's course offerings to support international accreditation of the COA and to improve the marketing ability of its graduates.

The effort to establish a viable CDC failed. This activity was already being addressed by a functional division within the MOE and it became clear that this responsibility would not be partitioned. Considerable effort was made to develop a Memorandum of Understanding (MOU) between the MOE Division director with this responsibility and the COA. However, a workable functional relationship could not be achieved. Project funds allocated to this activity were shifted and used to return the plant science structure to the construction profile. Space was allocated within this building for a CDC in the event that a workable MOU should become possible in the future.

Considerable effort has been made to modify the curriculum to facilitate its responsiveness to the needs of the agricultural sector. The COA developed a comprehensive academic catalogue that clearly states the purpose of the institution and provides a detailed outline of the curriculum. Departmentalization of the faculty materially reduced the individualistic approach to course offerings that had prevailed in the past. Disciplinary departments were required to define a basic set of required courses and faculty were required to provide detailed syllabi for all academic offerings. Areas of disciplinary concentration were identified and students were permitted to use elective offerings to develop an area of specialty.

The failure of the Project to upgrade the library collection at COA and KAS is a major project shortcoming. The condition of the library collection at COA might prevent the accreditation of the institution. The situation at KAS is even worse.

### Applied Research Program:

A critical component of the Project was the development of an Applied Research Program at the COA. A formalized documented program prioritizing both near and long-term local, regional and national agricultural research needs has not been developed. All individuals involved in advanced degree programs within the participant training activity did their thesis/dissertation study addressing agricultural problems or opportunities in Jamaica. Some plant species varietal testing, including primary and minor nutrient requirements and soil interactions research has been done as well as some basic herbicide research on vegetable and

other horticultural crops. Work has been done to assess modification of specific swine husbandry practices and a food science study provided some useful results.

The COA budget does not provide funding to support the fundamental elements of applied plant science or animal science research programs.

Apart from the regular teaching requirements of full time COA staff, they are required to perform research and outreach activities in the area. Students at KAS continue to be involved in non-replicated studies dealing with the interface between environment and various aspects of agronomic technology in the production of vegetable crops. In addition they are involved in animal science studies dealing with specific aspects of poultry, swine, dairy and goat production. Recently the Agronomy Department at COA received J\$2.4M from the Soil Nutrients for Agricultural Productivity (SNAP) to conduct applied research in soil nutrient and fertilizer application.

#### College of Agriculture - Jamaica Foundation

Efforts by the Ministry of Education and COA to reduce the COA budget deficit and deal with the problem of long-term financial stability were channeled through the establishment of the College of Agriculture - Jamaica Foundation in 1991. The GOJ in its effort to support the College provided a commercial farm to the Foundation to be used by the College for both commercial production and research activities. Profits from the farm and fund raising by the Foundation are used to support the College through research funding, scholarships and activities to support faculty and the administration.

In December 1991, USAID provided a grant of US\$100,000 under the project to support the initial staffing (a Managing Director) and support costs of the Foundation. In July 1992, the Foundation received US\$334,046 for procurement of needed equipment for the COA and in August 1993, received an additional US\$25,000 to assist the COA-JF in the rehabilitation of the Spring Garden Farm which had sustained severe flood damage in May 1993. The total USAID grant to the COA-JF was US\$459,046.

The Foundation is working towards the establishment of an endowment fund which will provide the resources necessary for the development of the COA. Financial support for the endowment fund is being sought through non-government agencies and the local corporate and financial entities.

### 3. SUMMARY OF CONTRIBUTIONS:

| Contribution  | LOP       | Actual   |
|---------------|-----------|--|
| USAID (loan); |           | 8,350,000 (initial obligation)<br>1,150,000 (Amendment 1)<br>3,000,000 (Amendment 2 - de-ob)<br>495,407 ("M" Acct de-ob) |
| Total         | 9,850,000 | <hr/> 12,995,407   |
| USAID (grant) |           | 300,000 (initial obligation)<br>2,700,000 (Amendment 1)<br>560,000 (Amendment 3)<br>15,824 ("M" Acct de-ob)              |
| Total         | 3,000,000 | <hr/> 3,575,824  |
| GOJ           |           | 5,151,000  |

The USAID loan funds were used for training, commodities, construction and evaluation while the grant funds were used for technical assistance.

The GOJ contribution was used to provide the host country inputs of land, personnel, construction, and commodities. In addition, the GOJ provided annual recurrent funds to meet operational and maintenance costs estimated at approximately US\$1,600,000 per year.

### 4. PROJECT ACCOMPLISHMENTS:

#### Summary of Impact

With the help of the Agricultural Education Project (532-0082), which ended in late 1993, Jamaica's only center for tertiary agricultural training is now revitalized and its graduates are already having a beneficial impact on the sector. At the beginning of this \$9.8 million project in 1984, the College of Agriculture was in disarray, having suffered years of declining support and a disruptive relocation to a new campus across the island. Faculty were inadequately trained, dormitories, laboratories and classrooms severely inadequate, and graduates unsure of employment prospects. With USAID funding and technical assistance, the college developed strong and enduring

ties with Louisiana State University, launched a Foundation and Trust Fund for lasting financial support, doubled dorm space, built laboratories, offices and classrooms, financed 32 academic degrees in the U.S. for faculty members, and helped increase enrollment from a pre-project maximum of about 240 to the current total of nearly 400. Now, with the college's improved quality and reputation, nearly 100 percent of graduating students receive and accept offers of employment within 90 days after graduation.

### Technical Assistance

Through the technical assistance component, major improvement was accomplished in institutional management and administration:

- i. A precise mission statement has evolved and been documented to guide the operation and development of the College of Agriculture.
- ii. The administrative structure of the COA has been modified to permit academic departmentalization and establishment of parallel budgetary cost centers.
- iii. A comprehensive set of Administrative Policy Statements have been developed and documented.
- iv. Computerization of the Business Office Accounting and the non-land inventory by location has been accomplished. Computerization of student records have been initiated and is continuing with local expertise within the College of Agriculture.

### Construction

#### College of Agriculture, Passley Gardens:

The combination of new and renovated classrooms and laboratories support a student body of at least 400 students. Partial renovation of the kitchen has alleviated several major health hazards. However, vital pieces of equipment from the procurement initiative makes the kitchen situation marginally acceptable at best. The library was expanded and secured to protect the collection. Major renovations of the abattoir and the hatchery were done. A stand-by generator with the capacity to support the entire COA complex was properly housed and is fully operational.

Under this component, the following have been completed:

- \* Construction of 189,000 gallon water storage tank and renovation of Great House

- \* Construction of four three-bedroom and six two-bedroom units for staff housing
- \* Construction of one three-bedroom unit for farm manager's housing.
- \* Staff housing of four three-bedroom and six two-bedroom units and one three-bedroom farm manager's house.
- \* Construction of dormitories, laboratories, classrooms, administrative offices, lecture theater and alteration to existing multi-purpose and administrative buildings.

#### Knockalva Agricultural School

The combination of new and renovated classrooms and laboratories have increased the student capacity to 190 students. The entire farm complex has been centralized adjacent to the dairy facility.

#### Training

Training has been the most successful initiative implemented under the Project.

Twenty-nine individuals were sent for academic degree training; 33 academic degrees were earned - 20 B.Sc, 11 M.Sc, and 2 Ph.D.

Major staff limitations have been largely overcome with the implementation of the training program undertaken resulting in academic degrees. Through this accomplishment has evolved a stable, well-trained teaching force, the best assurance of the projects lasting quality.

Employment Impact of COA graduates:

- There is a very high level of inquiry throughout the year about availability of graduates for employment;
- There is a high level of job offer to students who are still in the final year and near to 100% successful offer/acceptance with 90% day after graduation.

#### 5. EVALUATIONS AND STUDIES:

A mid-term evaluation was conducted in April 1988. The two major findings were as follows:

- a) Both the quality and quantity of technical assistance provided to the COA by the LSU led consortium were superior. To achieve the most effective utilization and benefit from the TA, the project implementation plan was to be reformulated to ensure

that the TA remained in place until the construction, procurement, training, curriculum development and institutional development activities were completed; and

b) Support in the areas of technical assistance, construction, procurement, training and curriculum development were to be continued. However, they should all be addressed as part of an overall effort focused on the long-term institutional development and strengthening of the agricultural education system in Jamaica. This required an increased emphasis on policy constraints including organizational structures, legal status of the COA, GOJ budgetary resources for the COA, management of the COA and secondary agricultural schools within the higher education system.

A mid-course adjustment in both project design and implementation to refocus the project towards addressing these findings was accomplished in a Project Paper Supplement and Project Agreement Amendment in 1990.

The planned end-of-project evaluation to assist the College in its future planning was not conducted. This was as a result of the shortening of the PACD from August 31, 1994 to August 31, 1993 and no future planned activities in agricultural education.

#### **6. CONTINUING RESPONSIBILITIES:**

The Project Agreement, Section 6.2. Project Implementation, includes the following covenants which involve continuing responsibilities for the Government of Jamaica (GOJ):

- a) The College of Agriculture will become and remain a three-year post secondary institution;
- b) The Board of Governors of the College of Agriculture will be appointed for fixed terms under a staggered arrangement and not less than one-half of the positions will be filled by representatives of the private sector;
- c) The student-to-faculty ratio will be 15 or more students per full-time faculty equivalent, with every effort to be made by the Government of Jamaica to seek a more cost effective level of 18:1 or greater;
- d) Within twelve months following execution of the project agreement, the GOJ will complete and execute a plan for the College of Agriculture whereby at least 10 percent of the recurrent costs for the 1985/86 financial year, and increasing progressively to a target of 25 percent of recurrent costs for the 1988/1989 financial year, will be met from resources other than public budgetary support;

- e) GOJ will provide adequate financial support from the government budget for the College of Agriculture and the Knockalva Agricultural School to cover the annual recurrent and capital costs required by these institutions to achieve the purpose of the project during the life of the project and, for ten years following the end of the project, will provide annual funding, in an amount not less than the equivalent of US\$1,700,000, sufficient to allow both the College of Agriculture and Knockalva to continue as viable educational institutions; and
- f) GOJ will take all reasonable and necessary steps to assure that project-financed participants will return to work and assist in the Project by providing two years of service in their institution for each year or major fraction thereof of training received, and for those receiving short-term training of less than six months duration, the obligation will be twice the length of the training period.

#### 7. SUMMARY OF LESSONS LEARNED:

Procurement of equipment was poorly planned and executed. This was largely responsible for a range of unmet expectations. The activity was poorly coordinated and failed to prioritize the institutions' requirements. The project failed to train those responsible for developing item lists to follow USAID procurement procedures.

Passage of the College of Agricultural Act and the autonomy it provides and the creation of the College of Agriculture-Jamaica Foundation are initiatives that will have significant impact on the long-term viability and sustainability of the College of Agriculture.

An apparent reluctance to provide training in institutional management and administration disciplines emerged during the design of the participant training. The consequence is that, whereas there is adequate expertise within the academic disciplines, the lack of parallel training has resulted in a lack of adequate expertise in administrative disciplines at the present time.