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# The Caribbean Agricultural Extension Project

## Making a Difference



## Through Extension

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# Preface

## Reflections on a Decade of CAEP (1980-89)

As the Third Phase of funding for the Caribbean Agricultural Extension Project (CAEP) comes to an end in June 1989, we need to remind ourselves that the Programme is now 10 years old and that after such a period of intensive activity, reflection and review are natural consequences. Any good programme like CAEP deserves a review of its history, and I will briefly set it forth here.

Phase I (1980-82) was devoted to Institutional Analysis of National Extension Systems in the Eastern Caribbean States (OECS).

The data collected in the first phase provided the background that CAEP staff needed in helping National Systems implement extension improvement programmes between 1982 and 1985 (Phase II).

In Phase IIa, CAEP staff introduced the Farm and Home Management Programme, using a farming systems research and extension approach.

The objectives of these phases were achieved through research, training, institution-building and providing support for national systems. To that end:

1. CAEP upgraded skills so extension staff had the knowledge, enthusiasm, and pride to provide better service to its many clients.

This objective was achieved through training programmes at all levels of the human resources spectrum in the extension system. CAEP exposed frontline extension workers, supervisors and middle managers, heads of divisions, and senior executives to intensive training through seminars and workshops. In addition, it encouraged professionalism in extension through the development of the University of the West Indies (UWI) Diploma in Extension programme, and it set up the Excellence in Extension Programme to evaluate and reward individual performance at national and regional levels.

2. CAEP helped streamline the institution for more orderly planning and for extension staff to work more effectively within it. The goals of the institution-building programme were pursued by de novo creation of institutions at organizational, technical, and evaluational levels. The organizational mechanisms established included:

- District Extension Advisory Committees;
- National Agricultural Extension Coordinating Committees;

- a Regional Agricultural Extension Coordinating Committee; and
- professional associations.

The technical institutes formed included:

- National Extension Communications Units; and
- a Regional Extension Communications Unit.

3. CAEP established an on-going relationship in which CAEP could assist national systems in keeping abreast of and taking the lead in the development process.

CAEP maintains its on-going relationships through active involvement with the organizations mentioned earlier and others as well.

CAEP has developed a strong extension programme, yet it remains to be seen whether the ultimate goal of continuing farmer education will be sustained. At a time when the very necessity for extension services is being questioned, it may be useful to reflect on and reconstruct the philosophical underpinnings of CAEP in the light of the experience of the last 10 years.

It seems to me that by their very nature, technological innovations tend to create disequilibria among people, communities, and nations because of differences in the rate of adoption of the innovations, for whatever reason. If this premise is true, and there is a great volume of evidence to support it, then it follows that technology-based development must be knowledge- and training-intensive in order to arrest and reverse disequilibrium and to create, in its stead, societal harmony. In this regard, institutions are necessary in order to achieve effective dissemination of knowledge and skills on a continuing and sustainable basis.

In the context of the Eastern Caribbean States (ECS), the prime movers in agriculture are still the farmers; hence, farmers are the target for training and institution building, and the National Extension System must be the vehicle for delivery of training and creation of institutions.

According to Professor Tom Henderson, former Director of CAEP, the interrelationships between national extension staff, agricultural ministries, farmers, and politicians have been strengthened in each participating territory through CAEP. Interrelationships between UWI Extension staff and Research staff were changed by sensitising researchers to the role and functions of the Department of Agricultural Extension. At the larger institutional

level, the Caribbean Agricultural Research and Development Institute (CARDI) and the Caribbean Agricultural Rural Development and Advisory Training Service (CARDATS) have worked in the the ECS with UWI.

UWI also established firm links with the Universities of Minnesota and Wisconsin and with other members of the Midwest Universities Consortium for International Activities (MUCIA). In addition, it strengthened ties with the Ministry of Food Production in Trinidad and, in the field, made closer contact with the farmers in the ECS and in Trinidad and Tobago.

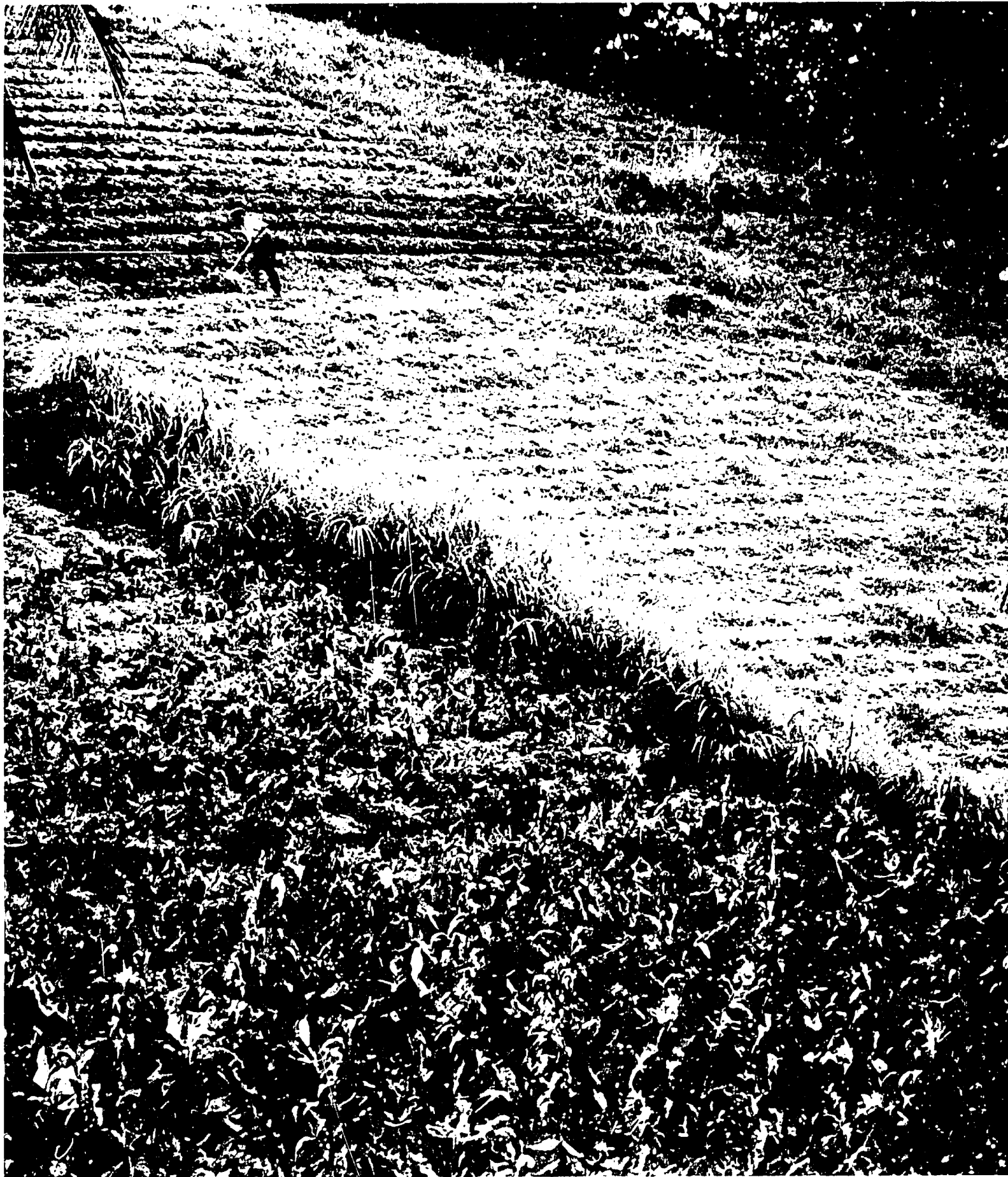
All the changes I've discussed started as experiments that were meant to lead to greater societal harmony in the agricultural sector. The extent to which these experiments have been successful seems to justify the philosophical underpinnings of CAEP. Nevertheless, many more experiments are needed before the philosophy can be deemed law.

We look forward to these experiments in great anticipation of the solutions to the fundamental problems of agricultural development. The next experiment could further harmonize research/extension linkages at programme and institutional levels.

A handwritten signature in black ink, appearing to read "Lawrence A. Wilson". The signature is fluid and cursive, with a large initial "L" and a stylized "W".

Lawrence A. Wilson, University Dean,  
Faculty of Agriculture

***Farming is difficult in CAEP countries. Steep terrain like this hillside in St. Vincent is common.***





*During the dry season in Antigua, farmers sometimes have a difficult time finding enough forage for their cattle.*

#### Introduction

In 1980, the Caribbean Agricultural Extension Project (CAEP) embarked on an ambitious programme of extension reform with the ultimate goal of improving the economic and social well-being of small farm households in the Eastern Caribbean States (ECS).

The project was born out of a linkage between the University of the West Indies (UWI) and the Midwest Universities Consortium for International Activities (MU CIA). The Department of Agricultural Extension was to serve as the executing agency on behalf of UWI with funding support from the United States Agency for International Development (USAID).

Much has been accomplished in 10 years. UWI and MU CIA staff have worked with ECS to shape the CAEP model of extension delivery in which the farmers' immediate concerns are addressed to suit their individual circumstances.

Phases I and II of this exciting process were documented in our first summary publication *The Caribbean Agricultural Extension Project: More Productive Agriculture Through Extension*. However, to provide the reader with some background, a brief review of Phase I and II activities is necessary.

In Phase I of the project, from March 1980 to June 1982, CAEP staff identified the activities and resources needed to improve national extension services. This

phase revealed a rather discouraging picture of Caribbean extension services.

For example, typical junior field officers had little formal training and were not sure what they were supposed to do. They had no job descriptions or work plans to follow. They had no demonstration equipment, few materials to give to farmers, no communications programme, and no means of transportation.

Each would visit one or two farmers a day, ask how things were going, and pass on whatever information had been handed down about government agricultural policies, regulations, and projects. They were viewed as government bureaucrats who got paid too much, even at a salary of \$300 a month. Morale was low, professional identity was almost nil, and officers felt no real support from superiors.

The upshot of this was that farm families had trouble earning a living and scarce land resources were underutilised for profitable agriculture -- especially small scale farming. Clearly, something had to be done.

To rectify the problems, CAEP applied for and received additional funding from USAID for its Phase II project, which was in effect from August 1982 to July 1985. During this phase, goals focused on increasing the impact of extension on farmers by: (1) supporting the implementation of national extension improvement plans; (2) building national extension communications units; and (3) increasing regional backstopping for

national extension services through UWI and the CARDI.

To achieve these goals, eight activities were developed:

- (1) functioning National Extension Planning Committees were established in all countries, providing an important mechanism for private sector and farmer influence on setting extension priorities and agricultural policies;
- (2) farmer education became the primary function and focus of national extension services, virtually eliminating regulatory functions and significantly reducing service functions;
- (3) an annual programme development and planning cycle was introduced into the national extension services, making extension programmes more coherent, focused, and aimed at identified priorities for agricultural development;
- (4) work plans and job descriptions were introduced to make extension agents more focused and effective;
- (5) supervision of extension was increased and became more effective;
- (6) regional and national extension communications units were established and equipped with staff trained in communications methods;
- (7) organizational structures were clarified and streamlined; and
- (8) a regular programme of in-service training was established which focused on agricultural development priorities.

These activities resolved many of the problems addressed earlier. For example, Ministers of Agriculture began saying positive and supportive things about extension. Outstanding officers were being recognised and rewarded and were providing positive role models for others. All staff, from junior to senior levels, had participated in extensive in-service technical training each year. All field staff had basic demonstration equipment.

Through their district offices, frontline staff had access to transportation to conduct field demonstrations.

Each officer had a concrete, operational work plan to follow. This work plan set expectations for meeting with farmer groups

*This extension field officer is checking the cocoa plants which are part of a research program in St. Lucia.*

to advise on specific agricultural subjects.

Each had a schedule of activities to follow and a list of tasks to accomplish. They were supervised by district officers who held regular staff meetings.

The district officers had received training in supervision and programme development aimed at enhancing the effectiveness of frontline field staff.

Both the frontline staff and district supervisors were backed up by a national communications unit. National agricultural newsletters and fact sheets were available for distribution to farmers on major production topics. Radio programmes were geared to seasonal production cycles and to backstop extension officers in the field.

National agriculture committees in each country were meeting regularly to review extension priorities and, with important private sector input, maintaining pressure to make extension ever more productive. Chief Extension Officers (CEOs) and Chief Agricultural Officers (CAOs) had received direct training and support for the first time through CAEP senior management workshops. These workshops focused on the role of senior management in supporting and enhancing frontline extension agent effectiveness.

## Problems Still Existed

While much was accomplished in those three years, much remained to be done to strengthen further national extension services and to institutionalize the changes that had already occurred. CAEP needed to increase further the effectiveness of frontline extension staff where technology transfer really occurs.

The changes introduced in Phase II were new and fragile. They constituted fundamentally different attitudes, knowledge, behaviours, expectations, and roles.

The process of institution-building had thus far involved new structures and forming a consensus about what an effective extension service can and should be. It had also involved laying an institutional foundation that would fully support and reinforce new attitudes, knowledge, behaviours, expectations, and roles.

There were, however, several things to be done to more fully institutionalise the changes already in place.

For example, in several countries the national planning committees were not yet self-sustaining, and their place within the agricultural development process was still ambiguous.



In addition, annual plans of work needed to be more closely linked to budget cycles and budget requests.

Also, the linkages between research and extension were still in their formative stages. Some service duties were still included in extension responsibilities.

Some extension staff didn't understand the difference between work plans and job descriptions, and procedures needed to be established for reviewing and revising job description.. Supervision needed to be more closely tied to job descriptions, and some supervisory reports were not being done even though required.

Good records of in-service training had not been kept in some cases, and responsibility for in-service training was still ambiguous in some countries.

With regard to extension methods, increased group meetings were occurring, but the quality of those group meetings was sometimes questionable. Additional training in group methods needed to take place to improve the quality of group techniques.

The production activities and communications focus of national communications units needed to be more

closely tied to annual extension work plans.

Transportation problems also remained critical for many frontline extension staff.

### A New Phase Begins

The commitment to attack these problems was reflected in the expected outcomes of Phase IIa of the project, which was designed to increase further farmer knowledge and adoption of appropriate technologies. In this continuation phase, which was again supported by USAID, CAEP hoped to achieve the following three outcomes:

- (1) increased effectiveness of frontline extension agents,
- (2) fully institutionalized changes in national extension services, and
- (3) more effective regional backstopping.

CAEP staff were invited by the Regional Agricultural Extension Coordinating Committee (RAECC) to concentrate their efforts in a specific location of each country to demonstrate the effectiveness of a reorganised extension service. In each country a district was selected to serve as a demonstration area. Approaches were tried

*In-service training is extremely important. Here Extension field officers learn about proper techniques for handling herbicides from Fritz Elango, UWI lecturer in plant sciences and biochemistry.*





in these districts and in-depth evaluations made of their effectiveness.

The demonstration approach has several merits. First, if mistakes are made they can be more quickly identified and corrected in one district as opposed to an entire country. Second, it is much less costly to focus available resources into one district -- particularly when the outcomes of the efforts are uncertain. Third, evaluation of the overall effectiveness of the effort could more efficiently be made by outside reviewers.

As Phase IIa of the project concluded in June 1989, CAEP staff had many reasons to be proud. All project goals were not fully achieved, but the gains made were impressive. What follows is a look at this continuation phase through the eyes of some who were closely involved. The first portion deals with general strides made in achieving goals and the second zeros in on the demonstration district approach taken by the CAEP.

### More Effective National Extension Systems Through Planning

Ask Oliver Grell, Chief Extension Officer (CEO) of Dominica, about what CAEP has done for extension in his country and he will highlight CAEP's efforts in areas like in-service training, job descriptions, a revolving loan scheme, and work plans that now are mandatory throughout the Ministry of Agriculture.

Grell recalls the second phase of CAEP as one where the emphasis was on getting staff members developed to a level where they could effectively implement a work plan. Phase IIa of CAEP addressed the matter of better training in order to serve the farmer as effectively as possible.

"I think the whole approach is one where you first get the staff prepared and then work to solve a problem. When you're satisfied that yes, they're making inroads into that problem and the farmers understand what is going on, then you move them (extension officers) onto another one," Grell concludes. Success, then, involves identifying a pressing problem, determining its solutions, preparing officers to meet it, and getting them involved with farmers to solve it.

Problems cannot be identified, let alone solved, without effective planning, and this

*Chief Extension Officers and Chief Field Officers meet with Leewards Program Leader St. Clair Barker (standing) to discuss performance appraisals for field staff.*



need was addressed. CAEP IIa aimed at institutionalising the development and implementation of work plans for national extension services. CAEP encouraged each participating country to develop a work plan that would serve as a blueprint for all extension activities in that country. The national work plan would reflect government policies and priorities with an annual review process that would allow revision and updating when necessary.

District priorities were developed from the national work plan, and with CAEP assistance, frontline officers produced individual work plans from those district priorities and plans. The expected outcome was a systematic and integrated approach to extension activities in the country.

Oliver Grell explains that CAEP-sponsored training served to motivate his preparation of the national work plan for Dominica. CAEP sent Grell to a class held at the University of Wisconsin-Madison, where over a 10-week period he and other programme participants analysed the styles of extension approaches being tried around the world. Says Grell, "That exposure did me very well in that immediately upon my return to Dominica I...initiated the

development of a two-year work programme. That in my mind has been one of my successes." He says planning two years at a time helps keep short-range goals realistic and forces staff to consider the longer term.

Once a country approved a national plan, CAEP worked with the CEO and district supervisors to review district work plans. The CEO and supervisors were guided through the processes of integrating district and national work plans and of ensuring that the district plan reflected government policies and programmes. In addition, CAEP helped the CEO and supervisors develop a training programme that would backstop work plan activities.

CAEP addressed the need for an integrated approach to planning, not only within Ministry of Agriculture Extension Services but also between the private sector and the Ministries. To this end, CAEP encouraged more active cooperation between the Ministry and private companies. It also worked with each Ministry's Chief Agricultural Officer (CAO) and Chief Extension Officer and the heads of relevant commodity associations to coordinate activities in each country.

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*"Of the changes that have occurred since the beginning of CAEP, one of the most marked has been the improvement in the quality of interaction between research and extension agencies."*

**—CAEP Evaluation Report**

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A good example of this can be found in Grenada, where there are multiple organisations engaged in extension activities. CAEP showed how to make institutional changes that would bring the various services together to achieve cooperative planning. Differences still exist, but the approach stresses creative ways to resolve them.

In recognition of the need to coordinate efforts between research and extension, CAEP helped ensure that CARDI, CARDATS, other research institutions, and private sector organisations were all involved in the process of programme development.

To encourage research writing for non-technical audiences such as extension personnel in the Ministries, CAEP sponsored regional technical writing workshops on the theme "Writing for Non-technical Audiences." Participants in these workshops included personnel from various regional research organisations as well as from research divisions in the Ministries of Agriculture.

CAEP also enhanced CARDI participation in the annual UWI-sponsored sub-regional (Leeward and Windward Islands) agricultural extension in-service training courses. During these two-week courses CARDI staff presented pertinent research information from its Technical Information Files (TIFs).

### **Staff Development Measures Are Strengthened**

CAEP IIa continued to focus on staff development measures among extension personnel. Following satisfactory completion of job descriptions and work plans for various levels of extension personnel in the Ministries, CAEP helped CEOs and supervisors acquire competence in conducting performance appraisals. These extension managers and administrators were shown how to use job descriptions and work plans as the basis for performance reviews.

In practice, performance conferencing obtained mixed responses. In Grenada, District Officer Raleigh Lalique reported that when he conducted quarterly performance conferencing, he held open discussions and got fairly good feedback. "Where officers were weak, I made comments on the form and they accepted them. For those tasks they

were not able to complete, the officers agreed to ensure they would be achieved. But what happened was that during the next quarter there wasn't enough seriousness or commitment on the part of some officers. We had fairly good discussions but as for correcting errors, we had some problems."

CAEP staff worked with extension supervisors on a one-to-one basis to help them improve performance reviews. They also worked on improving other supervisory skills such as holding regular staff meetings, responding to field problems, and providing feedback to frontline officers. These areas of management continue to be weak spots and CAEP is committed to addressing them further.

UWI Programme leaders Dunstan Campbell and St. Clair Barker observe that generally, management of the extension system is not being performed in the way CAEP conceptualized it. They feel a more systematic approach needs to be developed for such functions as counselling, reprimanding, making interventions to correct behaviour, and providing organizational support for staff people. According to Campbell, "There is not always the type of supervision which would lead to the development of the individual. In many cases supervision leads to conflict -- 'I'm the boss and I can tell you what to do, what to do it, and how to do it' instead of 'I'm here to support you, to encourage you.' We have not seen much of that."

CAEP offered extension managers and supervisors training opportunities in the U.S. for improving supervisory skills. These opportunities included courses offered by the University of Minnesota, the University of Wisconsin-Madison, and the United States Department of Agriculture (USDA). Site visits and on-the-job related experiences were also arranged with extension counties in Minnesota and Wisconsin. Also, CAEP sponsored the development of a manual for agricultural extension supervisors in the Eastern Caribbean. This is now a major publication and is much in demand.

CAEP also sought to obtain and maintain the commitment of key senior personnel in the Ministries (Permanent Secretary, Chief Agricultural Officer, Chief Extension Officer) in the developmental process for more effective national extension services.



An annual meeting of Chief Extension Officers at the UWI will now serve to provide exchange of views and policies across the sub-region. In addition, CAEP continued its efforts to engage these senior personnel in organising National Agricultural Committee activities where interest in those activities was shown.

### **Ensuring Farmer Contact -- To Better Serve the Farmer**

In addressing the need to increase contact between the national extension service and farmers, CAEP promoted the group approach to deliver educational messages and other information to farmers. It offered training in group dynamics to supervisors, frontline officers, and district committee members. CAEP delivered it in two series of workshops in two successive years, and the training was very well received.

Urban Zamore, District Officer in Dominica, observes that the methods presented in the workshop on group formation, group activities and on how to conduct meetings are all being followed. The skills are reflected in the way the sub-committees and central committees in Dominica go about their scheduled meetings. Remarks Zamore, "You can see a marked improvement over what was before in what is now."

CAEP staff also sought positive ways to improve the reporting system for frontline officers. Supervisors and administrators were invited to a workshop to attack the problem, and the outcome was a more functional reporting format for frontline officers. The new format provided room for officers to report their contacts by name, gender, age, and type of discussion held. It also included provision for documenting farm management practices among farm families.

CAEP followed up on this effort by providing frontline officers with training in report writing and in using the new reporting format. Grenada's Raleigh Lalique recalls proudly, "Some of them (frontline officers) really developed, really improved their skills in writing reports."

*St. Lucian field officer Mary Louis talks with a farmer client about farm marketing concerns.*

## UWI's Agricultural Extension Department Makes a Difference

The University of the West Indies has achieved a greater relevance to Caribbean agricultural development through the concerted efforts of the UWI Department of Agricultural Extension. It directs CAEP and performs the normal functions expected of a university department.

P.I. Gomes, who now serves as CAEP Director and head of department, says flexibility is the key to making the department function smoothly. "Everyone has to wear a number of hats in the department. For example, Naimraj Mangroo is an office assistant who does photocopying, fills in for printer Albert Mahabir, and has also developed into an excellent video cameraman. He's just one example. Virtually everyone assumes a variety of roles. If they didn't we wouldn't be able to complete everything we have to do." CAEP funds helped provide the training necessary for staff diversity.

Gomes along with faculty members David Dolly and Joseph Seepersad and graduate teaching assistant Ann Rajack teach courses in Rural Sociology, Extension Principles, Communications, and Extension Theory. They also teach Diploma in Extension, a programme aimed at middle-level management extension professionals from around the region.

The department's graduate programme has made significant strides during the CAEP years. It now has an active programme involving some 14 graduate students. Also, Campbell and Barker conduct a variety of educational programmes for all levels of extension staff in participating countries.

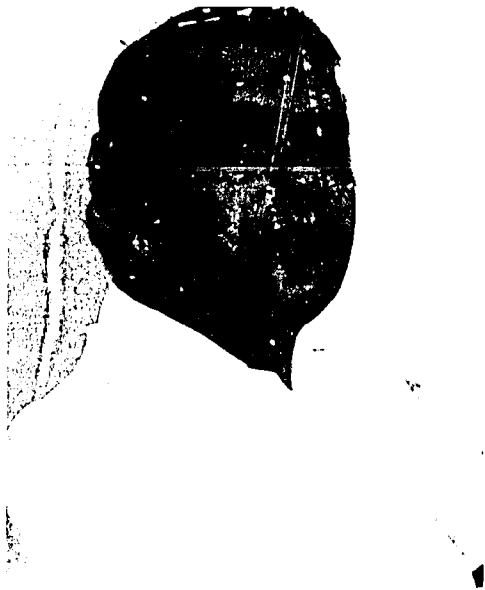
CAEP has provided the opportunity for department staff to take their teaching out of the classroom and into the field. For example, in January 1986, Agricultural Extension Department members organised UWI teaching staff and researchers in a major attempt to fully understand the day-to-day concerns of Caribbean farmers. The vehicle used was the Rapid Reconnaissance Survey (Sondeo). By February 1987, Sondeos had been conducted in the eight islands where the CAEP existed.

The Sondeos were part of the department's and CAEP's attempt to bring researchers into more immediate contact



*Some of the staff of the Department of Agricultural Extension who have helped build the department into an effective teaching research extension unit. Standing L to R: Ann Marie Black, Camilla Blackburn, Naimrhaj Mangroo, Peter Badoolal Singh, Ann Rajack, Albert Mahabir. Seated L to R: Allison Ammon, Karen Yorke, Ingrid Mieres-Vincent, Sabrina Wong-Mottley.*

Its staff of 16 includes five faculty members and 11 technical and secretarial/support staff, and the department has teaching, research, and extension activities integrated into its functions. Two faculty members, Dunstan Campbell and St. Clair Barker, serve as outreach specialists for the Windward and Leeward Islands respectively. They also interface with Ministries of Agriculture in designing and implementing annual work plans. Farm and Home Management Specialist Carlisle Pemberton functions through attachment with the UWI Department of Agricultural Economics and Farm Management.



***Joe Seepersad considers classroom teaching to be his most important backstopping role.***

with field extension officers and practising farmers. P.I. Gomes put the experience in perspective: "The Sondas forced the researchers and teachers in a university setting to ask more serious and penetrating questions about the problems in practical agriculture. This has had a significant impact on their teaching. However, we still need to deepen our researchers' outreach commitments."

For Gomes, the Sondas were evidence of UWI's attempt to capture the means through which Faculty of Agriculture resources could effectively contribute to practical agriculture at the level of the frontline workers.

For some 20 years the department has also used the print medium as an educational tool. Its quarterly *Extension Newsletter* is grounded in the concerns of the practical farmer and is aimed at university faculty, regional extension staff, and business people as well as farmers. It is now provided within the Regional Extension Communications Units formed with CAEP funding (see page 24 for a discussion of RECU).

The newsletter staff does a good job of keeping abreast of relevant issues. For example, the 1987 Regional Agricultural Extension Coordinating Committee (RAECC) identified Praedial Larceny as a major regional problem. The newsletter staff kept the topic alive by devoting a series of articles to the issue.

The Agricultural Extension Department produces an outlet for scientists to communicate their research findings to farmers and other *Extension Newsletter* readers.

Joseph Seepersad and David Dolly still consider classroom teaching to be their most important backstopping role. A significant number of students who are trained at UWI enter Extension Services in CAEP territories and are expected to

be sensitive to the needs of clients and to provide the leadership required for lasting institution-building. "One of the things that would stand out in students' minds was my emphasis...that their clients have a say in the decision-making," said Dolly.

Gomes identifies human resource development as an essential aspect of the education process. He points out that the Department of Agricultural Extension activities demonstrate that the term "extension" means more than "technology transfer." The UWI-trained extension officer is expected to serve farmers whose resources and constraints vary considerably.

St. Clair Barker sees extension officers as "...not merely deliverers of information but discoverers of the needs, issues, and ideas for further research...."



***St. Clair Barker sees extension officers as "...not merely deliverers of information but discoverers of the needs, issues, and ideas for further research."***

Demonstration Districts gave Agricultural Extension Department faculty the opportunity to implement and study an interactional approach to extension. The scientists and teachers "worked through and with extension staff, especially the frontline extension workers who are at the cutting edge, where all the difference is going to be made," Barker says.

The Agricultural Extension Department reorganized its teaching components so as to better reflect the professional skills extension staff need.

*David Dolly is currently researching the adoption of new strains of pigeon pea varieties by Caribbean farmers.*



Through CAEP, the department has introduced extension officers to computer technology. CAEP contributed computer and desktop publishing equipment to the Agricultural Extension Department's Regional Extension Communications Units (RECU). Dolly believes that "the computer is a useful tool for extension" and is excited about sharing the Extension Department's computer knowledge with national Communications Units.

Seepersad says the reorganized, purposive teaching programme in the Department of Agricultural Extension has triggered the need for professional contacts among extension officers in the OECS. Officers not only share classrooms at formal and informal training sessions but also share a genuine interest in each others' work.

Along with teaching and extension responsibilities, the five faculty members place an important emphasis on conducting their own research and writing. For example, Barker has studied the effectiveness of Sondeos, Campbell wrote the first *Manual on Supervision for Caribbean Agricultural Extension*, Seepersad served as major editor for the *Extension Handbook*, and Dolly is studying the adoption of new strains of pigeon pea varieties in Trinidad and Tobago.

Gomes has done a good deal of research throughout the Caribbean on everything from nutritional needs of farm families to plantation dominance and rural dependence in Dominica. He has written more than 100 scholarly articles.

"In order to be an effective department we cannot simply take on a service function role. The research we conduct makes us better teachers and dramatically improves our effectiveness in our extension work," Gomes says.



*MUCIA representative Warren Schauer (center) conducts a farm management field training session.*

### CAEP Institutionalises In-service Training for Frontline Officers

Throughout Phase IIa, CAEP continued to address the need for updating the technical knowledge and skills of frontline officers. Staff worked toward having each

participating country include training as a component in its overall plan for the national extension service. Training for frontline officers was once haphazard, unplanned, or even nonexistent. CAEP supported a systematic programme of in-service training based on national and district priorities as well as farmers' needs. To assist in the delivery of in-service training, CAEP drew upon its local and international resources and upon the region's agriculturally related agencies.

The core of CAEP's in-service training was an annual two-week workshop held separately for the Windwards and the Leewards Islands and hosted by different countries each year. Generally, all or nearly all of the host country's frontline officers participated in the workshop. In addition, each of the other countries sent five to seven participants. Other in-service training was usually delivered to each country in the form of two- or three-day sessions. There were also some half-day sessions (usually at staff meeting time) and some one-on-one

training. Under CAEP IIa, frontline officers in participating countries received from 15 to 150 hours of in-service training each year. The meetings were conducted by Dunstan Campbell, St. Clair Barker, and MUCIA representatives Ken Egertson and Duane Erickson.

Some frontline officers had had no formal training in agriculture. CAEP-sponsored in-service training equipped these people with an array of knowledge and skills. Saint Lucia frontline officer Joycelyn Louison credits all of her extension training to CAEP. Louison reflects, "I must say I have learned quite a lot from CAEP... I have learned partial budgeting, goal setting, programme planning, the farm and home management approach, data collection, and evaluation of data."

In Dominica, District Officer Urban Zamore observes, "I look at an officer in District 9, David Basil, who has made a significant change. I think the wealth of experience that he has gathered with CAEP puts him at par with someone who has had

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*"Frontline officer Leroy helped me a lot. With his determination and my hard work, production has increased and I can maintain my family much better."  
(Grenadian farmer)*

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formal training at the diploma level."

A tangible response to the need for continuously updating frontline officer knowledge and skills came with the production of the *Caribbean Agricultural Extension Manual*. The manual contains a module on programme planning and over 100 fact sheets on a wide range of technical topics. It was produced by the Regional Extension Communications Unit (RECU) and the national communications offices.

Frontline officers were trained in how to use the programme planning module and in general use of the fact sheets. The CAEP manual is packaged in a loose-leaf binder so newly produced material can be easily inserted. For example, when the Communications Unit in Grenada produced six pamphlets on "How to Improve Production" for farmers and frontline officers, CAEP distributed these pamphlets for officers to include in their manuals.

*CAEP staff have produced more than 130 fact sheets as well as several bulletins and pamphlets.*



Dominica's District Officer Urban Zamore reports that because of the influence of CAEP his officers spend more time reading the pamphlets they get from the information unit. "Before, you would hand out information to them and it would have stayed on a shelf and collected dust," says Zamore. "At present, frontline officers are more aware of their role in extension and so a lot of reading is done. Material used to go untouched before; now everything is used and farmers benefit a lot more."

Dunstan Campbell, Windwards Programme Leader, explains that fact sheets in the manual were intended for



*Windwards Programme Leader Dunstan Campbell would like to see more field officers distribute fact sheets to farmers.*

distribution to farmers as well as to frontline officers. Although Campbell is aware that frontline officers read and make references to the fact sheets, he is concerned that officers are not distributing them to farmers. He explains that the manual is supposed to be a sort of "backpack" to be taken in the field. He would like to see frontline officers keep the manual in the vehicles they use to visit farmers and pass out extra fact sheets to the farmers they see.

### **Vehicles Help Improve Frontline Officer Productivity**

In Dominica, CEO Grell credits productivity to increased officer mobility resulting from CAEP's donation of vehicles to the extension service and from CAEP's innovative revolving loan scheme under which officers can purchase duty-free vehicles.



Grell states that the money Dominica originally received allowed extension officers to purchase nine vehicles. At present, the Dominica extension service receives the cost of two and a half vehicles each year. The money comes from repayments by the nine officers who had earlier received vehicle loans. The programme is working, but many wish that more could be done. Grell recalls, "At one time we even began drafting out a letter asking CAEP if it could top off that sum of money so as to allow turnover to be much quicker. In some cases staff have to wait three or four years before they can have access to such a vehicle." Unfortunately, funds were not available for expanding this service.

Nevertheless, Grell says the existing vehicles help officer productivity -- not only in terms of a higher standard of work but also in terms of time saved during the work day. "In some areas the extension officer had to spend two and a half hours moving from one area to the next. Now he can cover that (move) in a matter of 20 minutes. CAEP has provided the officer with much more time as far as his implementation of his work schedule is concerned."

## CAEP Continues to Build Professionalism

CAEP continued to address the need for increased professionalism among frontline officers through its Excellence in Extension Programme. Annual Excellence in Extension Workshops were conducted for officers, each one a nominee from a participating country. At the conclusion of the workshop, one officer was elected by his or her peers to represent them at a meeting for extension workers in the United States. CAEP provided full sponsorship for the excellence officer's overseas participation. This is a competition of sorts and officers take it very seriously.

Networking among extension workers in the region appears to be an outgrowth of Excellence in Extension workshops as well as regional in-service training programmes. Nonetheless, CAEP seized the opportunity to assist in developing national and regional professional extension associations. On the subject of the professional association in Dominica, CEO Grell states, "I do not know whether I should give CAEP all the credit for the initiation of the Association of Extension and Agricultural Workers.

However, from its inception CAEP has been 100 percent behind this approach and attempts are being made now to develop such an association on the other islands."

In promoting the development of a more professional frontline officer, CAEP anticipated a welcome by-product would be increased morale and more positive attitudes among officers. The staff morale problem was seen as being linked with the problem of staff members not knowing their responsibilities. As mentioned earlier, CAEP helped develop job descriptions for frontline officers and trained officers in programme planning.

CAEP projected that increased morale would be reflected positively in the officers' view of extension as a career and in their attitudes toward work. Frontline officer Joycelyn Louison seemed to typify this observation when she said, "This (CAEP) project has enabled me to do a better job on the whole. The training received from CAEP has been invigorating. It enlightened me in the different areas that I was lacking and I must say I am quite ready and prepared to do a better job."

In Grenada, frontline officer Michael Neckles is more vocal about the positive attitudes toward work he has developed under CAEP. Asked specifically about his ability to approach the farmer more confidently, Neckles' immediate response is "I could boast about that."

Neckles describes how when he started working as an extension officer in 1984 he would visit farmers in a "helter-skelter" manner. That is, he would plan to visit a farmer, get to the farm, and then turn back because he was uncertain about what he would discuss. Neckles recalls, "If he (the farmer) happened to pull up on me first, I may say 'Hello!' to him. We might start to talk and I might point out something. But then the confidence of visiting a farmer was not there. Now I always feel challenged to visit any farmer."

It seemed to Neckles that in the past, some farmers always contradicted frontline officers. If an officer made a recommendation for growing a particular variety of a crop, the farmer would tell the officer of another variety he thought was better. Today, Neckles is sure that when faced with that situation, officers can



*CAEP purchased several vans like this one for use by communications office staff. It also developed a loan scheme for field officers to purchase their own vehicles.*



*Extension field officers like Daniel Arthurton of Nevis feel CAEP training helped them be more effective in working with farmers.*

compare both varieties and make a positive recommendation.

More and more farmers now admit that frontline officers are well-equipped to move them from one stage to another. Neckles concludes, "I have learned a lot in terms of visiting the farmer, in terms of addressing problems that face extension officers and farmers, and I'm looking forward to gaining a lot more from upcoming activities."

Reflecting on the difference CAEP has made to frontline staff, CEO Oliver Grell of Dominica had this to say: "I no longer have to deal with people who approach extension in a sloppy, unprofessional manner. I think that has changed. I am now dealing with a bunch of seriously trained professional people as compared to a bunch of amateurs: that is the difference for me." Grell feels that the majority of frontline officers do have a natural love for extension and as a result they give it their best when they go out into the field.

### **Demonstration Districts The Centerpiece of CAEP IIa**

The North Zone in Antigua, Northwest District in Dominica, Lower East Region in Grenada, Region 1 in Saint Lucia, and

Region 2 in St. Vincent all had something in common in 1985. They all met CAEP's demonstration district selection criteria:

- a desire of extension staff in the district to participate in the proposed activities,
- the nonexistence of other potentially competing extension activities,
- a formally trained district extension officer,
- the availability of housing and transportation for the district officer, and
- an in-district residency of frontline officers.

When extension staff in Montserrat, Nevis, and St. Kitts later expressed interest, a demonstration district was declared in each of these countries.

The idea of the demonstration district grew out of a meeting of the Regional Agricultural Extension Coordinating Committee (RAECC) in 1984. A request was made to CAEP to demonstrate an effective extension programme at the farm level using a farm management approach.

CAEP conducted a Rapid Reconnaissance Survey (or sondeo) in each demonstration district and used a farming systems approach. Problems and priorities were identified and recommendations were outlined.

Taking the sondeo results into account, CAEP worked with extension staff in each of the selected districts to develop a district work plan. It would form the blueprint for CAEP's proposed activities in that district. CAEP drew input from government plans and policies, other cooperating agricultural agencies, and a host of others.

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***"The demonstration district activities were taxing but at the same time enjoyable. I even took work home and completed it at all odd hours."***

**—frontline officer Joycelyn Louison, Saint Lucia**

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**CARIBBEAN AGRICULTURAL EXTENSION PROJECT**

# Farm Facts about the Eastern Caribbean



## **Agricultural Diversity Offers Opportunities for CAEP Countries**

Over a 10-year period the Caribbean Agricultural Extension Project has sought to improve the livelihood of farmers in the Eastern Caribbean. The project, a cooperative effort of the University of the West Indies and the Midwest Consortium for International Activities (MUCIA), was funded by the U.S. Agency for International Development (USAID).

The project grew out of a need to address problems regarding research and extension activities relating to farmers in the Eastern Caribbean. Extension service activities were once characterised by a lack of planning, little training for extension officers, a lack of proper equipment for carrying out extension activities, and severe morale problems among those trying to help the region's farmers. Over the 10 years of the project, CAEP staff have helped build an effective extension programme in the region and, as a result, have greatly improved the lot of the Caribbean farm family. This effort will be continued through a new programme called the Agricultural Research and Extension Project (AREP) which has received a five-year funding grant from USAID (1989-1994).

AREP is designed to strengthen the institutional capabilities of national extension service and regional research and extension organisations. The success of this phase will depend in part upon the efforts of UWI and the Caribbean Agricultural Research and Development Institute (CARDI), the two organisations leading this effort. These two will work with Ministries of Agriculture, farmers, and other concerned organisations to build a better agriculture.

The seven participating countries have a rich diversity of crops and livestock. The following six pages contain some of the most recent data available on the agriculture of each of the countries. The data were obtained from the 1986 Statistical Yearbook for the Caribbean.

For more information on the CAEP and AREP projects or for more on the individual countries, you may write to the appropriate address(es) below:

P.I. Gomes  
Department of Agricultural Extension  
University of the West Indies  
St. Augustine, Trinidad, W.I.  
Tel. (809) 663-1334

William Flinn, Executive Director  
Office of the Executive Director  
The Ohio State University  
Riverwatch Tower/Suite A  
364 West Lane Avenue  
Columbus, Ohio 43201 U.S.A.  
Tel. (614) 291-9646

### **Ministries of Agriculture:**

Ministry of Agriculture, Lands, Housing,  
Labour, Tourism and Development  
Main Street  
Charlestown, NEVIS

Ministry of Agriculture  
Fisheries, Lands & Housing  
Long Street  
St. John's  
ANTIGUA

Ministry of Agriculture, Lands,  
Housing and Development  
Government Headquarters  
P.O. Box 186  
ST. KITTS

Ministry of Agriculture,  
Trade, Lands & Housing  
Plymouth  
MONTSERRAT

Ministry of Agriculture, Lands,  
Fisheries & Cooperatives  
Manoel Street  
Castries  
SAINT LUCIA

Ministry of Agriculture  
Botanic Gardens  
Roseau  
DOMINICA

Ministry of Trade, Industry and Agriculture  
Kingstown  
ST. VINCENT & THE GRENADINES

Ministry of External Affairs,  
Agriculture, and Tourism  
St. Georges  
GRENADA

**PERCENTAGE OF POPULATION  
ACTIVE IN AGRICULTURE**

COUNTRY	% IN AGRICULTURE
Antigua & Barbuda	38.7
Dominica	38.1
Grenada	27.6
Montserrat	25.0
St. Christopher/Nevis	30.8
Saint Lucia	37.0
St. Vincent & The Grenadines	ND

**LAND USE**  
(Percentage)

COUNTRY	LAND AREA (Hectares)	ARABLE LAND	CROPS	MEADOWS & PASTURES	FOREST LAND	OTHER LAND
Antigua & Barbuda	27,114	5.0	0.8	39.3	34.9	20.0
Dominica	78,975	—18.5—		0.8	70.7	10.0
Grenada	34,165	14.9	27.2	2.4	8.8	46.7
Montserrat	10,196	39.1	3.0	4.0	30.2	23.7
St. Christopher/ Nevis	16,766	28.4	28.2	22.1	17.5	4.0
Saint Lucia	29,160	18.2	39.6	10.2	26.4	5.6
St. Vincent & The Grenadines	13,914	34.7	28.0	13.8	18.0	5.5

**IMPORTS/EXPORTS**

(Percentage)

	Antigua & Barbuda	Dominica	Grenada	Montserrat	St. Christopher/ Nevis	Saint Lucia	St. Vincent & The Grenadines
<b>IMPORTS</b>	25.0	19.3	28.4	20.8	19.7	22.8	23.6
<b>EXPORTS</b>	2.9	53.8	83.4	8.4	69.8	66.3	86.2

# FRUIT AND VEGETABLE

## BANANA AND CITRUS PRODUCTION

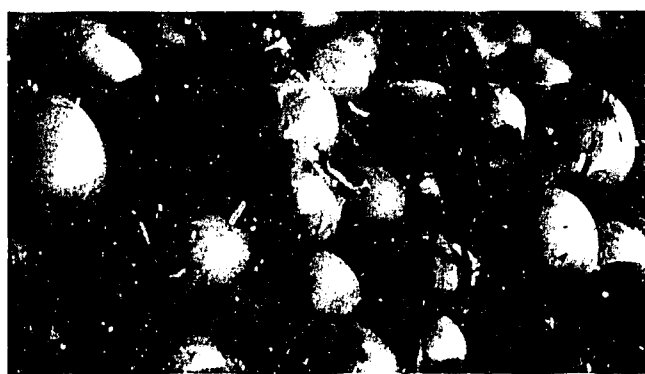
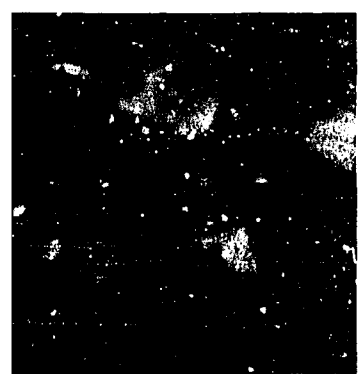
(Metric Tons)

COUNTRY	BANANAS	PINEAPPLES	COCONUTS	ORANGES	GRAPEFRUITS	LEMONS & LIMES
Antigua & Barbuda	382	185	3,213	6	47	18
Dominica	37,000	ND	13,404	1,839	4,595	6,000
Grenada	8,136	7,412	2,000	861	2,175	151
Montserrat	64	2	ND	ND	ND	34
St. Christopher/ Nevis	101	21	24,000	10	9	39
Saint Lucia	84,000	ND	31,000	281	256	202
St. Vincent & The Grenadines	33,000	2	20,000	227	123	153



COUNTRY
Antigua & Barbuda
Dominica
Grenada
Montserrat
St. Christopher/ Nevis
Saint Lucia
St. Vincent & The Grenadines

# PRODUCTION IN THE OECS



CROP PRODUCTION  
(Metric Tons)

	SUGARCANE	MAIZE	SWEET POTATOES	CASSAVA	YAMS	ROOT & TUBERS	CABBAGE	CARROTS	PEAS & BEANS (Green)	TOMATOES	PUMPKINS	CUCUMBERS	ONIONS	SWEET PEPPERS
110	38	101	55	27	41	117	136	99	150	168	272	23	27	
D	ND	1,000	1,000	5,000	17,323	925	412	90	153	417	1,838	ND	ND	
000	279	146	ND	400	523	127	45	582	54	136	34	ND	13	
D	ND	143	ND	ND	52	36	60	36	64	1	3	11	ND	
000	3	154	45	55	260	26	13	6	24	67	23	4	8	
D	2	297	ND	713	575	183	84	ND	304	34	86	ND	10	
34	ND	2,000	3,000	4,000	2,003	180	161	30	199	ND	326	ND	272	

## SECTOR CONTRIBUTION TO GROSS DOMESTIC PRODUCT

(Percentage)

COUNTRY	AGRICULTURE	MINING	MANUFACTURING	CONSTRUCTION	TRANSPORT	GOVERNMENT	OTHERS
Antigua & Barbuda	5.7	0.7	4.4	6.8	24.4	15.7	42.2
Dominica	29.3	0.7	7.2	7.0	16.9	23.5	15.3
Grenada	17.1	1.1	5.9	8.4	22.7	24.2	20.7
Montserrat	4.7	1.3	5.6	7.8	23.5	9.2	47.9
St. Christopher/Nevis	16.2	0.3	14.1	8.0	20.7	19.2	21.5
Saint Lucia	15.0	0.6	8.5	6.9	26.3	21.6	21.1
St. Vincent & The Grenadines	17.4	0.3	10.1	11.2	23.9	19.7	17.5

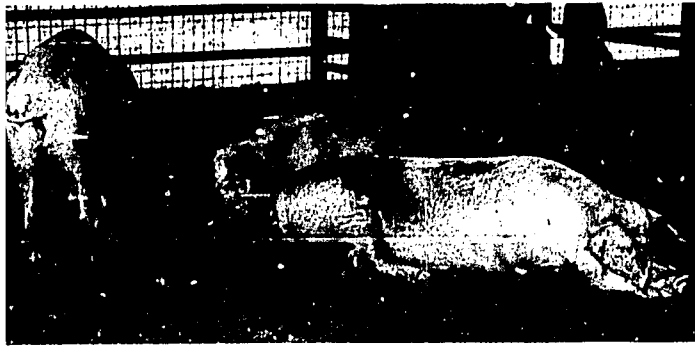
## LIVESTOCK PRODUCTS

(Metric Tons)

COUNTRY	COWS' MILK, Whole, Fresh	HENS' EGGS	BEEF & VEAL	PORK	POULTRY MEAT	MUTTON & LAMB
Antigua & Barbuda	6,000	160	479	227	5,000	59
Dominica	135	190	357	370	9	102
Grenada	2,000	1,000	121	362	ND	719
Montserrat	2,000	50	96	14	10	108
St. Christopher/Nevis	ND	340	201	72	ND	56
Saint Lucia	1,000	520	563	188	61	27
St. Vincent & The Grenadines	1,000	570	80	50	ND	ND







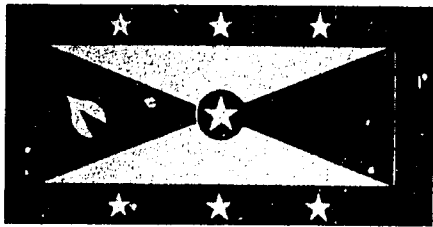
**LIVESTOCK**  
(Head/1000s)

COUNTRY	CATTLE	PIGS	SHEEP	GOATS	POULTRY
Antigua & Barbuda	13	5	11	13	70
Dominica	4	9	4	6	25
Grenada	4	11	17	13	250
Montserrat	4	1	4	6	12
St. Christopher/Nevis	6	10	14	10	ND
Saint Lucia	15	6	14	11	240
St. Vincent & The Grenadines	8	7	13	4	153



**LAND TENURE**  
(Hectares)

COUNTRY	HOLDINGS		OWNED	RENTED	RENT FREE OCCUPATION	SHARE CROPPING	MIXED TENANCY	OTHER
	Number	Total Area						
Antigua & Barbuda	4,658	2,591	1,384	1,072	114	5	-	16
Dominica	8,667	30,835	28,935	989	-	-	-	911
Grenada	13,546	13,859	5,159	3,890	-	3,092	-	1,718
Montserrat	514	1,525	762	502	42	-	-	219
St. Christopher/Nevis	2,785	4,230	2,134	847	-	-	-	1,249
St. Lucia	10,938	29,150	26,991	830	----- 354 -----		976	-
St. Vincent & The Grenadines	7,794	13,917	11,857	419	532	510	598	-

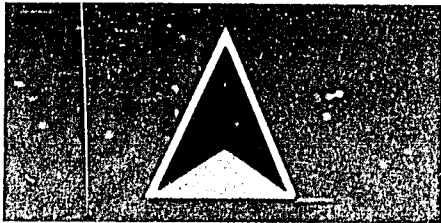


**GRENADA**

Population (1985) – 96,000  
Area (Sq.Km.) – 311  
Area under Agriculture – 16,000 ha.  
Density per Agricultural Land – 6

**ST. VINCENT & THE GRENADINES**

Population (1985) – 110,000  
Area (Sq.Km.) – 389  
Area under Agriculture – 19,000 ha.  
Density per Agricultural Land – 5



**SAINT LUCIA**

Population (1985) – 137,000  
Area (Sq.Km.) – 616  
Area under Agriculture – 20,000 ha.  
Density per Agricultural Land – 6

**DOMINICA**

Population (1985) – 84,000  
Area (Sq.Km.) – 750  
Area under Agriculture – 19,000 ha.  
Density per Agricultural Land – 4

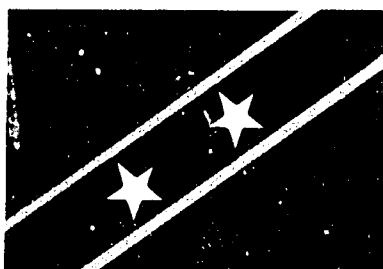
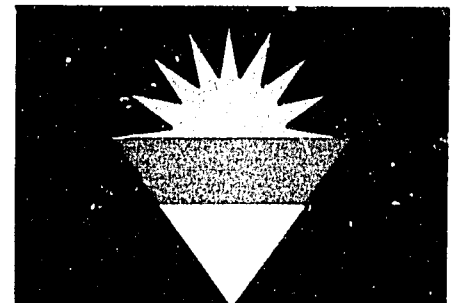


**MONTSERRAT**

Population (1985) – 12,000  
Area (Sq.Km.) – 104  
Area under Agriculture – 2,000 ha.  
Density per Agricultural Land – 6

**ANTIGUA & BARBUDA**

Population (1985) – 80,000  
Area (Sq.Km.) – 440  
Area under Agriculture – 11,000 ha.  
Density per Agricultural Land – 7



**ST. CHRISTOPHER/NEVIS**

Population (1985) – 44,000  
Area (Sq.Km.) – 269  
Area under Agriculture – 15,000 ha.  
Density per Agricultural Land – 3

16



*St. Lucia was one of the first countries to establish an agricultural demonstration district under CAEP supervision.*

For instance, the demonstration district work plans in the Windward Islands reflected national priorities and focused on improving production and marketing practices for bananas. However, the plans also addressed the feasibility of cultivating new crops like passion fruit.



*Onions were identified as a potential export crop for the Leewards.*

In the Leeward Islands, the demonstration district work plans tended to promote onion and white potato production because these vegetables had real potential for import substitution. National extension service work plans formed additional inputs and CAEP worked with district extension staff to ensure that existing work plans of frontline officers were based on the approved annual work plan. This review process was made to ensure demonstration district work plans were relevant and feasible.

The exemplary extension workplan CAEP developed for implementation in each demonstration district had several key features. They included the organisation of a district committee, application of a farm and home management approach with focus on 30 farm families, and in-service training for the extension staff.

Demonstration districts were accorded no special access to government resources. In fact, some districts suffered from temporary reassignments and turnover in personnel.

## District Advisory Committees

In each demonstration district, CAEP supported organisation of broad-based district committees that included farmers, community leaders, representatives of commodity and other farming organisations. CAEP staff expected these committees would review demonstration district work plans. Each committee would provide input and direction in priority setting, and work plan design and implementation.

Efforts were made at organising demonstration district advisory committees in most of the participating countries. Over time, logistical and administrative problems affected the district level advisory committees and it became more efficient to work with sub-district or settlement committees. Such committees were already in place for smaller geographic areas within a demonstration district. To promote the intended committee functioning, CAEP offered committee members training in group dynamics with emphasis on priority setting and functioning of a committee.

Asked about the functioning of the advisory committee in the demonstration district, frontline officer Maximus Lazarus of Grenada responds, "It's working, and working well. Like in any other area I feel people must have a say in the decision-making process that affects them, and the only way farmers would feel comfortable and participate 100 percent in things that

the Ministry wants to implement is when they have an input into that decision-making process."

CAEP encouraged demonstration district committees to pay attention to social change indicators during planning, implementation, and evaluation of the programme for the demonstration district. Further, the committees were requested to include an educational activity or experience related to the demonstration district in all their meetings.

## Demonstration District Work Plan Incorporates Farm and Home Management Approach

The demonstration district work plan required using a farm and home management approach. This involved intensive work with selected farm families. Core groups of 15 typical farm families were selected in Montserrat, Nevis, and St. Kitts. A group of at least 30 typical farm families was selected in each of the other five countries. Across the demonstration districts in the eight participating countries, extension staff worked with a total of 191 farm families. To assist extension staff in implementing the work plan, CAEP provided related training in farm

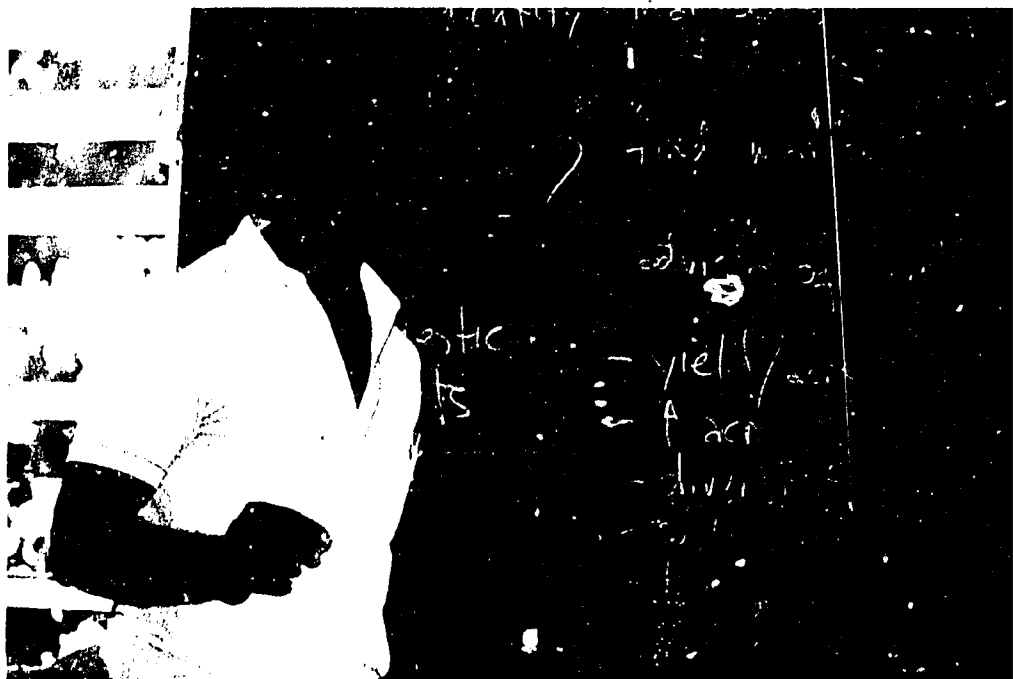
*CAEP staff placed a premium on marketing training for Extension Field staff.*

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*...the Project was pitched at the extension officer, so the aim, particularly in the Farm and Home Management programme, was to train the extension officer to be able to deliver to the farmer the techniques and procedures for improved farm management...*

**-Carlisle Pemberton**

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*Carlisle Pemberton (third from left) helps Extension officers develop field strategies for farm & home management programs.*

management (three focal areas: enterprise analysis, whole farm analysis, and marketing) and group dynamics.

Carlisle Pemberton, Farm and Home Management Extension Specialist, recounts how training in farm management extension started in January 1987 with a regional training workshop followed by in-country courses. "We tried to impart the basic ideas in farm management, budgeting, planning, and controlling, as well as an appreciation for the role of marketing and marketing information." In the next stage, frontline officers visited selected farmers in the demonstration districts to carry out enterprise analysis. The farmer and officer selected two or three major enterprises on the farm and collected data on the economies of those enterprises. These data included the cost structure of the enterprise, markets, and market points, as well as the revenue coming from the marketing activities and the

profitability of the particular enterprise. Officers then went a stage further and made suggestions to farmers as to how they could improve a particular enterprise.

Once frontline officers had become familiar with concepts like cost and returns, profit, and budgeting, they were introduced to whole-farm analysis.

Extension officers and farmers had tended to look at the major activity on the farm as the enterprise. The new CAEP approach stressed the relationships and the various interactions between all the farming activities and their impact on the business of the farm.

Carlisle Pemberton recalls, "This was something that was stressed even from the Sondeo, where with the Sondeo one went to a farmer and asked him, 'What type of farming are you doing?' He might say, 'Bananas.' But you press him and get him to tell you about all, even the minor activities he's engaged in. You point out that even minor enterprises can make a significant impact on the farm business, and by making the farmer think about these enterprises in a

commercial sort of sense, he can appreciate the need to improve management in those areas."

Training followed the earlier pattern of regional workshop and in-country courses. Officers learned how to consider the farm as a whole and how to prepare budgets, net income and net worth statements, cash flow analyses, and so on. The need for farmers to keep records which would facilitate these financial statements became very evident. Following this training, officers selected the farms on which to perform whole farm analyses.

Near the close of CAEP, the farm and home management approach had been taken to the point where farmers could keep their own records. CAEP developed a Farm Business Record Book and distributed 700 copies to farmers in the participating countries. Frontline officers were familiarised with the record book and were trained in how to help the farmer use it. Concludes Pemberton, "What we have in place now hopefully is effective record-keeping by farmers with help by extension

officers. Those records will be analysed to give an indication of the farms' performance in a particular year.... Based on that analysis we can come up with recommendations for improving the farm business. We hope we can help the farmer really to improve his management and his economic performance."

In delivering training in marketing, CAEP encouraged frontline officers to stress to farmers that they could get more involved in marketing activities. Farmers were given advice on appropriate diversification into enterprises that have ready markets. Frontline officers reported that farmers responded positively to recommendations for increased levels of marketing activity. Documentation of farm enterprises and farmers' own record-keeping efforts also promoted farmers' interest in marketing.

*Field officers like Lorna Lubrun of St. Lucia found farm & home record books a valuable tool in working with farmers.*



***Women play an important role in all areas of the family farm operation, including marketing what is produced.***

In one case a farmer in Grenada raised poultry for family subsistence. Traditionally, he raised a dozen broilers and a dozen layers at a time. Normally he would sell two broilers to help buy feed for the others and he would also sell some of the eggs when he had an oversupply for his family. Today, this farmer realises that it is more economical for him to raise fewer broilers because "they eat too much." Instead, he decided to "go into the selling of eggs." The farmer now raises eight broilers and two dozen layers at a time.

Demonstration district extension officers were also given training and information in using appropriate technology for implementing work plans. Generally, officers report that their educational efforts with the farm families are better focused and that farmers take their recommendations more seriously.

Still, some officers were not confident enough in the approach to convince farmers how beneficial the data analysis could be to them. CAEP recognised that some officers were becoming discouraged and saw the problem as a lack of information. Officers did not clearly understand how the data would be used or evaluated. To address this problem, CAEP further trained officers in the use of the data.

Antigua district supervisor Carlton Samuel describes the farm and home management approach as "more difficult to handle compared to the past system we extension officers have been using. But from the farm and home management approach you find that farmers are kept more on top of what they are doing year-to-year or even month-to-month. That can help the farmer in making alterations during his farming period."

A concern that project staff intend to stress in the future is the role and function of all members of the farm family, with some emphasis on the particular roles of women. Some questions that need to be



*U.S.P. has provided the United States and  
other countries with a large quantity of  
the following products:*

## RECU, National Communications Units Have Symbiotic Relationship

Throughout the course of the project, CAEP staff have placed a strong emphasis on communications. Each participating country has its own national communications office, and CAEP established a Regional Extension Communications Unit (RECU) within the Department of Agricultural Extension to serve these offices.



*Former RECU communications supervisor Neil Paul works at the computer with a national communications staff person.*

Neil Paul became the first communications supervisor of RECU in 1985, and Sabrina Wong-Mottley stepped into that role when Paul left in 1989 in order to work with the Windward Islands Banana Association (WINBAN). The unit has six staff persons and receives additional support from three of the faculty within the Department of Agricultural Extension.

CAEP has placed strong emphasis on RECU providing staff training for national communications office staff. It has also provided a great deal of communications equipment to national communication offices so staff can more effectively carry out their responsibilities.

The rationale behind this approach is fairly obvious. It does little good to develop agricultural research programmes if the results of those programmes do not get communicated to farmers. Without an effective communications programme, the link between extension and research would be weak or nonexistent.

RECU was established to provide programming in support of national communication office efforts. Since it is housed at UWI, RECU staff have ready access to an array of agricultural research that national communication officers would not be in a position to easily obtain. In addition, a good deal of RECU equipment, particularly printing and video equipment, is more sophisticated than is found in most national offices. In fact, it would be needlessly expensive and inefficient to duplicate such equipment in every country.

RECU currently offers fact sheets, bulletins, radio programmes, slide sets, and videos for use by national offices. These materials are of two types. One type is aimed at educating field officers and the other stresses educational materials that extension officers can use in teaching farmers. These materials are disseminated on a regular basis to communications offices. The staff either uses the materials in their own information programmes for reaching farmers or gives them directly to extension field officers.

RECU also receives a good deal of material from individual information offices. These materials may be duplicated



or perhaps slightly altered and passed on to the other offices. As such, RECU staff provide a production and clearinghouse service for all participating countries.

The system does have drawbacks, in part due to the varied nature of agricultural production in the islands CAEP serves. In the past, what RECU sometimes considered important did not turn out to be a national priority. When that happened, the information was simply stored or forgotten. Since RECU has the resources, i.e., subject specialists, research results, technical skills, etc., at its disposal, the organization's backstopping must be programmed to complement the national efforts in participating territories.

National Communications Units, particularly in the Windward Islands, have set their priorities in tangence with the goals of their extension services. If it is to be productive, RECU has to develop mechanisms for monitoring the needs of the

individual islands.

In the islands where communication work programmes have been developed, CAEP is deemed to be the motivating factor. RECU then has a responsibility to consider each island's unique position in planning the content and distribution of recorded material.

The communications staff at RECU need to be in constant contact with targeted clients to ascertain on-going needs of extension at the field level and also to facilitate prompt feedback. In addition, a proper system has to be developed to ensure that the RECU output reaches the hands of the national agricultural communications staff. A recent analysis reveals that some islands knew little of the variety of RECU productions and those who were familiar with them reported uneven receipt. This is despite the fact that RECU has indicated a high production output in radio, print, video, and slide production.

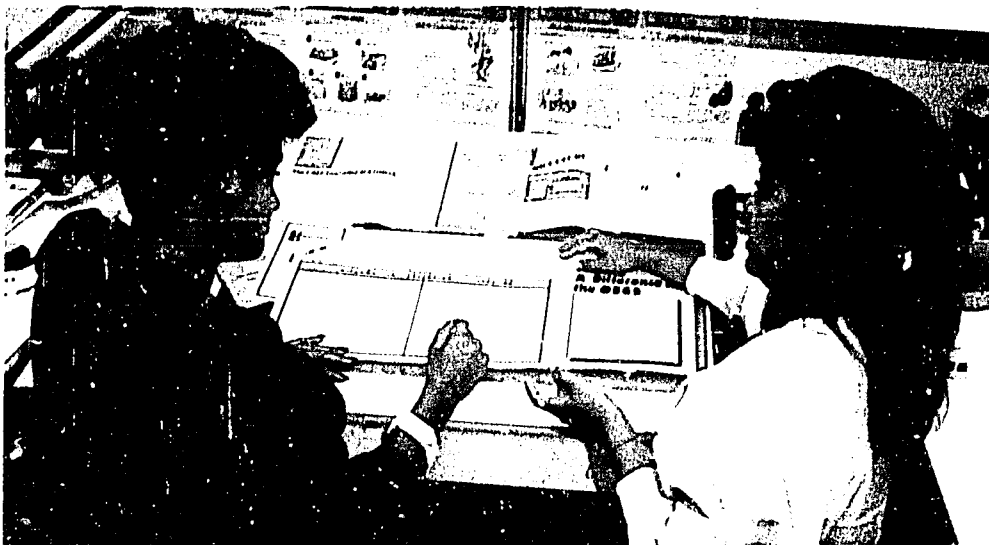
Where RECU has made an impact, the islands have eagerly adapted the material to suit their audience -- primarily through production of fact sheets and bulletins, radio programmes, clips in newsletters, and materials for demonstration and training sessions.

For example, a serious infestation of worms in Antiguan cabbage brought together crop scientists at UWI and their counterparts in Antigua. Agricultural Extension through CAEP provided the impetus for bringing the groups together when it sent a fact sheet on worm infestation to Antigua. The infestation was brought under control through the combined efforts of the region's expertise.

According to David Doily, interest in extension publications goes well beyond the participating CAEP islands: "The most significant thing is more a by-product of the regional outreach of the Project. One of the lecturers in crop science had discovered a new way of propagating the West Indian avocado, and when we published that discovery in the Newsletter we got an avalanche of interest out of Jamaica, to the point that the Daily Gleaner in Jamaica actually republished the article. There are a number of farmers in Jamaica who showed interest in wanting to use the new method."

Prior to CAEP, organized radio programmes formed part of the broadcast schedules on only two islands. At present the Windwards lead the sub-region with an average 3.7 hours per week of Agricultural programmes.

Saint Lucia and Dominica broadcast in English and Creole, with Patois the dominant language in Saint Lucia. The largest percentage of agricultural radio time in Dominica is given to Creole.



*Staff artist Karen Yorke (left) confers with RECU communications supervisor Sabrina Wong-Mottley on a layout for a new publication.*



*Charlie James (center), chief communications officer at Dominica, works with communications staffers Jeno Jacob and Royette Greenaway on a Creole radio programme.*

Charles James of Dominica credits CAEP for the strides made in Agricultural Communications. "They have helped create some sense of professionalism in us."

Through CAEP, National Communication Units were supplied with portable cassette recorders, print equipment and supplies, slide projectors, and cameras. In addition, CAEP offered training courses in media production throughout the sub-region.

The supply of equipment and trained personnel galvanised Dominica into greater imaginative programming. The Creole programme was 'on air' before the advent of CAEP, but now the portable recorders are used "for field work, to take to the banana plantation, down the slopes into the rivers to meet and talk with farmers while they actually do their work. Remember, farmers prefer to hear themselves or their colleagues," James notes.

Radio programmes in the Windwards are favourably received and based on research conducted by CAEP, the listenership is growing. CAEP recently conducted an audience survey among its target groups -- farmers, extension officers and CEOs -- about the design of a farm radio network for the Eastern Caribbean.

In the Leeward Islands where National Communications Units are not yet well developed, greater support and discussions are required if the CAEP goal is to be met. The small farm households in the Leeward Islands are not receiving all the information and discussion so necessary to their economic and social well-being.

RECU, through the Department of Agricultural Extension and CAEP, must of necessity play a more vibrant role in the Leeward Islands without placing too great a strain on the unit's resources.

The department is committed to instructional media and already RECU has produced videos on such things as goat and sheep production and pesticide use and abuse.

Fact sheets and slide sets concerning topics like soil and water conservation have also been produced by RECU to provide a multi-media approach to extension teaching.

There is no doubt that CAEP, through RECU, has made a difference in the technical and professional competence of national communications units. According to Charles James, "This will show up in eventual increase in productivity (on the farms). You can see the immediate effect of the project through the enthusiasm of the

staff.... More officers are requesting AV equipment and slides, and when we ask them to write for our newsletter they grab the opportunity to do it."

The challenge for RECU is to support the agricultural communication officers in the Leeward Islands to the point where officers are trained well enough to make a greater impact on the farming community.

The experience has been much more successful and rewarding in the case of the Windward Islands. Nevertheless, it should be remembered that all the communications units are in a formative stage of development. The units need continued support to reinforce the development process.



*Video producer Natacha Jones (left) works on a new production with supervisor Sabrina Wong-Mottley and Dr. Seepersad.*

must be taken in getting younger farmers involved.

Says Neckles, "I think the best programme we can come up with is to plan a more active set of farmer group meetings or what you may call short demonstrations in the field using a lot of visual aids."

Neckles says younger farmers like to feel they have gained something tangible from committee participation. When problems are presented (for example, a need for road repairs) younger farmers wanted to see action (road repairs, not a letter of complaint sent through Government channels).

Younger farmers also want to have educational messages delivered at meetings via pictures or even flip charts. "They do not want continuous talking by the frontline officer or the farmer who is chairman of the committee," Neckles says.

A positive spinoff from organising farmers into groups has been a noticeable increase in farmers' interest and involvement in improving their own destiny. One CAEP staffer recalls that within some of the demonstration districts the farmers voluntarily formed their own groups. "At group meetings, some of which we (CAEP) have attended, they (farmers) have pointed to ways in which CAEP has helped them to understand farming a little better and helped them to think in terms of farming as a business."

Another CAEP staffer reports that five to six farmers in Grenada voluntarily formed a group to address a labour shortage they faced. They worked as a group on each other's fields on a rotational basis and did all types of farm work. They even bought some tools and shared expenses.

In St. Vincent, a group of farmers developed to the point that members provided leadership to the demonstration district extension programme. The farmers played a major role in developing and implementing the district work plan. They even telephoned the district officer and requested up-to-date information.

These are all examples of the participatory approach in action, where clientele become actively involved in the programme.



*Farmers and Extension officers work more effectively together as a result of CAEP activities.*

A conflict situation developed in terms of who was in charge of managing the demonstration districts. Windwards Programme Leader Dunstan Campbell reflects, "There were no clear lines of operation for our involvement in the demonstration district and in fact it varied from island to island. Who would manage the district? Would it come under the management of the extension service or would we (CAEP) manage it?"

CAEP took the position that the demonstration district should not be too different from agricultural districts. That is, officers should continue to perform as part of the national extension service, attend staff meetings, and the like. CAEP staff

took a support/counselling role and their management activities involved helping to focus and integrate extension activities within the demonstration districts.

CAEP identified requirements for implementing work plans, discussed those requirements with demonstration district extension staff, and worked with staff to meet those requirements.

For example, CAEP encouraged district supervisors to develop and implement an effective communication system to keep key persons apprised of work plan activities. District supervisors were also assisted in coordinating required resources such as materials, personnel, and specialist support.

Some work plan activities, however, were not as successful as they might have been. As one demonstration district officer put it, "I did not get the sort of commitment,

the kind of support from the supervisors which I thought was necessary to reinforce the objective of the demonstration district.... We (district staff) did not really get the push from the senior officers in the Ministry."

Included in CAEP's agenda for the demonstration district were farmer tours to demonstration plots and publicity through local and regional media. Publicity could include special broadcasts on radio stations and feature articles in newspapers and newsletters. Such dissemination activities were implemented on a very limited scale in participating countries and, in some cases, not at all.

CAEP also used training as a vehicle to disseminate information directly within the national extension services. To get the commitment and involvement of CEOs and other top management, CAEP delivered training in demonstration district methodology to non-demonstration district staff. Some non-demonstration district staff had received this training or were already familiar with the methodology. These officers had once worked in a demonstration district, had been sent for regional or in-country training in farm management, or had learned through word-of-mouth.

### CAEP Approaches Successful

In Dominica, the farm and home management approach is well on the way to being adopted by the national extension service. CEO Oliver Grell states, "We have found the farm and home management approach to be very practical and we are now looking at it as a component of our extension programme. That is, extension officers would spend a certain proportion of their time on that aspect.... Our programme is now revolving around the farm and home management approach to extension."

A.F. Merchant, Director of Agriculture in Nevis, says CAEP brought a marked level of professionalism into Agricultural Extension. He says his extension officers "have earned the respect and confidence of their farming clientele...and the level of farmers' income has improved."

This increasing sense of professionalism lies at the heart of CAEP. All institutional changes depend upon people who need to see their work understood and valued by others.

Steven Duggins, CEO in St. Kitts, says officers feel much better about themselves since CAEP was started. "It is a general feeling that with the involvement of CAEP, extension officers have moved from 'non-entities' to 'professionals' in society."

Yet another development is the interest shown by non-CAEP territories in the project. For example, extension officers in Trinidad have expressed an interest in observing the CAEP systems approach. The Department of Agricultural Extension would facilitate this exchange, which is expected "to enrich the quality of extension work for both situations," according to David Dolly.

Officials in Jamaica are addressing the Excellence in Extension concept and agree that genuine interest in extension by administrators must be encouraged.

There is little doubt that the CAEP message is being heard throughout the region. Gomes says UWI's backstopping role of "ideas, people, and institutions in a very dynamic and concrete real life situation" is contributing to productive agriculture in the Caribbean through the greater self-image of frontline extension officers.

### A New Beginning

It is clear from reading this summary report that much was accomplished during the life of the CAEP. In fact most of the original goals have been achieved. Also, some very positive things came out of CAEP that had really not been directly planned.

One pleasant surprise was the strong linkage that began to be developed between the Caribbean Agricultural Research and Development Institute (CARDI) and the University of the West Indies Faculty of Agriculture. The linkage grew throughout the course of CAEP but was made particularly strong as UWI and CARDI staff worked together on the Rapid Reconnaissance Surveys and as they developed instructional materials on technical information files for in-service training.

The efforts of UWI and CARDI grew into another project to continue their work to advance agricultural diversification in the Eastern Caribbean region. The funding will again be from the U.S. Agency for International Development (USAID).



*Sweet potatoes have become an important crop in many OECS countries.*

*P.I. Gomes: "We've accomplished a great deal in 10 years and this new effort with CARDI will take us even further toward developing an effective research/extension programme for the Eastern Caribbean."*



The new project is called the Agricultural Research and Extension Project (AREP). One goal of this new project is to strengthen and improve the long-term effectiveness of the CARDI in developing and adapting new technologies in the Caribbean region.

At the same time, the project will provide institutional support to the Department of Agricultural Extension at the University of the West Indies to strengthen national extension services. This will be done by integrating delivery and improving the effectiveness of adaptive research and extension services throughout the region. These technologies will focus on specific crop varieties/species and small farm management practices that participating countries can widely adopt at the farm level.

P.I. Gomes, CAEP Director and Extension Training Coordinator of the new AREP programme, comments on the past project and the one now beginning: "I look at the last 10 years as a time in which our linkages with MUCIA have enriched us both. We at UWI in particular feel a great loss in that we will not be working as closely with people like Mike Patton of the University of Minnesota and Larry Meiller of Wisconsin. With Mike and Tom Henderson, our past Director of CAEP, we developed the original strategy for CAEP 10 years ago. It has been a truly collaborative effort between the Ministries of Agriculture and the Universities, bringing us closer to the farming communities of the Eastern Caribbean. Now to build on that and make it self-sustaining will be the major challenge in the years ahead."

"As we look to the future, I am very happy about the new directions that have emerged. We've accomplished a great deal in 10 years, and this new effort with CARDI will take us even further toward developing an effective research/extension programme for the Eastern Caribbean. And we'll continue to work with the many friends we've made in MUCIA and in all the other cooperating organisations. The Caribbean Agricultural Extension Project may be over in a formal sense, but the achievements and the work continue. We hope to make even greater strides in the coming years through AREP."



*Tom Henderson, former director of CAEP, has been a prime force in improving Extension services to Eastern Caribbean farmers.*

*Mike Patton helped develop the CAEP approach with Tom Henderson over 10 years ago and has been involved on an almost daily basis since the beginning.*

# Appendix I

## Selected Resolutions and Recommendations from the Sixth Regional Agricultural Extension Coordinating Committee (RAECC): Dominica, April 25-28, 1989

### Backstopping

1. Backstopping provided by regional organizations must be done under the guidance, and at the request, of Ministries of Agriculture.
2. Under the CARDI/UWI Agricultural Research and Extension Project (AREP), the Project Management Committee, expected to meet at least twice annually, should be enlarged to include two representatives from Ministries of Agriculture as Advisers.
3. Ministries of Agriculture should be informed of Research and Development Plans of the Faculty of Agriculture.

### Farmer Participation

4. District committees should be the first priority for AREP's efforts to support and increase farmer participation.
5. Extension officers should facilitate meaningful and rewarding farmer participation in district committees and other relevant groups. The necessary training in how to do this effectively is to be provided under AREP.
6. More attention should be given to the important role of farmers in training other farmers. Extension officers need training and direction in how farmers can be effectively utilised as resource persons in training other farmers.

### Farm Management Extension

7. The farm management record-keeping approach needs to be considerably simplified. Feedback from analysis of records must be timely and quick.
8. Further and continued training in farm management, particularly for new officers needs to be provided. Such training should be carefully evaluated by Ministries of Agriculture.
9. Each national extension service needs to have a trained farm management "specialist" to facilitate continuing training and implementation in farm management extension programmes.

### Training

10. There is a great need to review, strengthen, coordinate, and accredit agricultural training centres in the Region to meet the pressing needs for trained frontline officers.

### Extension Communications

11. While all communications media are important in a balanced programme of work (print, radio, audio-visual, video), the highest priority in the communication area under AREP should be effective use of, training in, and resources for, video.
12. RECU should more closely coordinate and collaborate with other regional communications units.

### Improving Extension Effectiveness

13. Noting that conditions of work for Extension officers badly need upgrading in all aspects -- salary, classification, status, conditions of work, promotion, resources for the job, government recognition and support -- urgent attention is particularly needed with regard to salary levels of Extension personnel so as to ensure that sufficiently qualified persons can be attracted to and retained by Extension Divisions.
14. Ministry and commodity extension programmes need to be jointly planned and coordinated at all levels.
15. As proposed at two previous RAECC meetings, an annual meeting of CEOs should be held to discuss the Extension programmes in different countries and new developments in agricultural extension.
16. AREP should undertake to provide assistance to countries in developing detailed information on agricultural districts, for example, through the conduct of sondeos and other systematic data collection procedures.
17. AREP should play an active role in supporting the formation and maintenance of national professional associations for extension staff as well as looking into a regional professional association.
18. AREP should expand the work of CAEP beyond a concentration in demonstration districts to other districts, including conducting sondeos in other districts and introducing the farm and home management approach.

### Extension/Research Linkages

19. Under AREP, research and extension activities should be such as to ensure a balance indicating that "extension" is as important as "research."
20. Where separate research and extension sub-committees have been formed under national agricultural committees, efforts should be made to reintegrate those committees, or at least look to their being more closely linked.
21. RAECC should continue as a permanent activity and the scope and functions of RAECC expanded to include coordination of research and extension linkages.

### Improving Agriculture in the Region

22. AREP should explore and establish mechanisms for continuing to draw select technical assistance as needed from MUCIA and other extra-regional resources in areas and under conditions where expertise is not available within the region.
23. RAECC should continue to maintain concern for gender issues which may need attention in Caribbean agriculture.
24. The need for farmer participation in the design, planning, execution, and monitoring of research and extension projects must be fully recognised and adequate measures taken by Ministries, regional organizations, and aid agencies to ensure such participation.
25. Greater use should be made of farmers in communication programmes of Ministries and regional organizations.
26. Urgent attention should be given by Ministries and regional organizations to provide necessary infrastructure for irrigation and soil and water management programmes.

# Appendix II

## AREP PROJECT DESCRIPTION: 1989-1994

### Purpose

The purpose of this project is to strengthen the institutional capabilities of national extension services and regional research and extension organizations in order to generate, adapt, and disseminate continuing streams of improved agricultural technologies for the benefit of farmers of the region.

UWI will be responsible for carrying out component extension services and collaborating with CARDI in the execution of component research/extension linkages. Extension services consist of a series of activities designed to strengthen, improve, and sustain the national level extension services and delivery mechanisms of each country in the OECS. These activities are:

--An institutionalized farm and home management approach which analyzes farm enterprises as an economic unit and emphasizes record keeping and decision-making techniques that can be used to increase farm efficiency and economic benefits.

--Promotion and provision of improved training of the extension staff, including post-graduate degrees at UWI, training in extension for mid-level managers from the public or private sectors, regional short courses and workshops, and national level workshops and seminars.

--Development and testing of communications support systems, with special emphasis on radio and video programming, and improved efficiencies in the areas of desktop publishing for better quality information dissemination. This activity will also encompass the strengthening of national communications units and upgrading the capability of the Regional Extension Communications Unit (RECU) at UWI to produce instructive materials on topics developed as a result of the sondeos, including pesticide use and abuse.

--Enhancement of the excellence of agriculture extension professionals and provision of advancement incentives through recognition by the Excellence in Extension Award and the promotion and development of active national associations of extension workers in the respective countries.

--Promotion of research/extension linkages through quarterly meetings of farmers at district levels to elicit needs from the on-farm and community levels, and to structure farm and home management activities to focus attention on household and family issues and the development of micro-enterprise combinations related to non-traditional crops. In line with this, workshops and regional conferences will be carried out to promote the incorporation of gender issues. Funding for the gender-related activities will come either from Mission PD&S monies or from sources of funds available to the AID/WWID office.

--It is projected that by the end of the project, UWI will be funding an Extension Specialist for the Leeward Islands and an Extension Communications Coordinator from its regular budget.

The research/extension linkage component consists of activities designed to ensure the integration of research and extension of the regional, national, district, and farm levels and improve two-way communication between farmers, researchers/extension agents, and policy makers. Linkages include:

- The formation of joint research/extension committees in the respective countries made up of CARDI, UWI, and Ministry of Agriculture extension service representatives.
- Regular meetings by the AREP Project Management Committee, which is composed of equal representation from CARDI and UWI plus the project manager, to review project policy.
- As far as possible, the establishment of joint offices for CARDI and UWI staff in Saint Lucia (Windward Islands) and Antigua (Leeward Islands) research and training centers, thus facilitating communication and joint project implementation and ensuring closer joint collaboration.
- The active participation of UWI faculty, including extension staff, in the annual program planning process of CARDI, and, in turn, the participation of CARDI staff in drafting the annual work plans for the UWI extension activities.
- The collaboration of research and extension staff in rapid reconnaissance surveys (sondeos) and in the on-station and on-farm validation of system technologies.



# Appendix III

## FOR FURTHER INFORMATION

### Additional Published Resources

"Agricultural Extension for Rural Transformation: The CAEP Model." Thomas H. Henderson and Michael Quinn Patton in Rural Development in the Caribbean. P.I. Gomes, editor. London: C. Hurst & Company. New York: St. Martin's Press, 1985.

"Developing Extension Programmes in the Caribbean." August, 1985. Caribbean Agricultural Extension Project Manual. Department of Agricultural Extension, The University of the West Indies, St. Augustine, Trinidad, W.I.

"Farm and Home Management Business Record." 1988. Caribbean Agricultural Extension Project Manual. The University of the West Indies, St. Augustine, Trinidad, W.I.

"Soil and Water Conservation Methods for the Caribbean." F.A. Gumbs. 1987. Department of Agricultural Extension, The University of the West Indies, St. Augustine, Trinidad, W.I.

"The Caribbean Agricultural Extension Project: A Case Example of Utilization-Focused Evaluation." Michael Quinn Patton. Second Edition. San Francisco: Sage Publications, 1986.

### DIPLOMA IN EXTENSION RESEARCH PAPERS 1983-88

Country	Participant Name	Field Project Research Paper
Antigua	Elloy De Freitas	A History of the Antigua and Barbuda Annual Plot-to-Plot Competition (PTPC) (1954-1983) and an Evaluation of the Educational and Other Aspects of the 1983 PTPC
	Sereno Benjamin	Tethering/Roving and Communal Grazing Cattle Production in the North-West District - Antigua
Belize Dominica	Francisco Tzul	Towards Effective Use of Extension Methods by Extension Officers in Belize
	Michael Didier	A Study of the New Frontline Extension Component of the Dominica Banana Growers' Association
	Urban Zamore	Situational Analysis and Programme Development of the Vegetable Producing Area of Grand Savanna in Dominica
	Peter Carbon	Some Constraints to Banana Production in the Wesley District - Dominica
	Peterson Grell	Extension Programming: Toward Cooperative Milk Production at Geneva Estate
	Osmond Baron	A Study of Group Field Packers in Southern Dominica
Grenada	Rawle Leslie	An Analysis of Time Management Among Banana Extension Officers in Dominica
	Kidd Thomas	A Study of the Adoption of the CARDI Tannia Technological Package and Recommendations for Extension in Dominica
	Denise Peters	Extension Officers' Perceptions of Agricultural Radio Programmes in Grenada
	John Mark	Field Packing and Improved Fruit Quality in the Grenada Banana Industry
St.Kitts/Nevis	George Phillip	Extension Officers' Use of Communication Support Tools in Extension
	Elvin Bailey	Vegetable Imports and Tourist Arrivals in St. Kitts/Nevis and Implications for Extension Strategies
Saint Lucia	T.R. Theobalds	Comparative Effectiveness of Three Extension Communication Techniques in Influencing the Level of Knowledge Among Banana Growers in Saint Lucia
	Kerde Severin	The Influence of Subsidies on Adoption Behaviour of Some Selected Crops in Saint Lucia
	George Alcee	Role of Farm Women in Agricultural Extension Programming and Execution
	Rufus Leandre	A Study of Farmers' Participation in the Tree Crop Diversification Programme in the Central Agricultural District - Saint Lucia

	Rudolph St. Hill	The Black Bay Vegetable Cooperative Project in Saint Lucia: An Evaluation Study
	Cuthbert Joseph	The Extension Component of the Saint Lucia Banana Growers' Association: An Evaluation Study
	Evestus Augustin	Pesticide Use in the SouthEastern Region of Saint Lucia: An Evaluation Study
	Ezechiel Joseph	An Evaluation of the Saint Lucia Young Farmers Training Project in the Mabouya Valley
St.Vincent & The Grenadines	Conrad Sayers	Youth Perceptions of Agriculture in St. Vincent and Some Implications for Extension and Communication Strategies
	Lennie Adams	A Review of Richmond Vale Estate and Its Effects on the Chatcaubeliar Community in St. Vincent and the Grenadines
Trinidad	Elbert Johnson	Paramin - A Rural Agricultural and Community in North-West Tobago Trinidad - A Situational Analysis
	Richard Lewis	An Evaluation of Citrus Rehabilitation Programme with Special Reference to the Farmer Education Component
	Denyse Johnson	An Evaluation of Printed Extension Material in Trinidad and Tobago
	Len F. Fortune	Toward an Extension Education Programme for Improved Hillside Farming in County St Patrick, Trinidad and Tobago
	Edwin Joseph	The Moruga Statelands Distribution Programmes: A Critical Evaluation
	Mohan Juri	A Study of Farmer Participation in the Fishing Pond Rice Scheme of Trinidad and Tobago
	Joan Phillip-Khan	Adoption of Vegetable Production Practices by Participants of Farmers' Training Courses - Trinidad
	Susan Ramlakhan	Needs Assessment and Extension Programme Planning for Mastitis Control Among Carlsen Field Dairy Farmers

**For More Information, Contact:**

Department of Agricultural Extension  
Faculty of Agriculture  
University of the West Indies  
St. Augustine, Trinidad  
West Indies

Midwest Universities Consortium  
for International Activities, Inc.  
The Ohio State University  
Riverwatch Tower/Suite A  
364 West Lane Avenue  
Columbus, Ohio 43201 U.S.A.

Caribbean Agricultural Extension Project  
Office of International Agricultural Programs  
University of Minnesota  
277 Coffey Hall  
1420 Eckles Avenue  
St. Paul, Minnesota 55108 U.S.A.

Agriculture and Rural Development Officer  
Regional Development Office/Caribbean  
U.S. Agency for International Development  
Box 302, Bridgetown  
Barbados, West Indies

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