

The Caribbean Agricultural Extension Project:

More Productive Agriculture



Through Extension

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Preface

This is a report on the progress of work on the Caribbean Agricultural Extension Project (CAEP). There is little doubt that the Project has been successful; both internal and external U.S. Agency for International Development (U.S.AID) evaluations have documented this. The Project is successful because it *works*; it provides agricultural extension officers with what they need to help farmers. In this report, we have tried to capture some of the essence of the working nature of the Project by presenting views and opinions of senior extension and other government personnel, extension field staff, and farmers.

Developing successful extension systems does not happen overnight. Although this project began in 1978, University of the West Indies (UWI) Professor Thomas H. Henderson and MUCIA Professors Bert Ellenbogen (Minnesota), Bert Swanson (Illinois), and James Duncan (Wisconsin) spent nearly five years planning for this effort. The Project began building for success by bringing together governments, university resources, and farmers. Working together in regional and local committees, representatives from these groups designed and refined the scope of work for the Project. Institutional changes followed in time as the extension services and the UWI Faculty of Agriculture worked with project staff to respond to farmer needs.

Increasing the effectiveness of the agricultural extension services in the Caribbean has been the critical institution-building focus of CAEP. Extension services had been a low priority for governments hard pressed with the demands of development. The Project has shown how countries can benefit by improving agricultural extension and the Project has provided the plans and initial resources needed to make the improvements. The Project also offered a challenge to the University of the West Indies to expand and sustain a broadly conceived agricultural outreach program. UWI responded with a new diploma program, new extension staff positions, and increased support from the entire Faculty of Agriculture.

In its current phase, as institutional changes have solidified, the Project has focused more attention on small farm households as the foundation of private sector agriculture in the Caribbean. At every level, Project staff have been guided by the premise that extension must ultimately be judged by results at the farmer level.

Many factors identified in this report have contributed to the Project's accomplishments. But the factor that stands out most is the high quality of the people involved at all levels. MUCIA wishes to recognize some of the people who have contributed to

the Caribbean Agricultural Extension Project:

- U.S.AID support has been critical, not only financial support, but also the assistance of highly dedicated and competent staff—William Baucom, Don Harrington, Thomas King, and Steve Szadek.
- The UWI Faculty of Agriculture has contributed intellectual rigor and scholarly integrity to the Project. The vision, commitment, and hard work of Deans John Spence, Lawrence Wilson, and Frank Gumbs have made university outreach a reality there. Within UWI, the Department of Agricultural Extension, under the leadership of Thomas H. Henderson and P. I. Gomes, has directed the dedicated efforts of outreach program associates Efrain Aldana, Jesse Andrews, St. Clair Barker, Dunstan Campbell, and Neil Paul.
- The Project could not have moved beyond the proposal stage without the support and cooperation of Ministry of Agriculture officials and staff in all the cooperating countries. Ministers of Agriculture have given the Project personal attention. The professional and technical work of chief agricultural officers, chief extension officers, permanent secretaries, and extension staff have made the Project a success.
- The MUCIA universities have been a critical part of this Project. The University of Minnesota has played the lead role in the MUCIA effort, especially Richard J. Sauer and C. Eugene Allen. Michael Patton has provided outstanding leadership both in the Caribbean and as campus coordinator for the Project. Other Minnesota faculty and staff—Ken Egertson, Joseph Fox, Gail McClure, George Saksa, and Olga Stavarakis—have served in long-term assignments. In addition, the other MUCIA institutions have provided long-term personnel: Larry Meiller (University of Wisconsin-Madison), Warren Schauer (Michigan State University), Donald Smucker (University of Illinois and Michigan State University), Ray Woodis (University of Illinois-Champaign), and Clair Young (Ohio State University)

Successes in development projects are rare. Moreover, many institution-building projects end before "institutionalization" takes hold. CAEP has been successful because capable and dedicated people have been given the *time* as well as the resources to complete the task. The Midwest Universities Consortium for International Activities, Inc. (MUCIA) is pleased to have worked with U.S.AID and Caribbean colleagues, and it is pleased to produce this report which tells the CAEP story.



William Flinn, Executive Director
MUCIA, Inc.

Best Available Document

When Lazarus Harris leased a field from the Montserrat government, he found he'd inherited a problem: a clogged drainage ditch overflowed after every rain, carrying soil from his and his neighbors' fields. He feared that he—like the tenants before him—would not be able to get the Department of Agriculture to correct the situation. Harris discussed the problem with front-line extension officer Eugene Skerritt, who talked to the right person and secured funds to pay a work party. Harris organized his neighbors, and with the money as an incentive, they cleaned the ditch.

Today, erosion no longer plagues the 78-year-old Harris and his neighbors. Harris does not hesitate to ask extension for information or for help with his problems. In fact, he now serves as a link between extension and the farmers in his area.

At one time, front-line officer Clarence Thomas was so discouraged that he considered resigning. He had an intense desire to improve the lives of the farmers and others in his district on St. Vincent, but lacked the necessary technical knowledge, education, materials, direction, and encouragement.

Now, Thomas often does not return home from his rounds until late at night. Reinvigorated and enthusiastic, he tries new approaches. He conducts group meetings instead of calling on farmers individually. He holds clinics where he shows farmers how to care for their small stock. He works with school children to instill the belief that farming is respectable. And, he is teaching unemployed, unwed mothers how to produce nutritious food for their children.

Until two years ago, Kittitian Ken Phillips taught school. Then, he made a career change that would give him more independence and the chance to make more money. He went to work as assistant manager for Keithley Armstrong, who had started a vegetable-growing operation.

Both of these young men see farming as more than a way to get by; for them, it's a business with profit potential. Eager to get ahead, they try new farming techniques. They seek expertise and assistance from various persons, including front-line extension officer Trevor Payne, who offers advice on management, cultural problems, and marketing. Armstrong and Phillips soon proved their ability to make a profit. This enabled them to borrow money to buy a truck to haul their produce and the fertilizers and other inputs

St. Kitts extension officer Trevor Payne gives Ken Phillips (in blue) advice on how to deal with an insect problem in his tomatoes.

ly use in their operation. The two men are eased with their progress and are proud that they provide work for people in a country where unemployment is a serious problem.

Entomologist Florita Kentish and horticulturist Jennifer Maynard are technical officers in Antigua. Kentish, a plant protection officer, wages the government campaign against the pink bollworm, a major pest of island cotton. Maynard coordinates the government's horticultural development projects. Both women once considered many front-line extension officers ineffective and little assistance in helping them to achieve their goals.

Now, Kentish and Maynard have good working relationships with Sereno Benjamin and other front-line officers. Benjamin schedules farmer meetings, asks them to be part of the program, and assembles materials they can use in their presentations. Kentish has taught Benjamin and other extension officers about insect identification and pesticide application and safety. Maynard has inducted classes for them on the postharvest physiology and handling of produce. Both women now feel that they are part of a team. They understand better the constraints that hamper front-line officers and look forward to working with them.



Workers pull weeds that herbicides did not kill from a sweet pepper planting on the Keithley Armstrong farm in St. Kitts. In the Eastern Caribbean, extension is helping young people like Armstrong to get started in farming. The new farming operations provide jobs in a region where unemployment is a serious problem.

Participating in the Project are the Windward Island nations of Grenada, St. Vincent and the Grenadines, St. Lucia, and Dominica, and the Leeward Island nations of Antigua and Barbuda, Montserrat (which is still a British colony), and St. Christopher-Nevis. In addition, the Central American country of Belize participated in CAEP for the first six years of the Project.

The Department of Agricultural Extension of the University of the West Indies (UWI) undertook the CAEP initiative in 1980 with financial assistance from the United States Agency for International Development (U.S.AID) and with technical assistance from MUCIA, the Midwest Universities Consortium for International Activities, Inc. The University of Minnesota has the lead role in CAEP for MUCIA.

This publication is about how CAEP is working to make the agricultural extension services of the Eastern Caribbean more effective.

The extension services of the countries participating in CAEP are caught in a dilemma common to many developing countries: Governments and development agencies are reluctant to provide resources to extension services because they seem ineffective and unproductive. And, the extension services remain ineffective and unproductive because they lack the resources to carry out

their responsibilities and to meet farmers' needs. CAEP strives to break this cycle by putting the extension systems of the participating countries on the path to effectiveness and productivity.

Committee facilitates regional planning, cooperation

The first CAEP activity was to establish and convene the Regional Agricultural Extension Coordinating Committee (RAECC) in November 1980. This committee, which meets every 18 months, has fulfilled important communication, coordination, and planning functions throughout the life of the Project.

During its 1980 meeting in St. Lucia, RAECC analyzed the agricultural situation in the region and prepared more detailed plans for baseline surveys of the participating countries' extension services. During its 1982 meeting in St. Vincent, the Committee focused on implementing the national extension improvement plans and helped develop

CAEP seeks to improve the economic and social well-being of small farm households.

Harris, Thomas, Phillip, Kentish, Maynard all have something in common: their lives, their work, and their perceptions have been—and continue to be—touched by the changes brought about in extension by the University of the West Indies' Caribbean Agricultural Extension Project.

The goal: A better life for farm families

The Project, commonly referred to as CAEP, seeks to improve the economic and social well-being of small farm households by helping the participating countries' Ministries of Agriculture to improve their agricultural extension services.

“The participating countries see RAECC as an important regional forum in which they can discuss common problems and experiences.”

—Thomas H. Henderson

an external evaluation plan for CAEP. In 1984, RAECC met in St. Kitts (as St. Christopher is commonly called) to review the results of the external evaluation and to plan continuation activities. The 1986 RAECC meeting in Grenada established new directions for CAEP: the Project would focus its efforts in farm management demonstration districts to show that extension can improve the lot of small farm families by taking a farming systems approach in dealing with their problems.

CAEP codirector Professor Thomas H. Henderson said: “The participating countries see RAECC as an important regional forum in which they can discuss common problems and experiences. Then, they begin to share ideas, and get new vigor and inspiration.”

The membership of RAECC is diverse because the intent is to include all organizations that play a major role in agricultural development in the region. The Committee includes the UWI and MUCIA staff assigned

to CAEP and the chief agricultural officer and chief extension officers of each country participating in the Project. Also on the Committee are representatives from farmer and private sector commodity organizations (e.g., St. Vincent’s Farmers Union and the Windward Islands Banana Growers’ Association, WINBAN) and representatives from international development donors, such as U.S.AID, the British Development Division, and the French Technical Mission. Professional staff from regional and international research and development organizations such as the Caribbean Agricultural Research and Development Institute (CARDI), the Caribbean Rural Development and Advisory Training Service (CARDATS), and the Caribbean Food and Nutrition Institute are also RAECC members. Farmer members of the national agricultural planning committees are included in RAECC to ensure farmer input in the planning and execution of extension programs.

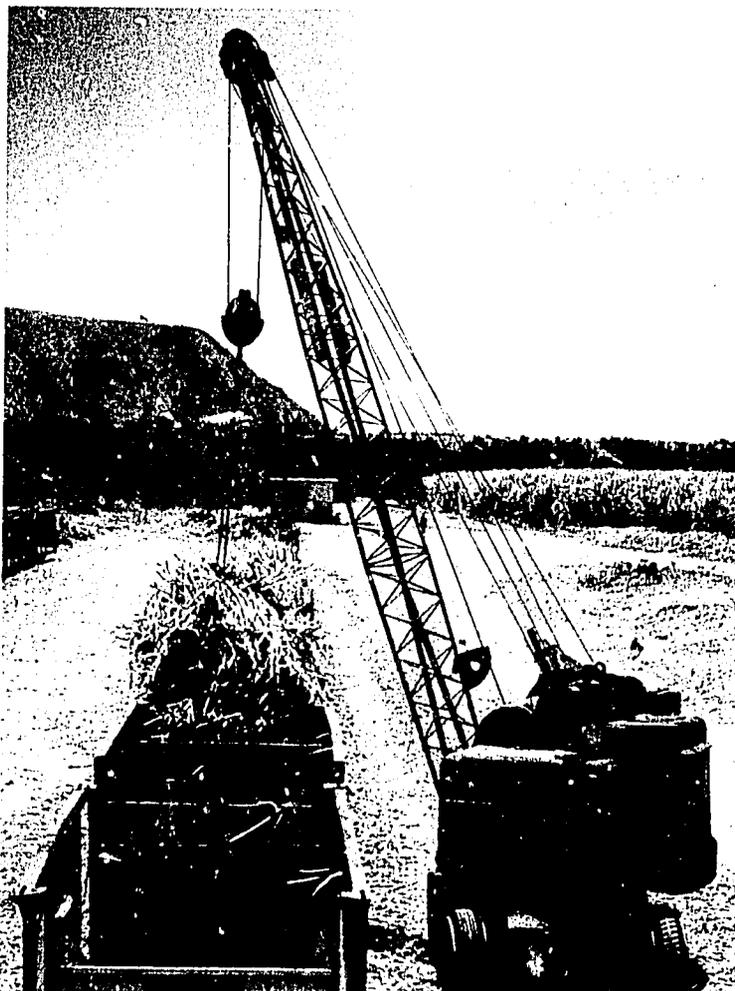
Plans integrated extension priorities, national goals

After the first RAECC meeting, each CAEP country established a national extension planning committee. It was this committee’s responsibility to formulate a national extension improvement plan during the next two years.

The national extension improvement plan outlined in detail specific changes and efforts that were to be made to improve the extension services. For the first time, each country established goals and objectives for its extension service that were based on its national agricultural development priorities.

Antigua and Barbuda identified the need to focus extension efforts on vegetable production and higher productivity in livestock farming. Because extension workers were found to be severely hampered by having to perform regulatory duties, the national extension improvement plan emphasized the importance of freeing them from regulatory duties so they could concentrate on educational programs.

Belize is unique among the countries that have participated in CAEP in that it has 5.7 million acres of land and a relatively low population density. About half of the land is



A state-owned sugar industry dominates St. Kitts’ agriculture. Agricultural diversification is one goal of the island’s development plan.

Building on a commitment to development

The Caribbean Agricultural Extension Project is but one more manifestation of the University of the West Indies Faculty of Agriculture's resolve to work on basic agricultural problems in the Caribbean region.

In 1965, the Faculty, which is located on the University's St. Augustine, Trinidad, campus, redefined its role in the light of changed political, social, and economic conditions in the post-independent Caribbean. It shifted the emphasis of its research, education, and extension programs from export crops to food crops.

The Faculty also decided it had a major responsibility to serve as a catalyst in transforming the agricultural sectors of the Commonwealth Caribbean Community (CARICOM) member states that contribute to the support of the University. Now, the Faculty's goal is to see that Caribbean agriculture—and ultimately CARICOM consumers—benefit from the major advances in production, distribution, and marketing technologies. Much of the UWI's assistance to the CARICOM governments is in restructuring the national systems for agricultural research, training, and extension.

Extension teaching and research at the UWI Faculty of Agriculture began in 1962, with the appointment of a lecturer in agricultural extension. The post arose out of the growing realization that extension personnel urgently needed training to improve their effectiveness in assisting farmers in the countries served by the University. The Faculty's forerunner, the Imperial College of Tropical Agriculture,



UWI agriculture students get practical experience in a six-week-long crop production practicum.

gave little emphasis to this, since its main objectives were formulated out of agricultural research that was meant to serve plantation agriculture in all the British colonies in the Caribbean.

As time went by, the need for even greater involvement in extension became evident. In 1969, the UWI Faculty of Agriculture established a fully autonomous Department of Agricultural Extension, with C. K. Robinson as its head. The Department's functions consist of teaching, research, and communications. The Caribbean Agricultural Extension Project is the Department's latest development effort.

The University of the West Indies Faculty of Agriculture is located on the University's St. Augustine, Trinidad, campus.

considered suitable for agriculture, but only about 15 percent of this is used for this purpose. The Belize plan focused on identifying specific farming systems and the extension services each system needed. It also emphasized the need to decentralize extension work so the different farming systems could be served adequately.

The analysis in **Dominica** revealed that extension had played a major role, by providing direct services to farmers, in helping agriculture recover from the ravages of the three hurricanes that struck the island in 1979 and 1980. However, the analysis also concluded that this had led the extension staff to lose sight of educational priorities. The national extension improvement plan emphasized the need to diversify agricultural production (which is heavily dependent on bananas) and to revitalize extension's educational functions.

Grenada, emerging from a period of political turmoil and experimentation with state farming, wanted to organize its farmers for increased productivity. It decided to put particular emphasis on strengthening its horticultural productivity and export viability.

Agricultural production in **Montserrat**, once known as "the Garden of the Caribbean," had declined severely. Montserrat's farmers tend to be old and to farm part time. The extension service was charged with the task of returning the island's agriculture to productive levels.

The islands that comprise the State of **St. Christopher-Nevis** have separate departments of agriculture and extension services. One reason for this is because their agricultural systems are so different. Sugarcane is the main crop on St. Kitts. Cotton and livestock production predominate on Nevis, which has a long history of small, independent farmers. St. Kitts wanted to diversify its agriculture away from the state-run sugar industry, and both islands wanted to become self-sufficient in many of the foodstuffs they now import and to develop new export markets.

Bananas and coconuts are the mainstays of **St. Lucia's** agriculture. Production of these crops had declined in the mid-1970s, and the country decided that agricultural diversification and higher food crop production were priorities. With a period of relative political instability behind it, the government reasserted its commitment to agriculture, including development of extension's effectiveness.





MUCIA project director Michael Patton speaks at the opening of the three-day RAECC meeting in Grenada. Seated are (left to right) U.S.AID'S William Baucom; CAEP codirector Thomas H. Henderson; the Honorable George Brizan, Grenada's Minister of Agriculture; P. I. Gomes, head of UWI's Department of Agricultural Extension; and John Spence, associate dean for research at UWI.

Agricultural production in **St. Vincent and the Grenadines** is already more diverse than in most other Eastern Caribbean countries. Although favorable climatic and soil conditions make possible the year-around production of a wide variety of ground provisions, tree crops, and vegetables, production levels remain much below their potential. The national extension improvement plan called for filling empty positions and training the extension staff.

Institutional analyses revealed weaknesses, strengths

At the outset of the Project, each national extension planning committee conducted an institutional analysis with CAEP assistance. The analyses identified deficiencies that needed to be overcome if the extension services were to be effective in making agriculture more productive and efficient:

- Organization and management of extension programs were characterized by poorly defined goals, conflicting lines of authority, insufficient incentives, and unreliable monitoring of educational programs.
- Extension field staff lacked adequate training in general agriculture, small farm cropping techniques, and extension delivery methods.
- The national extension systems had few established methods for accurately assessing farmers' needs.
- Extension delivery systems were not organized to reach farmers effectively, and

field staff lacked the equipment they needed to function effectively.

- Links between the Ministries of Agriculture and CARDI (the Caribbean Agricultural Research and Development Institute) which the CAEP countries help support, and other entities that conduct research in the region were weak and unsystematic.
- The regional support services that existed for the national extension services were poor in resources, loosely coordinated, and inadequately tied to national efforts and field staffs.
- Front-line extension officers lacked a clear understanding of what they were supposed to do and had no work plans or detailed job descriptions to guide them.

However, the news was not all bad. The analyses also revealed a foundation on which better extension programs could be built:

- Most importantly, ministers of agriculture, chief agricultural officers, chief extension officers, mid-level and front-line extension staff, and farmers shared a genuine desire to improve extension's effectiveness.
- There were successful farmers in each country whose knowledge and skills could help point the way to the development of profitable agriculture.
- There were extension staff members in each country who had the technical agricultural training and knowledge of extension methods to provide leadership in staff development.
- The national agricultural planning committees (which evolved from the national extension planning committees) constituted a reservoir of commitment and knowledge that would provide momentum and direction in implementing the extension improvement plans.
- Each country's cabinet had approved the national extension improvement plan, usually with some ceremony and publicity that underscored the government's commitment to better extension services.

A regional plan emerges

The next step was to amalgamate the national extension improvement plans into a single, regional plan. The CAEP staff began to implement the plan in 1983, after it had been approved at the second RAECC meeting.

The regional plan had 10 critical objectives:

- To support basic agricultural training at the diploma level for front-line extension officers.
- To establish on-going in-service training programs at the national and subregional levels to increase field staff knowledge of agricultural technology and extension methods.
- To provide professional extension staff from the UWI and MUCIA to work in the field to help implement the national extension improvement plans, with particular emphasis on organizational and staff development and the planning of educational programs.
- To supply equipment for mass communications, field staff travel, and in-the-field demonstrations of agricultural techniques.
- To establish a professional diploma in extension work at the UWI for senior extension officers and to provide support for participation in the program.
- To forge new and lasting linkages between regional organizations, particularly those involved in agricultural research, and the national extension systems. In this, the CAEP staff would work closely with CARDI.
- To design and implement a program to recognize and reward excellence in extension work in order to boost the professional morale of extension staff who serve as role models for future extension officers.
- To supply short-term technical consultation and training at the national and subregional levels.
- To establish a regional communications unit in the UWI Department of Agricultural Extension to assist the communications and training units of the national extension services, produce educational materials (including those appropriate for use by the mass communications media), and begin farmer education programs.
- To evaluate the success of CAEP with an external evaluation team to assess the Project's strengths and weaknesses and to advise Caribbean decisionmakers about future efforts worthy of their attention and support.

CAEP outreach staff live, work in the field

A fundamental principle of extension work is that staff must be in the field, where the services are needed. In the case of CAEP, the clients are the staffs of the participating countries' extension services. Therefore, CAEP staff members are stationed throughout the Project area so they can work regularly with the chief agricultural and extension officers, mid-level extension supervisors, and front-line extension officers.

One of the CAEP codirectors, Professor Thomas H. Henderson, established an office in Dominica, the most centrally located of the Eastern Caribbean islands participating in the Project.

"...there has been a closer linkage between the Ministry and the University and the Department of Agricultural Extension because of the presence of the CAEP outreach office."

—Steve Fontenelle

Three on-site MUCIA team leaders from the University of Minnesota—George Saks, Joe Fox, and Ken Egertson—have lived in Dominica and worked closely with Henderson. These extension professionals have played important roles as CAEP has progressed and the needs for technical expertise evolved: Saks and Fox in programming planning and development and Egertson in farm management and marketing.

In addition, CAEP outreach offices were established in St. Lucia, Antigua, and Belize.

The UWI Faculty of Agriculture established the St. Lucia office as a permanent outreach post to serve the Windward Islands. The office is staffed by Dunstan Campbell, a UWI outreach professional who did his doctoral work in rural development in France.

St. Lucia's Deputy Director of Agricultural Services, Steve Fontenelle, underlined the value of having Campbell and other CAEP staff in the field. "There's no doubt there has been a closer linkage between the



The CAEP outreach office in St. Lucia is staffed by Dunstan Campbell. He works with the agricultural extension services of the Windward Islands.

Ministry and the University and the Department of Agricultural Extension because of the presence of the CAEP outreach office. It means that we have somebody right here on the spot whom we can deal with. Dunstan Campbell's been assisting the extension staff here, particularly with educational program planning."

Keith Joseph, a senior field officer who is in charge of one of Antigua's extension zones, finds ready access to St. Clair Barker equally valuable. Barker, an extension professional from St. Vincent and a graduate of the UWI Department of Agricultural Extension, heads the Antigua outreach office, which serves the Leeward Islands.

Joseph said, "St. Clair Barker and I try to meet every Monday to see where we're going, what we're doing, what we should and should not do. He sometimes tears my plans to pieces and I tear his criticisms to pieces. But then we amalgamate and agree on a course of action. He's a good help to us. Sometimes he's in the field with us. He will



Efrain Aldana staffed the CAEP outreach office in Belize while that country was participating in CAEP.

teach anything that we ask him to, call a seminar if we ask him to, or even put in a demonstration plot.”

UWI outreach professional and native Belizean Efrain Aldana staffed the Belize outreach office along with Don Smucker, a MUCIA extension rural development specialist from the University of Illinois, during the time that Belize was participating in CAEP.

The other CAEP codirector, Dr. P. I. Gomes, administers CAEP from the UWI campus in Trinidad. He coordinates his department's CAEP activities with other UWI academic departments and with CARDI, and teaches UWI extension courses for undergraduates and graduates.

Three MUCIA professionals have had consecutive, long-term assignments in Trinidad to help the Department of Agricultural Extension develop better communications at the regional and national level: Ray Woodis from the University of Illinois, Larry Meiller from the University of Wisconsin, and Gail McClure from the University of Minnesota. Each of these extension communications specialists brought to the Caribbean a specific expertise that could be tapped as CAEP's needs evolved. In addition, MUCIA project leader Michael Patton, an extension specialist in program evaluation and policy analysis, lived in Trinidad and worked with Gomes and Henderson at UWI for the first two years of the Project. After that, he returned to the University of Minnesota to coordinate MUCIA's involvement in CAEP.

National committees determine extension priorities

One CAEP objective is to institutionalize the organizational and programmatic changes that the Project brings about in the participating countries. National agricultural planning committees, which evolved from the national extension planning committees, play an important role in achieving this.

Although the national agricultural planning committees vary in their effectiveness and scope and the frequency with which they meet, they do provide an important mechanism for private sector and farmer influence on the setting of national agricultural policies and extension priorities.

Some of the countries have gone a step further and established extension, research, and marketing subcommittees. These subcommittees obtain farmer and private sector input on priorities, objectives, and possible

initiatives that might be taken in their particular policy area and pass their findings and recommendations up the chain of command to the Ministers of Agriculture. A still later development is the establishment of district committees, which gather input at the most basic level—that of the farmers themselves.

Randolph Mark, a retired extension officer who now farms, is on Grenada's National Agricultural Planning Committee. He said, “I think our Committee will suggest and implement projects that will help farmers greatly. Prior to the formation of the Committee, there was no direct link between the farmer and the Ministry. The only link was with the extension officer, who didn't have much say, much authority. He wasn't in a position to take the farmers' problems to the right authorities. Now that the problems of farmers can be taken from the extension subcommittees to the National Agricultural Planning Committee, there is a much greater chance of something being done.”

“Prior to the formation of the Committee, there was no direct link between the farmer and the Ministry.”

—Randolph Mark

Earlene Horne farms on St. Vincent. She is an executive with the National Farmers Union and is on her country's National Agricultural Planning Committee and its Research Subcommittee. Horne points out that a research subcommittee can play an important role in coordinating agricultural development efforts.

She said, “When our subcommittee met with representatives from the institutions that deal with agriculture and agricultural research on St. Vincent—CARDI, the Ministry of Agriculture, the National Farmers Union, and other farmer organizations—we were able to understand for the first time what was going on in research in our country.

“We discovered that there was hardly any link or coordination between CARDI research and the Ministry's research and work. There was a movement in our subcommittee



to reorganize research so the Ministry would know exactly what CARDI was doing and CARDI would know what the Ministry was doing."

National committee provides direction in planning

Grenada provides a good example of how a national agricultural planning committee and its subcommittees can help give direction to a nation's agricultural development plan.

At the 1986 RALECC meeting, Grenada's assistant permanent secretary, Marva Jeweneth Evans, detailed the progress Grenada's National Agricultural Planning Committee and its subcommittees had made.

Grenada's Committee established Marketing, Extension, and Research Subcommittees, which were charged with gathering information and suggesting steps that could be taken for improvements in their respective areas. The Subcommittees were to keep in mind the priorities the Committee had identified: food and tree crop diversification, feeder road improvement, upgrading of ex-

tension, development of a data base for marketing information and an overall marketing strategy, dealing with praedial larceny, formulation of a national research policy, and establishment of a pest management committee and high-quality seed-testing facilities.

The Marketing Subcommittee is focusing its attention on market intelligence and contract farming. It solicited help from various institutions that operate in Grenada (including CARDI, CARDATS, and the Ministry of Agriculture) in conducting a domestic market survey for fresh produce. The Subcommittee then sent the survey findings to the Extension Division and other national institutions that required the information. Evans said the data collected should be useful in Grenada's drive to develop its fresh vegetable industry.

The Extension Subcommittee asked the Ministry of Agriculture, The Grenada Banana Co-operative Society, the Cocoa Rehabilitation Project, and the Grenada Food and Nutrition Council to coordinate their work

St. Clair Barker (in white cap), who heads the CAEP outreach office in Antigua, instructs front-line officers and farmers on sheep health care at a training session in St. Vincent. The CAEP outreach staff, including Barker, help conduct in-service training.

programs for better effectiveness.

The Subcommittee felt that outstanding farmers should be held up as examples, so the Ministry initiated a Farmer of the Month Programme, in which deserving farmers are given public recognition via the radio and other media and a material award, such as fertilizer for their crops.

The Extension Subcommittee recommended that a crop competition be held, and Evans reported that plans for such a competition were well under way.

The Research Subcommittee identified the major problem as the "haphazard way in which research is carried out by the different international organizations." It found there had been some duplication of research efforts in the past and that there was a need to collate the activities of the organizations that

“Reorganization was step number one...The second step was training...The third step was to provide basic equipment.”

—Thomas H. Henderson

Henderson, Gomes lead CAEP effort

The Caribbean Agricultural Extension Project is largely the fruit of the work, study, and planning of Professor Thomas H. Henderson, a native of Dominica and the second head of the UWI Department of Agricultural Extension.

Henderson was trained at the Imperial College of Tropical Agriculture and knows Caribbean agriculture. He came up through the ranks of extension in Dominica and knows extension at every level through his work experience. He was one of the first students to be trained at the Eastern Caribbean Institute of Agriculture and Forestry in Trinidad, and has been a school teacher and agricultural worker as well.

Extension personnel and agricultural officials throughout the Caribbean hold Henderson in high esteem, and Henderson's credibility and regular presence in the field established a foundation without which CAEP never could have been put together or most likely succeeded.

Henderson has none of the pessimistic fatalism that's often displayed by those who work for years on development problems. He has remained enthusiastic and visionary despite the difficulties of his work, the high risks of failure, and the many factors over which he has no control. He believes in the importance of extension, and backs up that belief with positive energy and hard work.

The idea for CAEP had its beginnings

in a study Henderson conducted in 1964, in which he surveyed extension officers throughout the Caribbean to determine the needs of extension. He replicated the study 10 years later, and these needs assessments helped him formulate the ideas that eventually took expression in CAEP.

After Henderson returned from the University of Wisconsin, where he earned a Ph. D. in Agricultural Education, he organized annual in-service training courses throughout the Eastern Caribbean. From 1974, he and Dr. P. I. Gomes (who is the present head of the UWI Department of Agricultural Extension) conducted “baseline” surveys of extension in the Caribbean. These surveys provided much of the information and data on which Henderson and Gomes formulated the design for CAEP, which they codirect.

Gomes, a native of Guyana, has a Ph. D. in Rural Sociology from Fordham University. He is well versed in the socioeconomic and cultural realities of small farm households in the Caribbean, and his philosophy on the role of extension in rural development has had much to do with the directions that CAEP has taken.

“The development of extension in the Eastern Caribbean was linked to colonial plantation and estate agriculture, which did not focus primarily on small farmer development,” Gomes said. “We had very knowledgeable, competent, and capable people in the botanic gardens, where they did mainly propagation work, and the idea of demonstration stations also existed.

“But extension in the region really began to change tremendously 19 or so years ago,” Gomes continued. “Tom, with his wisdom and commitment, has



P. I. Gomes: “When CAEP began, the countries were struggling to get their extension divisions organized... Things were happening, the potential was there, but it was just not being brought together into a systematic focus.”



Through his training and work experience, Thomas H. Henderson knows Caribbean agriculture and extension at every level.

pen the guiding light in bringing this about, first in having a Department of Agricultural Extension established at the university—which was a tremendous step forward—and then in persuading the university and the governments in the region of the importance of reorganizing extension and taking it seriously. This, in essence, is the basis on which CAEP had its initial point of departure and the basis on which it has been able to continue.”

“When CAEP began, the countries were struggling to get their extension divisions organized. The extension services were burdened with ad hoc procedures, trying to operate without things like job specifications. Field staff were charged with performing contradictory roles. There was a lack of training and equipment, no real linkages between extension and research, and a lack of coordination. Things were happening, the potential was there, but it was just not being brought together into a systematic focus.”

The Department of Agricultural Extension has been working diligently to become more effective in supporting agricultural development in the Caribbean. It designed and introduced a Diploma in Extension program and established a Regional Extension Communications Unit, which provides support and training for the region’s national extension communications units.

conduct agricultural research in Grenada, including CARDI, CARDATS, the Inter-American Institute for Cooperation in Agriculture, Organization of American States, and Produce Chemist Laboratory. This, the Subcommittee said, was the only way that the limited technical resources available in Grenada could be put to use in the areas of greatest need. So, the Subcommittee asked the research organizations for their work plans. Evans said, “Once the Subcommittee has received the work plans, it will be more aware of who is doing what, and will be better able to coordinate the research activities of all these research organizations.”

Institution building is a step-by-step, long-term process

For a country to embark on a carefully thought out and coordinated plan of action to develop its agriculture, its extension service must be well organized and its extension programs must be well planned. This gives front-line extension officers an environment in which to operate that systematically facilitates their efforts.

Project codirector Thomas Henderson recalled, “In the beginning, we decided that CAEP’s ultimate objective would be better farming and a better income for farmers, particularly small farmers. We recognized that achieving this goal depended very strongly on the extension officers. So, we took intermediate steps based on what our initial analysis indicated needed to be done.

“Reorganization was step number one because the national extension services certainly were not able to do much of a job the way they were organized.

“The second step was training. Extension work cannot be done if the persons in the particular slots within the organization are not trained to perform the functions that need to be carried out. This means not only technical training for front-line officers, but training for persons in supervisory positions as well. If a person who supervises has a supervision methodology that’s more negative than positive, it’s a no-go situation.

“The third step,” Henderson said, “was to provide basic equipment. Even if you have the organization and the officers in place and more properly trained, they cannot operate effectively unless they have the tools they need to do the job.”

How has CAEP dealt with the environments in which the extension staffs were attempting to work at the outset of the project? Several ways. The CAEP staff suggested ways the departments of agriculture could improve the organization of their extension services; it helped the extension services create job descriptions for all staff, from the chief extension officers down to the front-line officers; it is providing guidance and training to improve extension administrators’ ability to supervise their subordinates; and it is helping the extension services formulate annual work plans.

Organization charts were developed

At the beginning of CAEP, each country was expected to develop an organization chart for its extension service and indicate the number of people employed in various positions and their roles. Some of the resulting charts were fairly realistic, but others had to be revised so that they corresponded more closely to the financial and human resources available. All the CAEP countries now have organization charts, and in most instances, the roles and reporting relationships of extension personnel are clear.

The development of organization charts required major adjustments in some countries. In many instances, the regulatory, service, and educational functions that extension personnel were performing had to be identified and separated. CAEP’s goal was to ensure that front-line officers would have the time to do what they are supposed to do: advise and educate. Each country had to make some progress toward developing an organization chart before it could receive any vehicles or equipment from CAEP.

The organization charts continue to be revised as the roles and responsibilities of extension personnel become clearer and as they evolve with the undertaking of new initiatives. In some cases, two positions have been combined into one. In other instances, the number of supervisory personnel initially specified proved to be more than were actually needed. And, although the great majority of the positions shown on the charts are filled in most countries, many positions remain vacant because of budget problems, lack of trained personnel, retirements, transfers to other positions, and—in one case—a concerted drive to rapidly upgrade the extension staff’s technical knowledge.

“...we need to ensure that the changes that CAEP has brought about are fully institutionalized and self-sustaining.”

—Joe Fox

Regulatory, service duties hamper educational efforts

Antigua is a good example of the progress that has been made to ensure that farmer education is extension's top priority. The extension service that existed there at the outset of CAEP was an outgrowth of the Peasant Development Organization, which promoted sugarcane and cotton production.

The overlap in educational, service, and regulatory roles was most severe in Antigua. Regulatory and service work absorbed most front-line officers' time, leaving them little opportunity to conduct educational programs for farmers or to advise farmers on technical matters. According to the analysis conducted at the outset of CAEP, Antiguan farmers, extension agents, and community leaders believed that extension served no useful purpose and had no visibility.

Antigua's chief extension officer, McKenzie Harper, recalled the situation that existed before CAEP: "Our front-line officers and their supervisors were engaged in a good amount of regulatory work and services. We had people who were supposed to be teaching who were engaged in things like providing cultivation services, shooting stray animals, collecting rent, giving out notices, and settling disputes between farmers.

"Problems arose when the extension officers had to perform regulatory duties. It led to conflict. On one occasion, an officer might be a farmer's friend, advising him on how to grow his crops. On another occasion, the farmer might see the officer as his enemy because he was destroying animals that had strayed onto another farmer's plot. The end result was that farmers were reluctant to see the extension officers come."

Job descriptions remove doubt about responsibilities

When CAEP began, 39 percent of all extension personnel in the participating countries did not have job descriptions. In a few cases, extension officers relatively new to their positions were not aware of their job descriptions.

The job descriptions that have been developed with CAEP's assistance emphasize the educational role. Service and regulatory activities are almost completely excluded. Some officers continue to provide services, such as spraying, conservation work, and delivering inputs, such as seeds, plants, and fertilizers, but these are generally seen as

complementary to the educational function.

CAEP's insistence that all extension workers have job descriptions has produced some unexpected benefits in areas other than extension. Steve Fontenelle, deputy director of agricultural services for St. Lucia's Ministry of Agriculture, is responsible for two divisions that provide services, the Livestock Division and Plant Propagation Operation, as well as all government farms. He said, "In 1983, extension job descriptions in our country were very unclear as were the roles of the people in the field. This was one of the personnel problems that had to be dealt with because of CAEP. Now, everybody in extension has a job description. In fact, we extended that to the entire ministry and every division has now drawn up job descriptions for all staff."

Fontenelle said that preparing job descriptions helped in another respect: "When you prepare a job description, you can identify where a person has weaknesses in terms of being able to cope with his or her areas of responsibility. So, preparing job descriptions enabled us to identify areas of weakness, where we had to mount training programs for the staff."

Annual work plans ensure a systematic approach to work

The CAEP staff has assisted the extension services in developing national work plans every year since 1984. In fact, most countries now develop district-level and local work plans as well. Extension administrators and supervisors have learned to appreciate work plans because they increase the likelihood that work that needs to be done will be done.

The extension services are finding that work plans are just as important at the most basic level. Front-line officers who have work plans know what they are to do and when. And performance evaluations are unlikely to be arbitrary if an extension officer successfully follows a work plan approved by his or her superior. The 1981 baseline survey found that only 45 percent of the extension officers had annual work plans. Now, it is unusual to find an officer who does not have one.

Farmer participation in the formulation of work plans varies from country to country. In some countries, extension officers draw on their experience-based perceptions of



Thanks to job descriptions and annual work plans, front-line staff now know what they are expected to do. Here, front-line extension officer Ruth Boland (in hat) helps Dominica farmer Hubert Jno Charles with a tomato disease problem.

extension's impact on agriculture. By establishing explicit goals in terms of farmer contact and group meetings, the district officer can motivate field officers to perform at a higher level. By spending time in the field, he can help inexperienced officers make contact with farmers, help give farmers useful information on new technologies, and help organize group meetings.

There can be little doubt that CAEP has helped improve the extension supervisors' ability to supervise their staffs. Yet, more work is needed. Former on-site MUCIA team leader Joe Fox said, "We've been training the district and front-line officers in the program development process at the same time. What we must do now—and it's in our plans—is to give the chief extension officers and district supervisors special training in how to reinforce the program development process. They have only limited experience in using the program development processes and planning approaches as a basis for extension work, and we need to ensure that the changes that CAEP has brought about are fully institutionalized and self-sustaining."

The honing of supervisory and other skills has involved training in the United States as well. Since 1984, CAEP has sent UWI staff, chief agricultural officers, chief extension officers, and district extension officers to USDA courses, farming systems conferences, and the Minnesota Extension Summer School for training in administration, supervision, evaluation, and data analysis.

Antigua's chief extension officer, McKenzie Harper, reflected on what he learned at the Minnesota Extension Summer School: "I got quite a lot out of the course I took in leadership and managing extension personnel. Since attending the School, I've tried to change my leadership style a bit. I try to take into consideration more the characters of the persons whom I supervise. I understand better now that I just can't deal with everyone the same way. This approach has worked well. I find that I'm able to work better with certain people because of it."

farmers' needs. In other countries, farmers play a more formal role. For instance, farmer members of the national agricultural planning committee or its extension subcommittee may have input in the development of work plans. In at least two countries, farmer advisory committees meet with extension officers and help them develop their plans of work.

CAEP gives supervisors special attention

The supervision of front-line officers has improved markedly as district officers and other supervisors have learned more about their responsibilities and how to supervise people effectively. Practically all the district officers received at least two days of supervisory training from the CAEP staff during 1984, and they received considerable on-the-job training by working with the chief exten-

sion officer to develop work plans, job descriptions, and reporting procedures. Since then, the CAEP staff has emphasized supervisor training even more.

The supervision provided by the district officers varies both within and among countries. Some district officers seem to adhere quite well to the precepts of good supervision that were outlined in the CAEP training: establish performance standards, require periodic reports, hold evaluation sessions with your officers, and provide written evaluations. Most also spend at least one day a week with each of their officers, accompanying them on farm visits or observing them as they conduct group meetings.

The district officers' involvement in supervisory activities has a positive effect on front-line officer performance. Since most front-line officers lack formal extension training, improved supervision increases the number of farmer contacts. This enhances



Diploma in Extension students learn the basics of publication layout in Communication Theory and Practice.

Diploma program's goal: more effective senior staff

The UWI Department of Agricultural Extension developed a one-year Diploma in Education program as part of its CAEP initiative, largely in response to participating countries' requests. The national governments wanted training for experienced extension staff that would take less time, cost less, and be more oriented to their needs than university degree training.

The Diploma program was designed primarily for district extension officers and extension information training officers. The program's goal is to enable experienced extension personnel of public and private organizations to serve more effectively at senior levels. However, the program also provides training for others who work in rural development, including community development personnel, nutrition officers, adult education teachers, public health nurses, and field officers of commodity associations, farmers' organizations, and private enterprises.

CAEP awards Diploma in Extension scholarships each year to qualified extension

personnel who are nominated by their governments or the commodity organizations for which they work. Although the scholarships are now funded jointly by U.S. AID and the University of the West Indies, the University has demonstrated its commitment to maintaining the program by agreeing to subsidize one-third of tuition costs.

Based on the external evaluation of CAEP, the departmental staff improved the Diploma in Extension courses to make them less academic and more practical and field oriented. Instructors employ the case method, taking students through analyses based on actual experiences in the Caribbean. In this way, the students learn analytical skills that enable them to bring an empirical perspective to needs assessment, planning, program development, and project evaluation. These are critical skills for the students, who will have an on-going need to analyze development problems and design projects to meet local needs after they return home.

During Term I of the Diploma in Extension program, students take courses in community analysis and project development, extension philosophy and principles, and communication theory and practice.

The Community Analysis and Project Development course provides a comprehensive introduction to practical research methods for community and evaluation studies. Students also design a field research project in this course, which they will conduct during Term II under the supervision of the CAEP outreach staff.

Extension Philosophy and Principles puts students through program planning and execution exercises based on Caribbean case studies. The extension manual developed by the Regional Extension Communication Unit is used as a textbook, and this serves to acquaint students with the resource material and standard references that are being used by field staff in the CAEP countries.

Communication Theory and Practice give practical training in the use of radio and audiovisual instructional techniques, such as slide set production.

After completing Term I exams, Diploma students spend the first six to eight weeks of Term II collecting data in their home countries for their field research projects. Then, they return to the St. Augustine campus to analyze their data and write up their findings before the third and final term of the program begins.



Proper field packing increases the quantity and quality of bananas available for export. The field research project of a Diploma in Extension student showed that field staffs' effectiveness in teaching farmers how to field pack bananas could be assessed by analyzing the extension workers' work logs.

Term III consists of a seminar, Current Issues in Agricultural and Rural Development, in which students present and critique their field research projects and learn about farming systems. Emphasis is put on farming systems to provide a common perspective between CARDI researchers and middle-level extension personnel. It is hoped that this will facilitate close working relationships after students complete their Diplomas. The seminar also emphasizes a comparative analysis of extension organization and management in the United States and Canada as well as reflective assessments by CAEP outreach staff, with a view toward finding a Caribbean "model" of extension. Private sector and governmental extension systems are also discussed and compared. About a fourth of all Diploma graduates have been from private sector extension organizations such as the banana growers' associations of the Windward Islands.

Field research projects help improve extension efforts

In many instances, the field research projects of Diploma students have had a significant impact in the students' home countries.

For example, one mid-level extension officer's situation analysis of a vegetable-producing area in Dominica is being used there to plan agricultural production activities and to implement extension education programs

with farmers' groups. Another study by an extension district supervisor provided supporting evidence for the termination of subsidies intended to encourage farmer participation in St. Lucia's Tree Crop Diversification Program. A WINBAN communication officer used data from his field research project to compare the effectiveness of various communication techniques in educating banana growers. Work programs in both Grenada and St. Vincent and the Grenadines have relied on information from the field research of Diploma students from those countries. A study by an extension worker with the Dominica Banana Growers' Association showed that work-log analysis could be used to assess the performance of field staff in teaching farmers how to field pack bananas. The result has been reduced losses of fruit, improved economic returns, and more bananas for export.

The Diploma program has had major impacts on its graduates as well. They are more confident and more professional in their approach to their work. "I've been working very closely with one of our staff who earned the Diploma," said Oliver Grell, Dominica's chief extension officer. "His whole professional approach to extension and to agriculture in general has improved immensely. His confidence, his ability to evaluate the officers under him, and his ability to get more involved in program development

and implementation are greatly improved. I think he also gets along better now with the people he supervises."

The Diploma program plays an important role in the development of extension in the Caribbean. There is no comparable opportunity in the region for providing intensive training to senior extension staff. Moreover, the model for this program has had a major impact on the University of the West Indies and on the thinking of the Faculty of Agriculture in supporting this new kind of adult education at the university level.

P. J. Gomes, who led in the development of the program, said, "One of the achievements of CAEP has been a recognition of the weakness in managerial competence and organizational expertise at the top and middle levels in extension. We designed the Diploma in Extension program to address that problem, and the chief agricultural officers and chief extension officers even asked for in-service training in the areas of management."

The CAEP staff has answered this request by holding annual management training workshops for the chief agricultural officers and chief extension officers. These one-day workshops have offered training in supervision, modern management principles, time management, and planning in addition to a review of the program development manual. One particularly useful workshop included an exercise in which the chief agricultural officers and chief extension officers shared their perceptions about each other's roles and responsibilities. The resulting dialogue was very helpful in dealing with some of the tensions that are inevitable in a chief agricultural officer-chief extension officer relationship.

Training for front-line staff is expanded under CAEP

One of the deficiencies that CAEP has attempted to correct is inadequate training for front-line extension workers. While few front-line officers have a bachelor's degree,



A St. Vincent farmer shows extension officers the system he built to produce biogas from manure during the 1985 Windward Islands in-service training.

many have two-year diplomas in agriculture. However, some front-line staff do not have any formal agricultural training beyond secondary school. These extension workers as well as others with more education were often frustrated because they lacked the knowledge they needed to help farmers, and their morale eroded along with farmer confidence in extension.

The UWI Department of Agricultural Extension offered in-service training in agricultural technology and extension methods for many years before it embarked on its CAEP initiative. However, this was limited to two two-week workshops each year—one for the Windward Islands and one for the Leeward Islands—which reached only a relatively small proportion of the front-line staff.

The Department's annual two-week workshops have covered many topics, including agricultural technologies, extension methods, postharvest technology, marketing, farming systems, and farm management. More recent training endeavors under CAEP have been short courses dealing with extension program development and soil and water conservation and management. For these, the Department has drawn on the expertise of CAEP outreach professionals, MUCIA extension specialists, and technical specialists

from the Ministries of Agriculture as well as UWI faculty.

While the Department's two-week workshops and short courses continue to be an important part of in-service training in the region, they are now augmented by other training. CARDI conducts training in the islands, and the national governments have begun to offer training, utilizing ministry personnel as well as the CARDI, CARDAT and CAEP outreach staff. As a result, in-service training in the region is much more regular, frequent, and systematic.

Clarence Thomas, a front-line officer on St. Vincent, summed up the sentiments of front-line staff in general: "I am very grateful to CAEP in every respect. The CAEP staff has been assisting the Ministry with on-the-job training. Although the Department of Agricultural Extension ran annual, two-week workshops for the front-line officers before CAEP, the in-service training is more regular now. It is also much more frequent and much more professional than it used to be. And, it is based on the needs of the extension officers as well as the needs of the countries. The Ministry identifies the subject areas in which training is needed, and UWI plans in-service training with that in mind.

"I think the technical officers with whom I work now have a higher estimation of me," Thomas added. "I was very weak in certain areas, and I've received training in a number of subjects through CAEP. I have been called upon on several occasions to lecture in areas in which I used to be really weak. CAEP has made me a reader and a true professional."

Technical officers see improvements

Antiguan plant protection officer Florita Kentish offered the technical officers' assessment of the value of CAEP training: "The front-line officers are most decidedly gaining more confidence in their delivery systems to farmers. More of them have obtained further training since the onset of CAEP. Several have gone off to do diploma courses, many have attended in-service training, and some have been to the United States for training in vegetable production and other subjects. You can see the difference in their approach to their work and in the quality of the meetings they hold with farmers. They seem more methodical now and understand their objectives better. And their ability to get farmers involved in the learning process is much improved."

Jennifer Maynard, an Antiguan horticulturist, said, "The front-line officers actually ask for my assistance now. For example, Tereno Benjamin has taken me to visit tree crop farmers in his district on two occasions. With the specialist officer at his side, he's better able to respond to some of the farmers' questions. But the important thing is that he has identified someone who can assist, so farmer confidence in him is enhanced.

"I have seen a difference in the way the front-line officers conduct their programs," Maynard said. "But I think that overall they need to understand the basics of adult education; that's an area they need strengthening in. For example, I conducted training sessions for their farmers and asked the officers to collect materials for the sessions—things like produce for sampling, crates for sorting, that sort of thing. I could see by how they responded that some understood how these materials could be utilized in the training. But for others, my request was a bother. It wasn't necessarily that they didn't care; they just didn't understand the value of using these types of tools in training."

'The front-line officers are most decidedly gaining more confidence in their delivery systems to farmers.'

—Florita Kentish

Undoubtedly, progress has been made. But the Department of Agricultural Extension sees room for more improvement. "We think of ourselves as being in a partnership with the Ministries of Agriculture," P. L. Jones said. "The more we relate to specific problems in the participating countries, the more we want and need persons with first-hand knowledge and experience of those problems. So, we always draw on the knowledge of technical personnel in the Ministries when we conduct in-service training. However, we need to be kept better informed of what the ministries are doing in education and training for their front-line staff and their farmers if we are to do a better job of offering in-service training that meets national needs and priorities."

CAEP activities offer other opportunities for in-service training. For example, produc-



Antiguan extension officers use pest control officer Florita Kentish (left) and horticulturist Jennifer Maynard as sources of technical information. Kentish and Maynard see improvements in the quality of the meetings that front-line officers hold with farmers.

tion of a Caribbean Agricultural Extension Manual has been a top priority for the Regional Extension Communication Unit (RECU). Educational program development materials that outline the annual planning process comprise the first section of the Manual. When this section is completed, the CAEP outreach staff will hold one-day in-service training sessions in each country to review the program planning process outlined in the Manual.

RECU is also developing fact sheets for the Manual on such topics as pests and dis-

eases, tree crops, and small livestock. The CAEP outreach staff will hold subregional workshops in the Windward and Leeward Islands as RECU completes each set of fact sheets.

This approach illustrates a basic principle

CAEP countries are diverse, yet have problems in common

The nations participating in the Caribbean Agricultural Extension Project are strikingly diverse in many ways.

For example, important crops vary: maize and oranges in Belize, spices and cocoa in Grenada, arrowroot in St. Vincent, bananas and coconuts in St. Lucia and Dominica, hot peppers and carrots in Montserrat, sea island cotton in Nevis and Antigua, sugarcane in St. Kitts.

Ecological systems differ from island to island, as do soils because of different geological histories. For instance, St. Vincent has fertile volcanic soils. And although only two miles separate St. Kitts and Nevis, the soil on St. Kitts is fairly sandy, while that on Nevis has a much higher clay content.

Land area, population size, and population density also depict a region of historical, cultural, and agricultural diversity. While there is much uncultivated land suitable for agriculture in Belize, land is extremely scarce on many of the islands. Belize has a land area of nearly 9,000 square miles and a population of only 166,400. At the other extreme, Montserrat—the smallest of the countries participating in CAEP—has a population of about 12,000 on 40 square miles.

The countries' agricultural extension systems also differ. Some of the nations were just beginning to develop viable extension services when CAEP began. Others had organizational structures, but were—and in many instances, still are—plagued by staff vacancies, usually the result of insufficient funds. Titles of extension staff and chains of command vary from country to country, but typically the head of extension, or chief extension officer, reports to the chief agricultural officer, who administers a number of divisions within the Ministry of Agriculture.

Despite this diversity, most of the countries have similar agricultural problems. Food production lags well behind



Mangoes, sea island cotton, bananas, and dasheen are among the many crops grown in the CAEP countries.

the needs of their populations; all of the islands are net importers of food, which contributes to their balance-of-payments problems.

Farming as an occupation generally carries low social status in the Caribbean. Moreover, farm incomes have been held down often by artificial price constraints and marketing problems. Economies of scale in agriculture are almost nonexistent. Because of a lack of employment opportunities, many workers seek employment in Britain, Canada, and the United States. These and other factors contribute to the difficulty of attracting young people into farming. Consequently, farmers tend to be old. The average age of Montserrat's farmers, for instance, is 57.

“...extension was the scapegoat; it seemed that...they were more or less to blame for anything that went wrong in agriculture.”

—Thomas H. Henderson



that is rigorously pursued in all CAEP undertakings: *The dissemination of educational materials will be accompanied by in-service training to review those materials and make sure that extension staff know how to use them best.*

Countries share a desire for educated staff

Having front-line staff competently trained with a two-year diploma in agriculture continues to be important in the participating countries. Montserrat and Dominica illustrate the extent to which the CAEP countries have taken up this challenge.

Montserrat is determined to have educated personnel throughout its Department of Agriculture, including its extension service. The government decided before CAEP began that it wanted some of its employees to have more than a two-year diploma. So, it pulled them off their jobs and sent them to the University of the West Indies to earn their bachelor's degrees.

Giving education top priority has meant that the colony's extension service hasn't always been able to stay in step as CAEP progressed. Director of Agriculture Franklyn Michael said, "We have not sent anyone to the UWI's one-year study program leading to the Diploma in Extension simply because we haven't had any staff to spare. However, our staff who are still on the job have been able to take advantage of the in-service training and short courses that CAEP has offered. We'd love to have CAEP around when our professional extension staff return from the University. Meanwhile, we hope CAEP can continue to give us the kind of administrative support it has provided in the past, particularly in-service training for the people who are here."

The push to allow staff to complete their formal education has called for creativity in staffing. Although four of the five full-time extension positions that Montserrat's organizational chart specifies are manned, two of the positions are filled by U.S. Peace Corps and British Voluntary Service Overseas volunteers. And, the CARDATS country officer, Jammi Kumar, is temporarily serving as chief extension officer.

Joe Fox, former MUCIA on-site team leader, said, "Montserrat is a good example of what a country can do if it decides it really wants extension workers with the education to be effective educators. It literally brought the expansion of its extension program to a

halt. Three of its staff are now in school and in a few years, all but one person will have a Bachelor of Science degree. Once you get a staff with that kind of technical training, you can concentrate on giving them the extra tools they need—in how to plan, deliver and evaluate educational programs."

The other CAEP countries have not followed Montserrat's example for various reasons. In all these countries, money for training is in short supply and national development efforts are putting great demands on extension. Administrators feel they need all the human resources they can muster to respond adequately.

Nonetheless, all the chief extension officers share a desire to have better trained front-line staff. They see the value of training in improving professional competence and morale. And, they recognize that extension personnel can move up through the civil service only if they have the right academic credentials.

In Dominica, the realities dictate more modest ambitions than in Montserrat. Oliver Grell, Dominica's chief extension officer, said, "Even though some of our field assistants do not have the credentials to get appointed as regular employees, we do give them in-service training, which provides the expertise they need to function as educators. I would like all our front-line staff to be at the agriculture instructor level—the two-year diploma level—in the future. That is our goal. How long it will take for us to accomplish this, I don't know. That's why it's so critical that we have the people who can move on to do diploma-level work get the prerequisites they need to be accepted into a diploma program."

Award recognizes excellence, increases professionalism

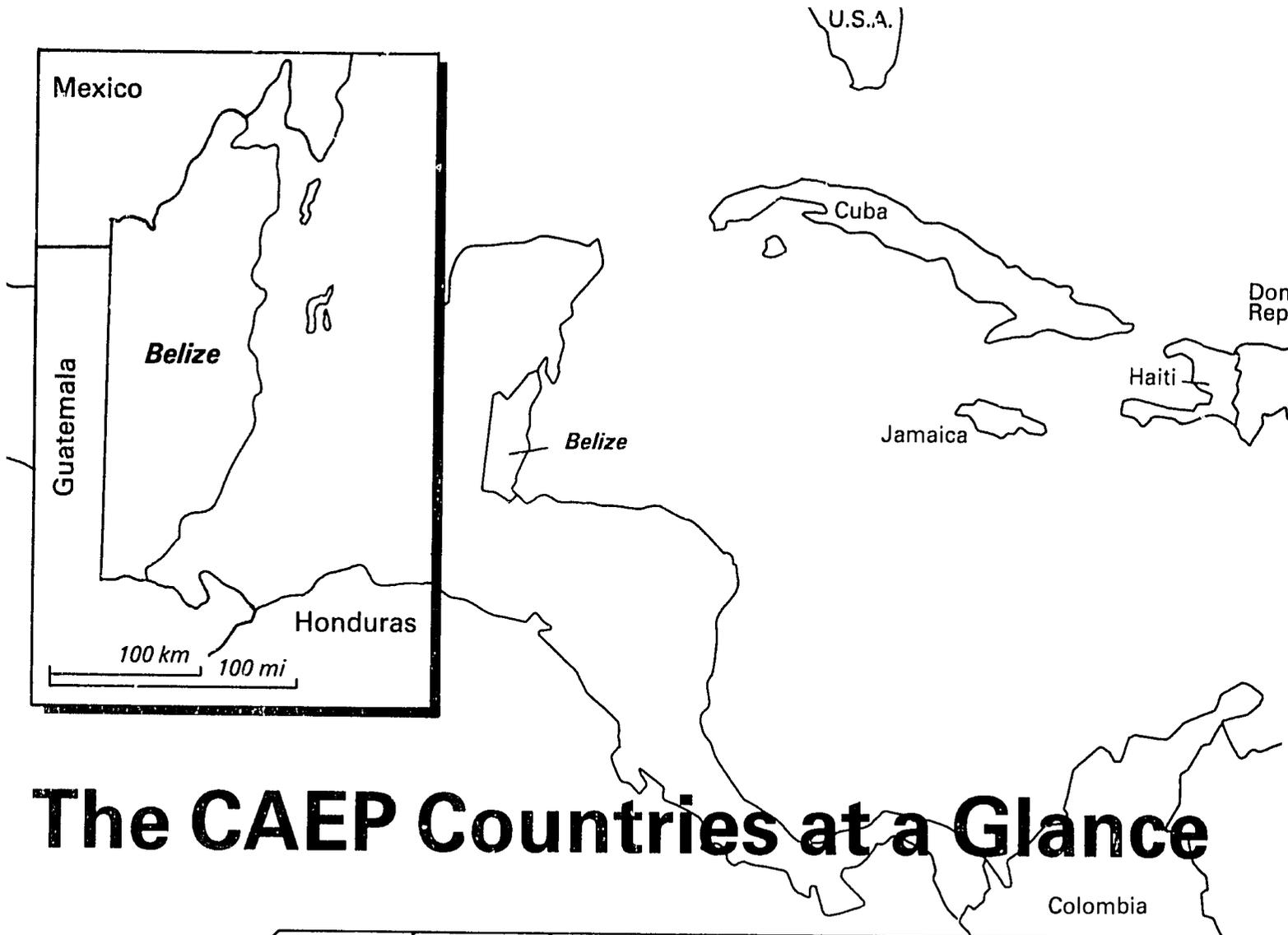
Most people need more than adequate pay and training to feel good about their jobs; they need to be recognized when their performance is exemplary. The analyses done at the beginning of CAEP showed that many extension officers did not have a high opinion of themselves as professionals.

CAEP Codirector Thomas Henderson recalled, "With very low salaries, no support, and no recognition for anything good that they did, the extension workers were in a poor state of morale. Many were considering, or had already decided to get out of extension because extension was the scapegoat;

(Continued on page 24.)

Many farmers must take off-farm jobs to support their families, especially in those countries where land is scarce and farms are small. On the average, about 75 percent of the farms are under five acres in size. However, in some countries, more than half of the farms are under one acre. Under these conditions, part-time farming becomes the norm rather than the exception.

Another challenge is the region's size. Communications within the region are difficult and expensive. The seven island nations that are participating in CAEP are scattered over some 500 miles from north to south, and nearly 2,000 miles separate the most easterly island, Antigua, from Belize in Central America.

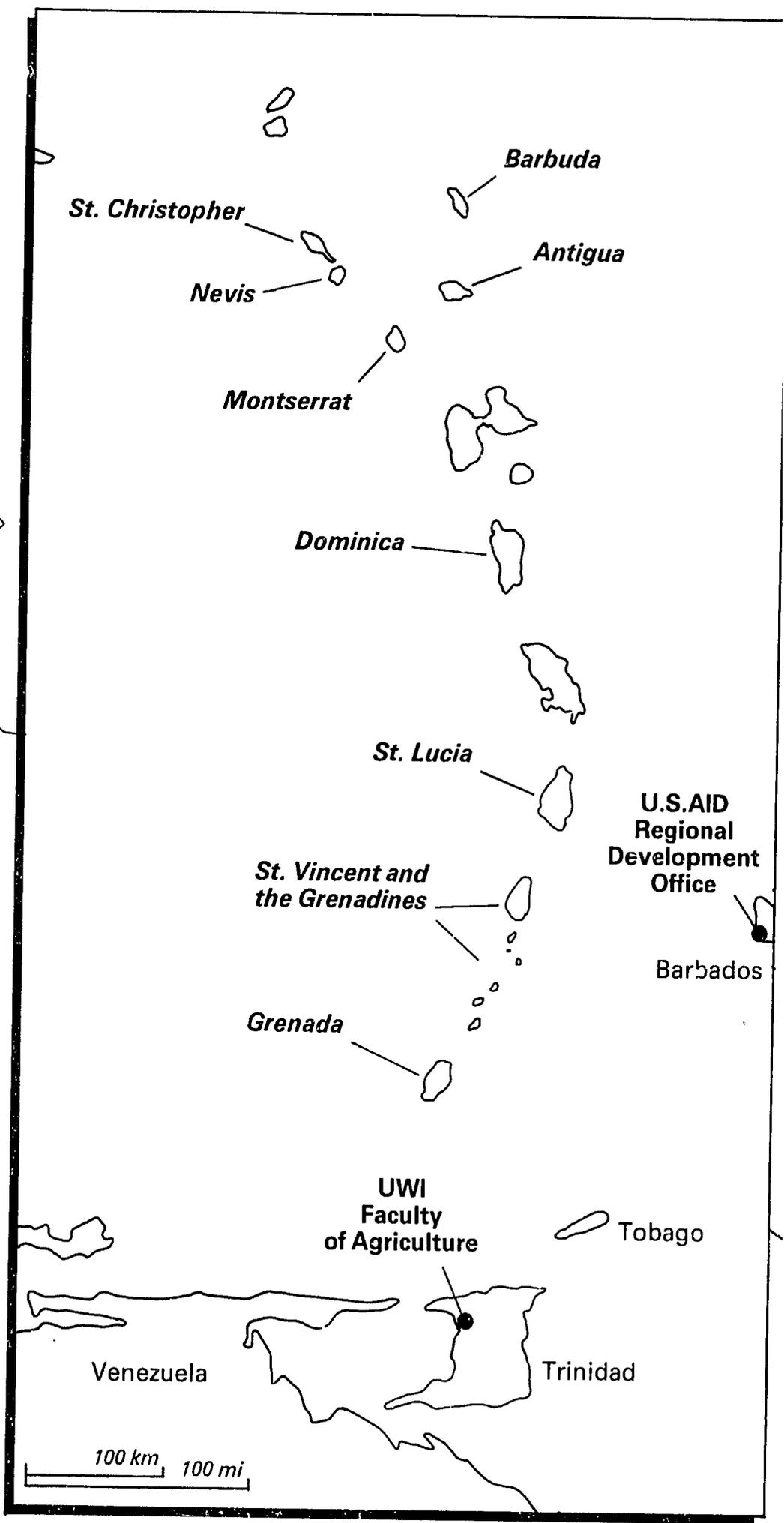
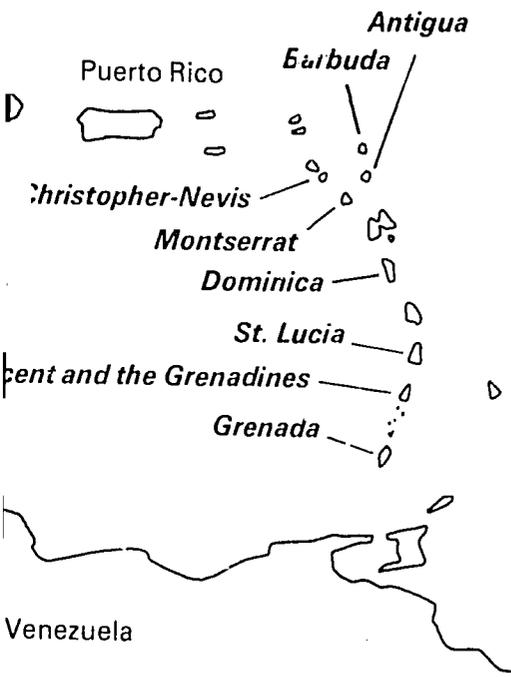


The CAEP Countries at a Glance

	Antigua and Barbuda	Belize	Dominica	Grenada	Montserrat	St. Christopher-Nevis	St. Lucia	St. Vincent and the Grenadines	
1981	1981	1978	1974	^b	1983	1979	1979		Year
170	8,867	290	133	40	103	238	150		Total
25%	4%	26%	47%	15%	42%	33%	56%		Percentage of labor force
80,500	166,400	77,400	96,000	12,000	47,000	137,600	105,000		Population
9% ^a	29%	13%	29%	15% ^c	51%	44% ^d	29%		Percentage of population involved in agriculture
5% ^b	21%	30%	21%	5%	20%	14%	13%		Percentage of population involved in agriculture (excluding fishing)

Source of data (except for Montserrat): *1986 Britannica Book of the Year*. Data for Montserrat provided by Montserrat Department of Agriculture. All numbers and percentages have been rounded off to the nearest whole number.

- ^aIncludes portion of labor force, economy from fishing.
- ^bMontserrat is a colony of Great Britain.
- ^cIncludes persons working in forestry, fishing.
- ^dIncludes persons working in mining.



100 km 100 mi

pendence
rea (square miles)
d under cultivation res
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Excellence in Extension winner Mary Louis helps a St. Lucian farmer fill out a claim for compensation after his tomato plants were damaged by drift from aerial spraying.

it seemed that as far as everybody was concerned, they were more or less to blame for anything that went wrong in agriculture."

To remedy this, CAEP instituted the Excellence in Extension Award program, which annually recognizes an outstanding extension officer in each participating country. Any person from a public or private agricultural extension service who works with general agriculture, the commodity associations, or livestock is eligible for the Award. The national agricultural planning committees select the recipients of the Award.

The recipients of the Excellence in Extension Awards exemplify extension work at its best. Generally, they share the following characteristics:

They customize their approach to all types of farmers. One Award recipient from Antigua always writes the names of chemicals on a piece of paper for farmers who are illiterate or have difficulty reading. He gives intellectually curious farmers who are literate brochures and articles to read.

They are willing to help with problems at any time and are careful to keep appointments.

They work to get farmers involved. One Award recipient organized a work party of 20 farmers to make some badly needed road repairs. Another summed up his philosophy: "I try not to do things for people; I teach them to do it. I'm for teaching the men how to do budding and grafting for themselves."

They take the initiative. One Award recipient was writing his own pamphlets and getting them printed. Another initiated a radio program. A third bought flannel boards with his own money so he could give more effective talks.

They are eager to learn and to apply what they learn.

They are willing to work on a problem until it's solved. Realizing that the propagation stations were not going to produce enough planting material, one Award recipient from St. Lucia helped farmers set up their own nurseries. He is slowly building a network of

farmers who are helping themselves and their neighbors to plant more tree crops.

They are dedicated to performing a valuable service.

They are concerned with building linkages to other resources. One Award recipient from Belize works with the Women's Bureau, the Cooperative Department, and the Rural Agricultural Education Program in the schools.

They constantly look for opportunities to offer advice or assistance.

Each year, the recipients of the Excellence in Extension Award attend a three-day conference on the UWI campus in Trinidad that focuses on ways to increase professionalism and excellence in extension. They make presentations on their programs of work and extension achievements at the conference, and elect a representative who attends the Minnesota Extension Service's annual conference.

Award winners see a need for extension associations

The idea for a regional or national association for extension personnel arose from the sharing of common problems at the first Excellence in Extension conference in Trinidad, and Award recipients are leading proponents of such an association.

Anthony Philgence, who supervises an extension region on St. Lucia, was the first regional Excellence in Extension representative. He said, "I spent a week at the annual extension conference in Minnesota and this gave me the opportunity to understand how extension might be organized. It also gave me some motivation to try to organize a professional organization of extension officers here in St. Lucia. We're still in the planning stage, but we intend to push for such an organization. I think it could improve morale and foster professionalism. It would give us chance to discuss our approach to our work and let us share the experiences we've had with one another."

Front-line officer Mary Louis, another St. Lucian, also attended the annual conference in Minnesota. She said, "I was impressed by the way extension was organized. And the conference wasn't all work; people were given time for recreational activities, time to get together to discuss their problems and learn what everyone is doing. I was impressed also by the systematic way in which the extension workers dealt with their prob-

lems. Sometimes, we do a lot of talking and there's not enough action."

Derrick Zamore, an Excellence in Extension Award recipient who now manages Dominica's Coffee Development Project, thinks that a national association of extension workers would offer several benefits. He said, "First, it would bring about more recognition of extension because extension would be in the news more. It would also give us a chance to improve our service to farmers. Collectively, we could probably look at farmers' problems in much more detail and come up with solutions that would work. I think such an organization would also enhance professionalism in extension. And, it would create better rapport between people who don't ordinarily work together."

All the countries remain enthusiastic about the Excellence in Extension program and continue to support it. Most people know the recipients and consider them worthy of the honor. And, most countries give additional recognition to award recipients in newslet-



Derrick Zamore, who heads Dominica's Coffee Development Project, talks to farmers about the proper way to plant coffee. Zamore and other Excellence in Extension Award recipients often possess the attributes that officials look for when selecting persons to head agricultural development efforts.

ters, newspaper articles, and radio programs.

The Award program has done more than recognize outstanding accomplishments. It has also increased the professionalism of extension officers, given other officers a standard to aim for by establishing role models, helped to combat the negative image of extension officers by publicizing top performers, and provided incentives to excel.

Equipment increases effectiveness, efficiency

One of CAEP's objectives was to provide equipment for officer travel, mass communications, and in-the-field demonstrations of agricultural techniques. The CAEP staff realized from the beginning that even the most carefully thought-out extension improvement plans would not succeed unless the national extension services were properly equipped.

So, equipment—including agricultural tools, vehicles, communications equipment, and library and other materials—came to play an important role in the Caribbean Agricultural Extension Project.

Carefully thought-out strategies were employed with respect to equipment procurement. Early in the Project, the CAEP staff and RAECC agreed that receiving equipment should be contingent upon proof that a country had made progress in carrying out its national extension improvement plan. This gave CAEP the leverage it needed to help the countries implement their national plans more quickly than might have been the case.

Each extension service was required to develop lists of needed equipment based on priorities of the national extension improvement plan. This process, which involved personnel at all levels of extension as well as others in the Ministry of Agriculture, helped ensure that only equipment actually needed was procured. As a result, the equipment furnished by CAEP has been highly prized—and utilized.

The baseline survey conducted at the beginning of CAEP found that field staff were hampered by a severe shortage of agricultural equipment and teaching aids. In some instances, front-line officers were attempting to function without even the most basic equipment. CAEP remedied this situation by supplying field staff with the equipment they needed to attain the goals specified in the na-

(Continued on page 28.)

For some, there are no problems— only opportunities

It's often said that problems are actually opportunities, and that's a perspective Excellence in Extension Award recipients share. They invariably have a strong sense of social responsibility, and see problems as opportunities to improve the lives of people. Front-line officer Clarence Thomas is a good example.

Thomas works in St. Vincent's southernmost district, where livestock production, tourism, and fishing are important industries. Although there are 3,000 full-time farmers, many other people farm part time. Some farmers own land, some sharecrop, and some are landless.

About 70 percent of the population is under 30 years of age, and unemployment is a serious problem particularly among the young, who often cannot find jobs even though they have the necessary education and training for employment.

"Very many of my young farmers are landless," Thomas said, "but some of them are among the best livestock producers in the district. The domestic and

export markets for livestock are very reliable, and these young people have found livestock raising to be one way of making some money."

One of Thomas' goals is to change the attitude that many rural people have about farming, that it lacks dignity, economic opportunity, and social status. Thomas, who's called "Paddy" by almost everyone, worked with a primary school to pilot a basic course on agriculture. Now, the Ministry of Education is considering making the course part of the curriculum in all primary schools.

Thomas also lectures, gives demonstrations, and provides educational and other materials for the agricultural classes at the secondary school in his district. Many students have become excited about the school's agricultural program, and some are using what they've learned about livestock production to improve the productivity of their parents' sheep and goats. Others have started flocks of their own.

"Even while they're in school, they're livestock producers," Thomas said. "I know of some who pay their school fees and buy their books from the profits of their sheep and goat production. Working with the schools and youth groups is a step in the right direction. A lot of the new techniques that farmers in my district are practicing were learned from the school children rather than from me. Some parents have been very grateful and have told me that their children had not been helping them on the farm before we started the agriculture program. I'd be very happy if some of these children would turn to full-time farming when they leave school."

There are many unemployed, unwed teenage mothers in the district, and



Farmers learn the fundamentals of small stock health care at the livestock health clinics that front-line officer Clarence Thomas holds.

Thomas saw their plight as another opportunity. He and the staffs of the government health centers discussed the problem, collected statistics, then talked with some of the unwed mothers. "They helped us greatly in identifying their problems: unemployment, poor family structure, a lack of knowledge about child care, family life, and family planning. We drew up a program, and these young women have responded magnificently," Thomas said.

Kathleen Mandeville, head nurse at the Adams Health Centre, said, "Paddy and I work together to help the unwed mothers to be a bit more independent. Because they are unemployed, providing adequate, nutritious food for their families is a problem."

Thomas teaches the young women about backyard gardening and egg and rabbit production. He has raised money to buy rabbits, and 11 of the women will receive a pair with the provision that they give some of the offspring to other unwed mothers.

How's the program going? Thomas said, "One lady said she was able to save EC\$60 (about US\$22) in three months from the production of her garden. She reasoned that her family had consumed about EC\$100 worth of vegetables and she also gave some to friends. Normally, she would have been going to the market to buy this produce."

Working with farmers remains the heart of Thomas' work. The livestock health clinics he holds are occasions to teach farmers animal health care and to discuss their problems. Thomas said, "In 1983, when I initiated the livestock program in my district, there were six clinic locations. But the response has been so great that there are now 25 locations, half of which were set up by the farmers themselves. We run a series of clinics three times a year. On the average, 50 ani-

mals—mostly goats and sheep—are examined and treated at each location. We deworm, castrate, trim hooves, and treat for any sickness the animals might suffer given the equipment and drugs that we have."

One of Thomas' major successes has been convincing farmers to upgrade their livestock. Inbreeding was a major problem: few animals were castrated and stock was allowed to breed indiscriminately. Each Wednesday, Thomas castrated animals and talked to farmers about livestock improvement. He said, "Some farmers are castrating on their own now, and I don't think I have to follow up with a single farmer anymore when it comes to selecting breeding stock."

The drive to upgrade livestock includes artificial insemination of cattle, which farmers are accepting after some initial skepticism, and the use of government-owned Toggenburg and Nubian bucks and Blackbelly rams. However, Thomas thinks there are not enough purebred sires available and he and the CARDI team leader are preparing a proposal to bring more into St. Vincent, particularly rams of the Blackbelly breed, which is very well adapted to conditions in the district.

Animal nutrition is another area of concern. Thomas said, "When I began working here, there was poor pasturage and overgrazing. Farmers didn't know how to feed even though there's much crop residue and good legume feeds. So, I identified some local legumes that are very nutritious. The farmers had been planting gliricedar for years to contain their livestock and protect their crops, but they did not realize its value as a feed. They have to go into the bush to cut Leucaena, but I am going to introduce Leucaena and some good grasses, like Pangola, Bermuda, and African stargrass on farms."

Thomas and researchers in his district

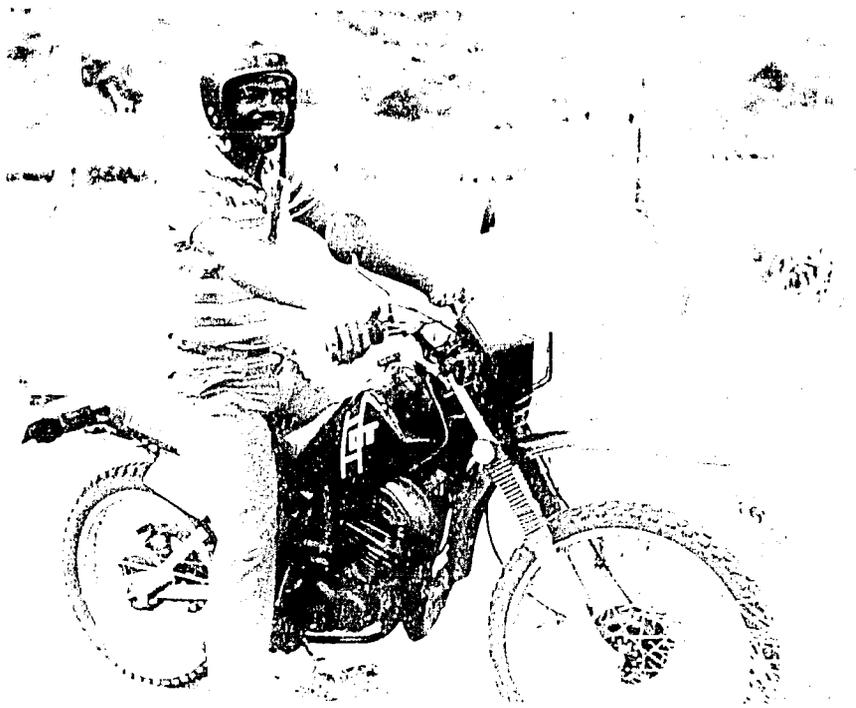


Clarence Thomas shares educational materials with two students at the secondary school in his district. Because of his work, many young people have become interested in farming as a career.

are trying to find ways that farmers can reduce their feed costs. They have sent samples of local feedstuffs, such as peanut tops, sweetpotatoes, cassava, and coconut meal, to a lab in St. Lucia to see how they compare in feed value with commercial feeds. Thomas said, "If there's no great difference, we will not advise people to buy commercial feeds."

Soon, Thomas will receive some equipment from FAO, which he will use to show farmers how to put up hay and ensilage. Adoption of this practice could be an important stride forward because the rainy season in the district lasts only three months. Most farmers do not feed during the dry season, but allow their stock to roam free. As a result, the animals do not thrive as they should and there is no control over their breeding.

Problems? Certainly. But lucky for farmers and others that dedicated extension officers like Paddy Thomas see opportunities in problems.



The motorcycle that CAEP provided allows front-line extension officer Daniel Arthurton to increase his contact with farmers on Nevis.

tional work plans. This included such items as horticultural knives, thermometers, castrating tools, scalpels, measuring tapes, magnifiers, pocket calculators, and backpacks. CAEP also provided district extension offices with equipment that field staff could use for demonstrations and meetings: plastic buckets, surveying instruments for soil conservation efforts, dehorning tools, hoof trimmers, weight tapes, chalkboards, and flipcharts. In addition, each national extension office received office equipment such as typewriters, file cabinets, and reference books.

"CAEP has contributed immensely in helping us get our front-line staff to the point where they can deliver a program," said Dominica's chief extension officer, Oliver Grell. "CAEP has provided training and the equipment and material that they need to be more effective and efficient. Though tools and educational equipment like calculators and knapsacks may seem insignificant, they are very essential."

The initial analysis also identified a desperate need to improve extension's access to farmers. The terrain is rough in many of the countries, and road systems generally inadequate. This makes it difficult for front-line staff to get to farms in isolated areas. The national extension offices had few vehicles at their disposal to transport extension officers, technical experts, and equipment to farmer

meetings and other events. Most front-line officers did not own vehicles and their activities were limited to the places and hours that public transportation was available. When the bus stopped, there was no alternative but to walk, which severely limited the number of farm visits they could make. Moreover, evening meetings with farmers were often out of the question.

CAEP responded to the transportation problem by giving each national extension office at least one four-wheel-drive vehicle. Some of the larger countries and the two-island nation of Saint Kitts-Nevis received a second vehicle. But this still left most front-line officers at the mercy of public transportation.

Creative thinking helps solve the mobility problem

Motorcycles helped solve the mobility problem on Nevis, the smallest of the islands. One all-weather road circles the island, traffic is generally light, and most farmers are located off the main road. So, CAEP gave each of the front-line officers a motorcycle with the provision that they maintain and repair the vehicle at their expense.

"Before we got the motorcycles from CAEP, we had to catch the bus," said Daniel Arthurton, a front-line officer on Nevis. "With the motorcycles, we can go almost any place that we can walk. They allow us to visit more farmers in a day and to hold meetings in the evening, when the farmers are done working for the day."

Simply giving the extension services more vehicles did not seem a viable and lasting solution to the mobility problem in the other countries. When civil servants use government vehicles, the vehicles tend to be poorly maintained and driven with less-than-optimal care. Moreover, vehicle ownership can become a major drain on government finances, adding significantly to recurring costs—something the participating governments could ill afford. The CAEP staff found things different in those countries where extension personnel were being reimbursed for using their personal vehicles in their work. The vehicles were carefully used and maintained, and the governments were not sad-

"CAEP has contributed immensely in helping us get our front-line staff to the point where they can deliver a program."

—Oliver Grell

and with vehicle upkeep and replacement costs.

So, the CAEP staff discussed with the participating governments the possibility of financing money to extension staff to buy vehicles. U.S.AID would fund a revolving loan scheme through CAEP. An initial amount of money would be provided to set up a loan program administered by a commercial bank, and repayments would be used to fund new loans. Stipulations are that the vehicles purchased under the scheme must be duty free, owned by individual officers, and used for extension work. Also, a loan must be fully repaid should a person who borrowed money under the program leave extension.

"With the motorcycles, we can go almost any place that we can walk. They allow us to visit more farmers...and to hold meetings in the evening..."

—Daniel Arthurton

In 1984, the first revolving vehicle loan program was established in St. Vincent. By April 1986, the program had enabled 11 extension personnel to buy duty-free vehicles at commercial loan rates. Paypacks are permitting loans for two more vehicles each year.

St. Vincent's loan program has received a great deal of attention in the region, and AECC has recommended that such loan programs be the primary mechanism used to solve the critical transportation problems of extension workers. Antigua and Barbuda, Dominica, Grenada, and St. Kitts-Nevis are following St. Vincent's lead and should have vehicle loan programs in operation soon.

Interest in the program runs high among field staff in all the countries. Antiguan on-line officer Sereno Benjamin said, "Transportation is really a problem. I cannot cover more than one area in a day because I have no transport. I have to take the bus to an area and then walk to neighboring farms. I'd be interested in taking part in a loan pro-

gram. I cannot buy a vehicle as long as I have to raise the money on my own."

CAEP makes communications a high priority

Another CAEP objective is to strengthen extension-related communications through the mass media. The extent to which CAEP has equipped the participating countries' extension communications units and the establishment of a Regional Extension Communications Unit reflect the high priority the Project puts on communications.

Communications figure prominently in CAEP's efforts to improve the link between research and extension. Unless the University of the West Indies and the participating countries have the ability to provide research-based information in print, over radio, and by audiovisual means, the relevant research that is being done in the region by UWI, CARDI and other research organizations won't reach those who most need and want the information—the farmers.

The older farmers in the CAEP countries generally have little, if any, formal education. Many are illiterate, and many others have only an elementary education. Under such circumstances, disseminating extension

information by radio and audiovisual means assumes added importance.

As a rule, the younger farmers have more formal education. Newspapers, newsletters and printed educational materials such as fact sheets are important vehicles for transmitting useful information to these and other, more educated farmers. The mass communications media also play an important role in gaining public awareness, involvement, appreciation, and support of extension activities and programs.

The CAEP staff worked with the Ministries of Agriculture to establish or expand extension communications units in all the countries except Montserrat, which continues to have a single communications unit for the entire Ministry.

Several changes have been brought about in national communications efforts as a result of CAEP. Full-time extension communicator positions have been established, and job descriptions have been written for the communication officers, making it clear that their primary responsibility is dissemination

The national extension communications units and UWI's Regional Extension Communications Unit produce fact sheets, bulletins, and newsletters that provide farmers with useful information.





Front-line officer Eugene Skerritt broadcasts information to farmers over Radio Montserrat. CAEP communications training improved Skerritt's radio writing and broadcasting skills.

of extension information through the mass media.

Communications units receive equipment, training

CAEP has equipped each of the national extension communications units with a vehicle. The units have received 35mm cameras and accessories, tape recorders, typewriters, stencils for lettering posters, slide and overhead projectors and screens, duplicating and mimeograph machines, stencil cutters, and public address equipment also.

In addition, CAEP has equipped the WINBAR communications office in St. Lucia with a four-color printing press. That office produces educational materials that can be used by extension personnel employed by the banana growers associations in the Windward Islands. The press is also used to print some of the educational materials de-

veloped by St. Lucia's extension communications unit.

Training has been an important aspect of "equipping" the communications units. Extension communicators from each of the countries have attended the communication training which the Regional Extension Communications Unit conducts each year with the help of MUCIA communication professionals. So far, the training has dealt with photography, graphic arts, radio programming, and newsletter and slide set production. In addition, five national extension communications officers have participated in the Diploma in Extension program.

The communications equipment and training provided by CAEP is being put to good use. Cyprian Yarde, an agricultural information assistant from St. Lucia, said, "I'll be able to use much of what I learned in the photography course. Our annual work program calls for us to produce a number of slide sets. The 35mm camera we got from CAEP has a wider range of lenses than our old cameras, and now we'll be able to get shots we couldn't get before. I think the camera will be a great help, now that I know more about photography and slide set production."

The training has helped Eugene Skerritt also. He said, "Because Montserrat is a small country with limited resources, we have not been able to appoint someone specifically to do communications work. So I've had to wear two hats, as a front-line officer and as an extension communicator. I tried to gain experience from the radio station personnel, but most of them are not in tune with extension or with agriculture. So, wasn't totally equipped to prepare programs for our target audience, the farmers. After I attended the short course in radio programming, I was able to go back home and put together programs that were...well, the Director of Agriculture said he saw a great improvement and the station manager said the same thing."

Communications units support agricultural development

A glance at a national communications unit illustrates the pivotal role that communications play in the CAEP countries' push to develop their agricultural sectors.

Charlie James is responsible for extension communications in Dominica. James has a Diploma in Mass Communications from the

University of the West Indies and has worked in the Ministry of Agriculture's communications unit since 1976. His two assistants are largely untrained, save for on-the-job experience.

"A lack of communication equipment used to be our biggest problem, but we've overcome that thanks to CAEP," James said. "Now, our biggest constraint is a lack of trained personnel. I have to do many things myself because my assistants are untrained. However, Miss Greenaway recently attended the RECU training on photography and slide set production, and that should take some of the load off me. My other assistant, Jacob, supports us in radio programming in Creole. He also functions as a jack-of-all-trades; he sets up equipment for seminars, distributes newsletters, and because he's good at lettering, he functions as an artist. In fact, at the moment he's doing posters for the Coffee Development Project."

James and his assistants develop educational materials and do publicity for all of the Ministry's departments and development projects. Fortunately, the projects cover most costs associated with the work that the communications unit does for them. However, the unit's main client is extension, the Ministry's biggest department.

The vehicle that CAEP gave the communications unit is used mainly to transport audiovisual equipment and other materials to extension meetings and field days. Often, James or one of his assistants must go along because many field staff do not know how to use even a slide or overhead projector. This is not an efficient use of personnel, and James plans to teach the district supervisors how to use the audiovisual equipment as soon as possible.

James' unit does an impressive amount and array of work. Each year, it produces nearly 65 hours of radio programs as well as news releases and announcements of upcoming activities, which are broadcast over Dominica Broadcasting Services. "This is Agriculture" is the unit's main radio endeavor. It is broadcast Sunday noon and again Tuesday evening, and covers meetings and general agricultural information. "Market Report" is a weekly program that deals with price trends in Dominica's retail markets. "En Haute Terre", a program about agriculture in Creole, is broadcast four days a week.



Royette Greenaway of Dominica's extension communications unit takes photographs for an educational slide set.

Recently, the unit began to supply copy and photographs for an agricultural page in the island's weekly newspaper. Other print media efforts include a quarterly newsletter and a fortnightly bulletin on agricultural prices.

Educational materials are an important part of the unit's output. Last year, the unit produced fact sheets on using pesticides; controlling slugs, cabbage caterpillars, and citrus weevils; and growing cabbage, passionfruit, beans, patchouli, and carrots. The unit also took slides and produced overhead transparencies for audiovisual presentations.

The communication unit houses and maintains the Ministry's reference library. As time allows, Royette Greenaway is cataloging the books that FAO and CAEP have donated to replace those destroyed by hurricanes several years ago.

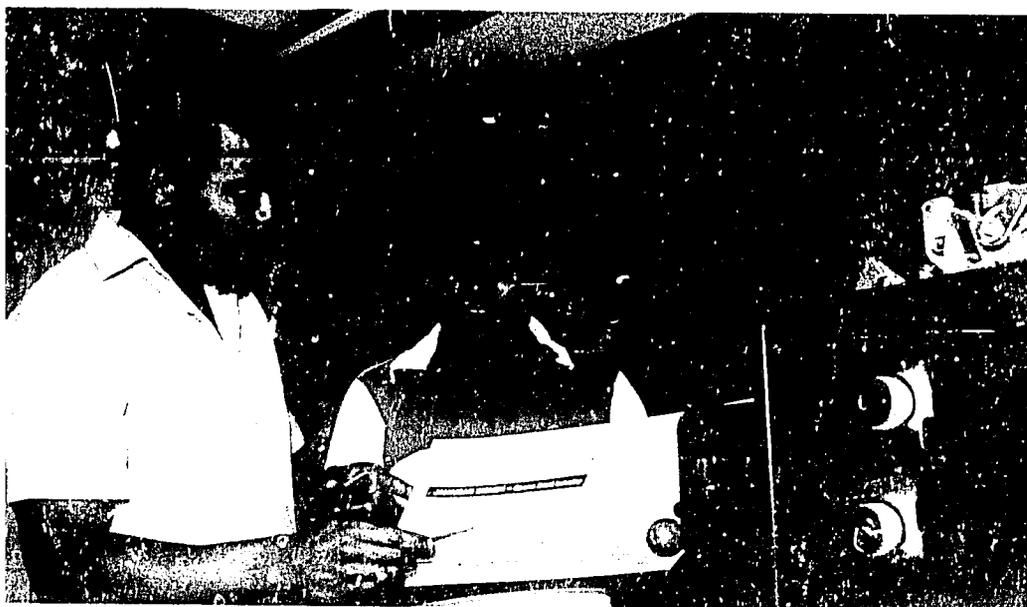
Interest in video is keen in Dominica as it is in many of the other CAEP countries, James said. "Some of the top people in the Ministry have been clamoring for video equipment. We've done a couple of video productions with hired help and equipment, and they've been very impressed with them. We have a cable television system which runs mostly material from the U.S., and if

you can supply them with local material, they use it. We have a portable monitor, and we're thinking of using videocassettes to show farmers educational video out in the districts. Farmers seem much more interested when they can see things moving than when we show them slides."

How does James decide which extension communications efforts the unit will undertake? CAEP has helped with that, through its emphasis on program planning and annual work plans.

"The communications work we do for the year is decided in large part by the district work plans," James said. "We're supposed to develop our work plan after they've done theirs, but in reality we do it simultaneously. I look at our resources, at the media available, and decide how much of each type of communications effort we can do for the year. When we do our work plan, we're not very specific; we go back and say which subjects we'll be dealing with after we see the district work plans."

"Our extension service is just beginning to appreciate fine-tuned planning. I always tell them that we can't produce a slide set in a day; if you want a slide set on planting, you should plan a season ahead. But they don't quite understand yet how much advance notice we need to do a good job."



RECU production coordinator Neil Paul (left) and printer Albert Mahabir check the quality of a publication just off the press.

RECU provides training, materials for communications units

The Regional Extension Communications Unit of the UWI Department of Agricultural Extension provides on-going communications support and training for the national extension communications units. This backstopping by RECU is very important because it ensures that the national units will be more likely to achieve the goal of making extension field staff more effective — and efficient.

The analysis conducted at the beginning of CAEP showed that extension delivery systems in the participating countries consisted mostly of front-line officers' visits to individual farms. This was inefficient and hardly feasible, since many front-line officers must serve 300 or 400 farm families. Therefore, one CAEP goal has been to assist the national extension communications units in providing educational materials for front-line officers to use in group meetings with farmers and to provide useful information appropriate for dissemination through the mass communications media.

RECU produces extension fact sheets, bulletins, radio programs, and audiovisual materials. The Unit distributes these educational materials throughout the region through the national extension communications units. The national units then package and distribute them to front-line officers and to the mass communications media. The fact sheets that RECU produces also become part

of the Caribbean Agricultural Extension Manual, the official reference for extension field staff in the region.

For example, Dominica's communications unit receives taped features for radio, slide-tape sets, extension bulletins, fact sheets, and the regional *Extension Newsletter* from RECU. The unit distributes some of these materials as they are to the front-line staff or to the island's mass communication media. With the help of local technical and extension staff, the unit adapts other RECU developed materials to suit local needs and conditions before it distributes them.

RECU and CARDI are headquartered in the same building on the St. Augustine campus. RECU and CARDI communicators are exploring ways in which they can cooperatively produce educational materials. RECU has produced a slide-tape set to complement CARDI bulletins on rabbit production. RECU also worked with the CAEP outreach office in Antigua to produce and distribute a fact sheet on green bean production in the Leeward Islands that was a collaborative effort of national technical and extension staff and CARDI researchers.

CAEP has helped to make RECU fully operational by training RECU technicians and providing communications equipment and vehicle for the unit. RECU now has a fully equipped duplicating and printing center, darkroom, radio production studio, reference library, computerized typesetting and word processing facility, and communications laboratory for training degree candidates, Diploma in Extension students, and extension communicators.

Most of the educational materials that RECU produces are developed in Trinidad with the aid of UWI Faculty of Agriculture experts. This has helped to strengthen the Faculty's commitment to the University's extension mission. In 1985, Gail McClure and Larry Meiller, the current and former MUCIA extension communications advisors to RECU, conducted a technical writing workshop for UWI faculty and CARDI and Ministry personnel. The workshop was a great success; the Faculty members who participated in it are working with RECU to produce more educational materials than before. RECU now plans to hold the workshop each year in addition to the annual, two-week workshop it conducts for extension communicators.

Since 1985, RECU production activities have been coordinated by Neil Paul, a for-

er extension communicator from St. Lucia who has a bachelor's degree in Agricultural Communications from the University of Illinois. Faculty of Agriculture staff consult with Paul concerning communications work and wish RECU to do and he assigns the composing, layout, and printing work to the appropriate support staff. Paul is also a member of the Department's management committee, which uses a team approach to long-range planning.

Department gives top priority production of RECU materials

Although the Department of Agricultural Extension produces printed and other materials for itself and the Faculty of Agriculture, it gives RECU materials top priority. Paul said, "The production that we do to support national communications units goes on regardless of what other work may come in. We have to observe production deadlines strictly to ensure that things are done on schedule. Our first priority is to support the national communications units but if outside work comes in ahead of time, it can be scheduled into our work plan."

MUCIA communication advisors have played an important role in the development of RECU. They advised the Department on setting up and equipping the Unit and in reorganizing the Unit and getting it fully operational. They also assist in the annual, two-week in-service training that the Department conducts for extension communicators. Former MUCIA communications advisor Perry Meiller said, "RECU first had to give itself. The Unit started with an idea and a lot of enthusiasm. Gradually, the staff gained training, experience, and confidence. Now, the enthusiasm has become perseverance. RECU has evolved into a highly productive communications unit. One indication of its success is that UWI Faculty and the national communications units see RECU as vital to their work."

RECU's annual production goals are ambitious. The Unit will soon be producing eight editions of its taped radio service, "Agricultural Reports", and eight slide-tapes on priority subjects per year. RECU will continue to produce photographs to accompany news releases and will provide photographs for use in national exhibits. The Unit's fact sheet production goal is 56 per year. In addition, RECU will produce at least one technical bulletin and four issues of the quarterly *Extension Newsletter* per year.

RECU's annual production program is determined by regional priorities and the needs of the national communications units. Neil Paul said, "We try to avoid duplication of effort; the national communications units are aware of what we intend to produce each year. We do not produce educational materials for which there is only a limited or local demand; we expect the national units to respond to requests for such materials."

RECU is instituting an evaluation research program. Evaluation of communication materials with respect to comprehension, use, and impact is important to the long-range goals of CAEP, the Department, and the University. The first research project is a readership survey of the *Extension Newsletter*.

MUCIA communications specialist Wolfgang Hoffman (left) discusses the finer points of photography with front-line officer Joseph Herbert from Nevis during the RECU short course on photography and slide set production.



What about RECU's future? Gail McClure, the current MUCIA communications advisor, said, "Having proven its production capacity, RECU must now strengthen its unique linkages between the University and the national communications units. As far as program development is concerned, this means that RECU must work within the web of relationships to see that it produces what the national extension services can use and the UWI faculty and other scientists can provide. It also means more effort and coordination so that issues surrounding educational materials, such as duplication of effort and efficiency in distribution, get more attention."

"We intend to give the national communication units and scientists more localized support with communications training and more systematic attention to providing basic supplies and maintaining equipment. RECU has the capabilities to make a major contribution to CAEP as the fragile infrastructure that has been put in place is strengthened."



A reconnaissance team visits with a woman farmer on the first day of the Antigua sondeo.

The sondeos: preparing to show that extension can help farmers

In 1984, the Regional Agricultural Extension Coordinating Committee (RAECC) met to review the progress made by CAEP and to set guidelines for future Project activities. Discussion within the committee confirmed that CAEP had been successful in working with national extension systems to improve their effectiveness. Now it was time to focus more directly on impact at the farmer level.

RAECC recommended that CAEP focus its activities for two years in one district in each of the participating countries. The goal would be to demonstrate what an effective extension program could do to improve the lot of farm families. The demonstration districts would use a farming systems approach in needs assessment and extension personnel would use farm management principles in working with individual families. RAECC also suggested that an evaluation be made in each demonstration district at the end of the two-year period to measure the impact made by extension on productivity, farm family incomes, and other relevant indicators.

Four extension personnel—three front-line officers and a district supervisor—typically serve a district in the CAEP countries. Each of the Windward Islands has four to six districts. Antigua has two, and Montserrat,

Nevis, and St. Kitts are each equivalent to a single district.

In January 1986, CAEP began to implement the approach recommended by RAECC—an approach that had never before been attempted in the Caribbean to develop extension programs. The approach involves a sondeo (a Spanish word for "sounding out"), a type of rapid reconnaissance survey that is often used in farming systems research to quickly identify farmers' problem (constraints) and technology needs.

The goal of the sondeos, which are being conducted in all the CAEP countries during 1986, is to gather information, mainly about farmers' experiences and perceptions, in the demonstration districts. The information is used to identify farmers' problems and opportunities for dealing with those problems *using available technologies and resources*. Each sondeo is conducted by a multidisciplinary team of agricultural and social scientists, extension specialists, and district extension staff. The team collects baseline evaluation data, identifies farmer needs and examines appropriate technologies and management practices that might increase farm productivity. This assessment becomes the basis for developing extension programs in the district.

During a sondeo, the multidisciplinary team gathers and analyzes information from many points of view. Farmers and key persons in agricultural industries, the service sector, and government are interviewed informally. The team also takes secondary data into account.

The first CAEP sondeo was conducted in Antigua's northern zone in January 1986. The sondeo team included personnel from the UWI Faculty of Agriculture, CARDI, and the Antigua Ministry of Agriculture, Fisheries and Lands as well as CAEP staff and MUCIA specialists. Team members had expertise in agricultural economics, agricultural engineering, agronomy, extension, farm management, horticulture, livestock production, marketing, pest management, sociology, soil science, and veterinary medicine.

CAEP codirector P. I. Gomes told the team, "We are in Antigua to bring us close to the people for whom this project is immediately directed at benefitting—the farmers and their families. At the RAECC meeting there was a great demand for us to focus at the district level. The countries said, 'You've helped us re-organize extension,

"We are in Antigua to bring us closer to the people for whom this project is immediately directed at benefitting—the farmers and their families."

—P. I. Gomes

How one country is solving the marketing problem

Marketing difficulties are the most common complaint expressed by Caribbean farmers. They can, and often do, produce more than they can sell at a profit. The governments of the CAEP countries are acutely aware of this problem and are addressing it in various ways. Montserrat provides an interesting example.

Montserrat's chief extension officer Jammi Kumar said, "We were showing farmers how to increase production, but we weren't able to deliver what they really needed—more income. Farmers were planting whatever they wanted, harvesting all they produced, and taking it to market. It was either jackpot—you sell it, or you lose the whole lot."

Imports contributed to the problem and sometimes glutted the market. Vegetables were being imported because there was no assurance that locally grown produce would be available when it was needed. Consequently, the prices farmers got for their produce fluctuated widely and unpredictably.

So, the Department of Agriculture established a Production Co-ordination Unit to implement a national production plan. The goal, as Kumar simply put it, "is to get farmers to grow only what they can sell."

He said, "We began by surveying the hotels, restaurants, schools, and hospitals throughout the island to find out how much of each vegetable they used each month. We also found out how much was being imported each month. So, all we had to do was to get farmers to plant in such a way that the right quantity of each vegetable would be ready to harvest when it was required."

New legislation requires that a license be obtained from the Department of Agriculture before anyone may import produce. Licenses are granted only if the Production Co-ordination Unit says that locally grown produce will not be avail-



The demand for produce at the market in Plymouth, Montserrat's capital, is quite limited. Because of the Production Co-ordination Unit, there are fewer gluts in the market and many farmers are planting only what they will be able to profitably sell.

able when it is needed, and then only for as much as domestic production is predicted to fall short of demand.

The Unit surveys large-scale users each month to determine how much produce they will need in the future. Acreage allotments are set for each district by having the front-line extension officers estimate the number of acres of each vegetable that farmers in their districts will be able to plant. Then, the officers get farmers to agree to plant the required acreage. They work up production schedules, which tell the farmers how much and when to plant, and advise them on what not to plant. They also collect data regularly on what has been planted and when

it is expected to be ready for harvest.

"We don't guarantee a market, and a farmer can still plant whatever he wants," Kumar said, "but to keep that problem to a minimum, we say, 'Look, if you plant as we suggest, we feel you will not have a marketing problem.' Farmers are really waiting now for the extension officers to tell them what to plant. They are planting according to the schedule and produce is coming into the market on schedule."

Thanks to the plan, Montserrat's farmers are making more money from smaller acreages. They are getting higher yields per acre, and are not wasting money by planting produce for which there will be no market. Best of all, Montserrat will be able to step up production to meet new export demands in the future without throwing its domestic markets into chaos.



CAEP codirector P. I. Gomes, MUCIA agricultural economist Ken Egertson, and Antiguan front-line officer Sereno Benjamin interview a farmer (second from left) during the sondeo in Antigua.

You've helped us train our extension personnel. You've provided us with scholarships and equipment. Now, how can we get down to an action plan where our field staff can do something with the farmers themselves?" That is why we are embarking on the sondeos. It is a means by which we can carry out a rapid reconnaissance survey of the farming situation in each demonstration district, meeting and talking with the farmers and with officials from the Ministry to get a sense of the situation. We're asking them to bring to bear their resources with our modest assistance, to make a change in the way they are developing their agricultural resources."

Sondeo goal: a focused plan of extension work

MUCIA project team leader Michael Patton explained, "We are conducting this sondeo to generate first and foremost a focused extension plan of work for the district using appropriate and meaningful interventions given current resources. What this assumes is, that with your expertise, we can identify appropriate technology that makes sense in

the northern part of Antigua -- technology that extension can and ought to focus its efforts on extending now.

"Secondarily, we would expect that out of this process would come an identification of some future research needs that would be passed on to the Faculty of the University of the West Indies and to the research staff of CARDI. A third possible outcome is the identification of projects that would be attractive to external funders. Fourth, the sondeo is likely to yield policy recommendations in support of agricultural development."

CARDI consultant Robert Hart said the team should take a systems-oriented look at farming in the district and consider each farm as a business *and* a household unit. Farms would likely consist of several subsystems. Each of these subsystems operates within an environment that includes social, economic, political, and educational factors. At the same time, each subsystem has certain amounts of land, labor, capital, and management inputs at its disposal. The final output depends on a number of other subsystems—production, marketing and distribution, management, and consumption—and is allocated to meet the needs of the home and the farm operation. It would be the team's job to analyze and describe the various farming systems and identify the constraints and opportunities within them.

To collect the needed information, the team had to talk to people from four groups: a primary group consisting of farmers and family members; a policy group of people who develop and administer agricultural policy; a secondary group of people who provide agricultural supplies; and a tertiary group, consisting of service organizations for agriculture. In addition, the team would review secondary data collected earlier.

The team talked to local extension offices about possible problem areas before it split into four groups. Each group included one or two local extension personnel, one agricultural scientist, and one social scientist. For the first two days of the sondeo, the groups conducted "windshield surveys" and talked to local farmers. Each afternoon, the team reassembled and discussed what had been learned.

Team members agreed on a set of questions that everyone would use as a guideline in interviewing farmers. The team would get information about the family history; how

ing they had farmed; changes that had occurred in the farm operation over the years; types of livestock and crops raised; timing of planting and harvesting; the food preferred to be eaten by the family and how available; and how the farm was operated. The topics discussed were at various times of the year; variations in yields and causes; land, labor, and cash availability; livestock husbandry; information sources consulted to operate the farm; and the family's overview of good and bad things in the district.

On the third, fourth, and fifth days, the team broke into groups which went into the field for interviews with more farmers and persons in the policy, secondary, and tertiary groups.

Team classifies farming systems; identifies problems, opportunities

The morning of the sixth day was devoted to writing up individual case studies based on the interviews that had been completed. In the afternoon, the team worked on a farm system classification system and finally decided on what it considered to be the eight types of farming systems operating in the district: cotton-vegetable, cotton-vegetable-livestock, livestock-livestock-vegetable, crop-livestock-vegetable, vegetable, vegetable-root crop, and vegetable-root crop-livestock. For each system, the livestock or crop most prevalent was listed first. That afternoon, the team also began to describe constraints and opportunities within each farming system. The constraints and opportunities were classified as exogenous (those operating outside the immediate farm system) or endogenous.

On the seventh, eighth, and ninth days of sondeo, the team identified as many constraints and opportunities as possible. Team members also wrote up case study reports on farmers who had been interviewed.

The Antiguanians helped greatly in identifying potential opportunities as they were familiar with areas that could be exploited and areas in which more work needed to be done. For example, Antiguan horticulturist Jennifer Maynard observed, "I think there needs to be additional training of extension workers to deliver livestock information to farmers. Over the years, people have said that extension officers in Antigua are strictly crop oriented and that's because they haven't had the training in livestock."

After the team had listed all the constraints and opportunities that it could, it broke up into the original four groups. Each group de-



UWI agricultural economist Lloyd Rankine makes a point as the sondeo team attempts to define the farming systems in Antigua's northern zone.

veloped written sections on two of the farm systems that had been identified. The groups organized each case study report and placed it in the appropriate farm system category, then fully described each farm system by examining the case study reports and the other information that was available.

On the tenth day, the group leaders prepared the summary and conclusions of the final report. At noon, a luncheon was held with agricultural leaders. In the afternoon, the groups discussed some of the problems they had observed and the sondeo concluded.

Here are a few of the recommendations the team made: Extension programs should be developed in the areas of water conservation, varietal selection, fertilizer use, harvesting and postharvest technology, effective use of mineral licks, and parasite control. The Extension Service should pilot an educational program on the formation of marketing cooperatives in the northern zone. The Ministry should put into immediate effect an in-depth in-service training program for field officers in several priority areas, including vegetable production, farm and home management, and livestock production.

How might extension officers and others who work with farmers use the sondeo report? Jennifer Maynard said, "I worked with the agricultural instructors last year on some postharvest training and I found that there was a lot of information that was not necessarily appropriate for certain situations. I was concerned about how an extension officer faced with a postharvest situation would have to flip through all this information to come up with some recommendations. I think the final report could actually become a training tool for extension officers as well as a diagnostic recommendation tool."

The real work comes after the sondeo

A sondeo is not an end in itself. Most of the work comes afterwards; the problems and priorities have been identified, and extension personnel must address those problems.

CAEP outreach professionals will work with extension staff in each demonstration district to implement a complete and effective program development process. The process will include:

- A district extension advisory committee composed of farmers and others with interest in, and influence over, agricultural development in the district will be established to work with extension staff and advise them on extension programs.

During the 1986 RAECC meeting in Grenada, discussion groups helped clarify the roles that the national agriculture planning committees and Ministries of Agriculture would play in the demonstration districts.



- The district extension officers will develop specific work plans aimed at making small farmers more effective managers of their limited resources. The work plans will be based on the sondeo needs assessment and on the input of the district extension advisory committee. Special emphasis will be put on introducing location-specific production practices and appropriate technologies with real market potential.
- The CAEP staff will work with district officers to focus district meetings and supervisory activities on the work plans of the district's front-line staff.
- The CAEP staff will also work with district officers to identify other resources in the district, including government programs, nongovernment projects, and people who can be mobilized and used to support extension efforts.
- The CAEP staff will work with district and senior extension staff to ensure that sufficient backstopping linkages and mechanisms are in place at the national level to support the needs of the district programs. In particular, the national communications unit will be involved in the district planning so that the unit's production activities will support the district efforts.
- CAEP outreach staff will work with national staff and short-term technical assistance personnel to develop farm management materials suited for use in the district. Front-line officers will be trained

to use a farm management approach in working with farm families. They will help families analyze their whole farm operation with attention to cash flow, the cost of inputs, return on investment, and alternative farm profit opportunities.

- At the end of the two years, a second farmer assessment survey will be conducted to evaluate and document change in agricultural productivity. Using the results, the CAEP staff will develop two new sections for the Caribbean Agricultural Extension Manual. One section will feature how to use a farming systems perspective in conducting a district needs assessment to identify farmer problems and set extension priorities. The other will focus on how to apply farm management principles in front-line extension work.

The overall demonstration district effort directed in the field by Project codirector Thomas Henderson with the assistance of UWI outreach professionals Dunstan Campbell and St. Clair Barker. In addition, two MUCA professionals, extension farm management and marketing specialist Ken Egerston from the University of Minnesota and extension farm management specialist Warren Schauer from Michigan State University are working out of Dominica and St. Lucia to assist in the demonstration district effort.

The CAEP team is working closely with

MUCIA takes a global perspective

The Midwest Universities Consortium for International Activities, Inc., which has its international headquarters at Ohio State University, is providing technical assistance for CAEP.

Eight U.S. universities are members of MUCIA: University of Illinois, Indiana University, University of Iowa, Michigan State University, University of Minnesota, Ohio State University, Purdue University, and University of Wisconsin. These universities have been involved in MUCIA projects to develop institutions, agriculture, education, and public administration in many countries, including Indonesia, Nepal, Peru, South Korea, Thailand, and Somalia as well as in the Caribbean.

"CAEP and projects like it are long-term projects," said William Flinn, MUCIA's executive director. "Generally, a consortium is better suited for such projects because they require a lot of 'people power' and we feel it's important to have a diversity of people and resources available for development efforts. We try to provide the very best technical assistance, and it works out better if we can select from eight schools rather than one. Each of our member universities is known internationally for excellence in areas of specialization.

"We also draw upon other universities to provide expertise for our projects. In the case of CAEP, it is Lincoln University, which has a long history of addressing the problems of the limited-resource, rural population of Missouri, and is involved in other development projects in the Caribbean."

Why is MUCIA involved in CAEP? Flinn answered, "While we have humanitarian motives for being involved, we also have other reasons. Part of it is simply that we live in a global community. MUCIA universities are international in every sense of the term, and involvement in development projects contributes to their international character. Our involvement results in spinoffs for our research, teaching, and extension programs. One of

our reasons for getting involved in CAEP was to learn things about international development and to integrate those things into our curricula. Many of the lessons we learn overseas have direct relevance for situations in the United States and should be transportable. When you do things in a different context, some of the things you consider routine turn out to be not so routine. Then, you see their importance in a different light."

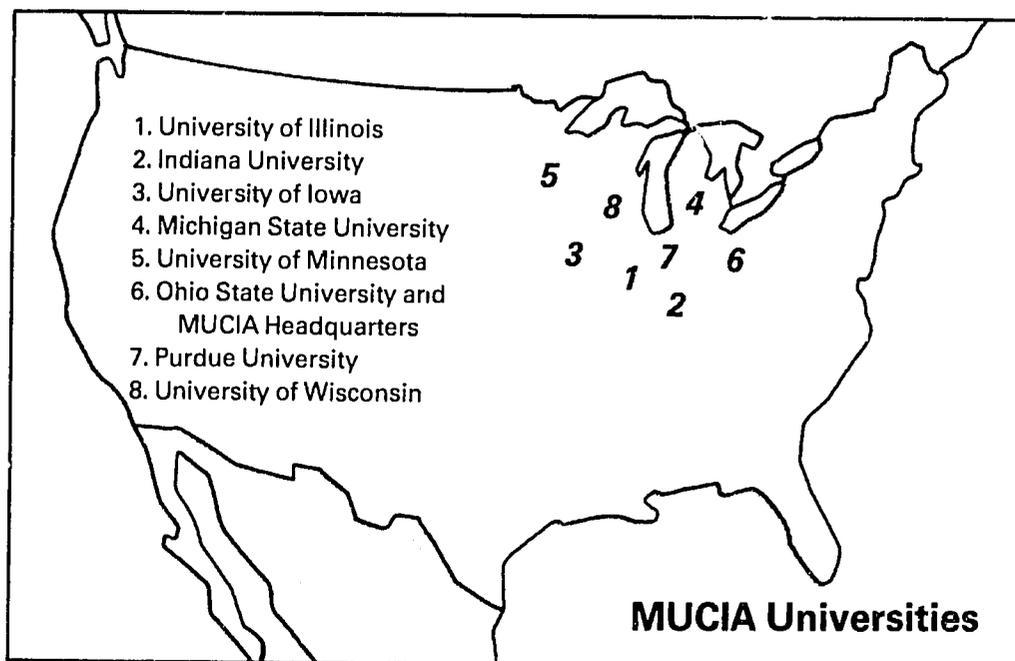
Another benefit that MUCIA has derived from its involvement in CAEP is the new approach to project evaluation that Michael Patton devised. Flinn said, "We're using what we've learned about project evaluation in CAEP in all our international development projects. With Patton's innovative approach, you start with evaluators at the beginning of a project and carry through to the end. You not only collect the data you need to objectively evaluate your progress from day one, you also have the data you need to know when and how to redirect the project if things don't go as planned. Data are collected throughout the life of the project, and there's little chance that you won't have the data you need to show the degree to which you were successful at the end of the project."

MUCIA has also benefited by having

UWI faculty members share their expertise and experience with its member universities. For example, UWI faculty have worked at Ohio State University's International Credit Center and former UWI Dean Laurie Wilson consulted with colleagues in MUCIA universities for an entire summer.

Flinn said that MUCIA would like to work with the University of the West Indies in institution-building projects in other parts of the world.

P. I. Gomes, head of the UWI Department of Agricultural Extension, said, "We've learned a lot from working with MUCIA, and I think the consortium can help bring us into contact with other institutions of the Third World. Because we are part of the Third World, we have a certain expertise and an awareness of mistakes that have been made in the past as well as concerns to share. I think the University can play a very positive role on the international scene by collaborating with MUCIA. Our Regional Extension Communications Unit has developed and produced many educational materials that we can share. We also have a familiarity with a rural sociology that, although it is peculiar to the Caribbean region, touches many aspects of the rest of the small farm world."





The external evaluation team for CAEP presented its findings during the 1984 RAECC meeting in St. Kitts.

CARDI to integrate CAEP and CARDI farm system development efforts. Team members will also provide farm management training for extension officers throughout the region and develop farming systems and farm management training materials.

The demonstration district approach is the centerpiece of CAEP's continuing effort to strengthen Caribbean extension's ability to meet farm family needs.

Innovative approach to evaluation helps keep CAEP on track

A four-member, interdisciplinary external evaluation team has evaluated the progress made by the Caribbean Agricultural Extension Project since it began to be implemented. The evaluators have used an innovative, user-oriented approach, which was developed by MUCIA project leader Michael Patton and is described in his book, *Utilization-Focused Evaluation* (Sage Publications, 1986).

What is unusual—and effective—about the way that CAEP has been evaluated is that project implementation and evaluation were synchronized from the very beginning. Moreover, all the key stakeholders in Caribbean extension were involved in all aspects of the evaluation, thereby contributing to its relevance and use.

The evaluators consulted with U.S.AID, UWI, and MUCIA representatives before they designed their evaluation. They also met with the delegates to the 1983 meeting of the Regional Agricultural Extension Coordinating Committee to find out which criteria might be used to determine whether CAEP had been successful and to explore the possi-

bilities for data collection. The resulting criteria constituted a set of questions and primary outcomes, both qualitative and quantitative. After the RAECC meeting, the evaluation team worked out the details of the evaluation with the CAEP staff and U.S.AID. Evaluation data were to be collected through interviews, observations, and document analysis.

The CAEP staff organized all their reporting around the evaluation design. Their work plans were based on the criteria that were to be used to assess CAEP's success, and the criteria were reviewed at staff meetings as a way of directing implementation and focusing on those outcomes that were primary to CAEP and the evaluation. Members of the evaluation team were sent monthly and quarterly reports based on the elements of the evaluation.

Here's an example of how this worked: The first element in the evaluation design focused on the goal of establishing a national extension planning committee in each country. All CAEP staff meetings began by reviewing the progress of the national committees and all regular reports included information on the activities and progress of the committees. In addition, the evaluators were given the minutes of committees. Later, the evaluators conducted interviews to gather first-hand information about the operations and activities of the committees. The evaluation process improved program implementation from the very beginning by focusing the efforts of the CAEP staff. The evaluation constituted a framework for program planning and reporting that helped keep the staff's efforts focused on the primary goals of the Project.

The evaluation team collected data in the field during June 1984. The team's findings confirmed the overall successes of CAEP and revealed a high degree of support for project activities among the participating countries. The evaluation also identified some areas of weakness, which the staff began to correct immediately.

The published evaluation report was read for the November 1984 RAECC meeting. At the meeting, the evaluators reviewed their findings and suggested ways that the evaluation report could be used for local as well a

“The island extension services have been largely transformed, from their previous unfocused, ineffective state into well organized, potentially highly effective systems.”

—U.S.AID evaluation

gional purposes. RAECC delegates reviewed and adopted the report and suggested that the CAEP staff use the findings as a basis for future activities.

The external evaluation has had a major impact on how CAEP is being implemented, helped reorient the Project only a year and half into its implementation so that weaknesses could be addressed. And, it played an important role in U.S.AID's decision to continue to fund CAEP through 1989. (The executive summary of the external evaluation included in the Appendix of this publication.)

As we look to the future, the impact on farm families must be the criterion by which the success of the Project is judged.

—Michael Patton

In 1985, an evaluation carried out by U.S.AID confirmed the external evaluation's finding of overall project success. The U.S.AID evaluation concluded, "...At this point, the project could be deemed successful on many fronts in terms of the project's immediate objectives and purposes. The island extension services have been largely transformed, from their previous uncoordinated, ineffective state into well organized, potentially highly effective systems. Many of the originally planned outputs are in place and fully functioning, such as the regional and national planning committees, the job descriptions, supervision and training of staff, communications units, outreach offices and recognition programs for agents. Farmer contacts are increasing.... In institutional building terms then, this project offers a successful model and much promise for a positive impact on the level of improved rural farmer welfare which was the project's stated goal."

consensus develops what extension should be

The focus throughout CAEP has been on effective extension programming. The Excellence in Extension program, the policy dialogue in the Regional Agricultural Extension Coordinating Committee

(RAECC), the discussions in the national planning committees, the CAEP training, and the Caribbean Agricultural Extension Manual have all emphasized the elements of effective extension programming. As a result, there is now a widespread consensus within the Caribbean agricultural community that effective extension programming should have the following characteristics:

- Extension should be involved primarily in agricultural technology development and transfer as an *educational process*. Extension should play an educational role in mobilizing rural people to make their own decisions and thereby direct the agricultural development process through informed action.
- Effective extension *facilitates two-way communication* in which information about farmer needs and interests is passed through extension to agricultural researchers, educators, and policymakers while information from researchers, policymakers, and educators is passed back through extension to farmers.
- Effective extension *adapts technology* to location-specific requirements for the effective application of improved agricultural methods in the context of specific farm conditions and needs. Agricultural development processes vary from locality to locality; therefore, an effective extension service must be adaptable to local needs.
- Effective extension programs are integrated and coordinated in such a way that *a variety of methods are used* in focused campaigns on targeted audiences. Mass communications should support field staff work with groups and individuals so that farmers are provided with accurate and reliable research knowledge and technology.
- Extension *programs should be developed collaboratively* with farmers, researchers, agricultural businesses, and policymakers so that development efforts in the agricultural sector will be integrated. An effective extension service needs broad-based support and planning participation from a variety of rural interest groups.
- Effective extension programs are planned so that the efforts of individual extension personnel combine into a larger whole which constitutes a *coherent agricultural campaign* within a district and an *integrated approach to development*.

- Extension staff should be *appropriately trained and equipped*. They should be mobile so that they can carry technology to the farms, where farmers work. And, they should be well supervised in implementing a written plan of work that is based on explicit agricultural and extension priorities.
- Effective extension *focuses on the farm family unit* and is sensitive to family income flows, labor availability, gender division of labor, and cultural norms.
- An effective extension system requires clear staff roles and objectives, *technical competence, a solid organizational and managerial foundation*, adequate resources to reach rural people, and ongoing linkages with agricultural researchers.
- An effective extension approach requires a *systems perspective on agricultural development*.

At the opening of the 1986 RAECC meeting in Grenada, Michael Patton, MUCIA project director, summarized his feelings about the progress that had been made through the Caribbean Agricultural Extension Project. He said, "Over the six years since the Project began, we have learned a great deal about how to make extension more effective in working with farmers. Not everything we've done has worked. Nor are all the changes that have taken place fully institutionalized. Quite the contrary, many of the changes are quite fragile.

"The CAEP continuation activities are aimed at reinforcing and institutionalizing changes already made with the full recognition that failure to do so could leave the situation worse than before. Not only would old, ineffective patterns return, but cynicism about the possibility of ever changing things would set in.

"The CAEP effort to improve extension has one ultimate purpose: to improve the well-being of farm families. I have been impressed from the beginning of the Project that my Caribbean colleagues are deeply committed to this purpose. While our project activities have been aimed at extension staff, the ultimate purpose has always been, and continues to be, improving the well-being of farm families. As we look to the future, the impact on farm families must be the criterion by which the success of the Project is judged."

Appendix

Executive Summary

Executive Summary of the External Evaluation Report of the Caribbean Agricultural Extension Project, Phase II

The Caribbean Agricultural Extension Project (CAEP) has been successful in achieving its goals. The major successes (Part I) and areas for improvement (Part II) are outlined below.

- I. How has CAEP been most successful?
 1. CAEP has established National Planning Committees in which various interested and affected groups participate in the agricultural development process.
 2. CAEP has built a foundation for regular and systematic extension activities through concrete and focused work plans at national, district, and extension officer levels.
 3. CAEP has significantly increased the amount of training available, both in the individual countries and throughout the region.
 4. CAEP work has resulted in increased farmer contacts and has improved extension's ability to assist farmers.
 5. CAEP outreach has demonstrated the potential for significant impact on farmers in areas such as: crop diversification, product quality, use of fertilizers and pesticides, and the role of women in agriculture.
 6. CAEP has worked with national Ministries to strengthen extension supervision of field staff through supervisory training, performance standards, and regular reporting.
 7. CAEP has upgraded the competence, professionalism, and morale of extension officers, including establishing a regional program to recognize outstanding extension officers.
 8. CAEP has directed Ministry attention to the extension divisions resulting in administrative restructuring, reorganization, and clarification of job responsibilities.
 9. CAEP outreach staff have set a positive example through their own hard work, dedication, and commitment, furthering project goals by their knowledge of the region and their sensitivity to local issues.
 10. CAEP not only has provided much-needed equipment, including vehicles, to participating countries, but also has ensured its proper maintenance and full use.
 11. CAEP has capitalized on its status as a regional project to: (a) enhance regional cohesion and cooperation; and (b) facilitate project implementation at the national level.
- II. How can CAEP be improved?
 1. CAEP should expand its national training activities with district officers and extension agents.
 2. CAEP should work with individual countries to further extend in-service training programs coordinated with the country work plans.
 3. CAEP should give future attention to solving the transportation problems of extension agents either by providing additional transport equipment or by establishing loan funds for vehicle purchases by agents.
 4. CAEP should give more attention to strengthening extension's linkages with research enterprises, private associations, and education institutions.
 5. CAEP should give more attention to strengthening extension's linkages to marketing and the use of marketing information in planning.
 6. CAEP, working with UWI, should review the course of study of the Diploma in Extension program to determine how the program can respond more directly to the needs of extension leaders.

7. CAEP should work with UWI to clarify the administrative responsibilities and procedures necessary for strengthening the Regional Extension Communications Unit (RECU) at UWI.
8. CAEP should play an active role in devising appropriate training alternatives to current Diploma in Agriculture programs for front-line staff.
9. CAEP should give greater attention to strengthening regional communications and linkages between extension divisions.
10. CAEP should increase its activities aimed at making front-line extension agents more effective.
11. CAEP should strengthen the ability of the National Planning Committees to gain national support for extension.

External evaluation team: Dr. Marvin Alkin, UCLA Graduate School of Education (team chair); Dr. Jerry West, University of Missouri (agricultural economics); Dr. Marlene Cuthbert, University of Windsor (communication and evaluation specialist); and Dr. Kay Adams, Southland Corporation (evaluation, planning, and management specialist).

Evaluation Resolution

Resolution of the Third General Meeting of the Regional Agricultural Extension Coordinating Committee at St. Kitts, November 15, 1984.

ADOPTED UNANIMOUSLY

Whereas the External Evaluation Report of the Caribbean Agricultural Extension Project has been submitted to RAECC, and

Whereas the general finding of the external evaluation have been reviewed and discussed by RAECC delegates,

We do, therefore, meeting in plenary session, conclude as follows:

1. RAECC participants essentially agree with the overall findings of the evaluation as presented in the Executive Summary.
2. While various individuals and small groups have suggested minor modifications in the phrasing of certain findings, and those modifications have been presented to the external evaluators for their consideration, the delegates find the overall report to be thorough, balanced, and generally accurate and fair.
3. The RAECC delegates further conclude that:
 - (a) CAEP has had a visible and observable impact in strengthening the capabilities of the national extension services in participating countries.
 - (b) CAEP work has significantly increased extension's contacts with farmers, and has demonstrated the potential of an organized extension effort to directly benefit farmers, there being specific examples of concrete impacts as follows:
 - i. increasing the productivity and efficiency of small farmers;
 - ii. helping farmers diversify into new crops and animals;
 - iii. improved product quality;
 - iv. greater use of fertilizers and pesticides;
 - v. improved land cultivation, spacing, and planting material; and
 - vi. increasing farmer contacts with each other.
 - (c) CAEP has contributed significantly to greater professionalism and more positive attitudes among extension agents throughout the participating countries.
 - (d) CAEP has stimulated the transfer and use of valuable research information to extension personnel and farmers.

RAECC delegates recommend that the evaluation findings and suggestions for improvement be used in conjunction with other discussions and recommendations from the Third General Meeting of RAECC to form the basis of a proposal to U.S.AID for future activities aimed at further strengthening extension, and improving the productivity and welfare of farmers in participating countries.

RAECC delegates urge the governments of participating countries to use the findings of the evaluation as a basis for building further com-

mitment to and support for national extension services.

6. RAECC delegates commit themselves to consideration of national evaluation findings in their National Agricultural Planning Committees and other extension planning processes.
7. RAECC delegates commend the external evaluators for producing a timely, useful and comprehensive report, and for their substantial contributions toward improving CAEP in both the short-term and long-term.

For further information

Additional published resources:

"Agricultural Extension for Rural Transformation: The CAEP Model" by 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.

"The Caribbean Agricultural Extension Project: A Case Example of Utilization-Focused Evaluation" in *Utilization-Focused Evaluation*. Second Edition. 1986. Michael Quinn Patton, author. Sage Publications, 275 South Beverly Drive, San Francisco, California 90212.

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