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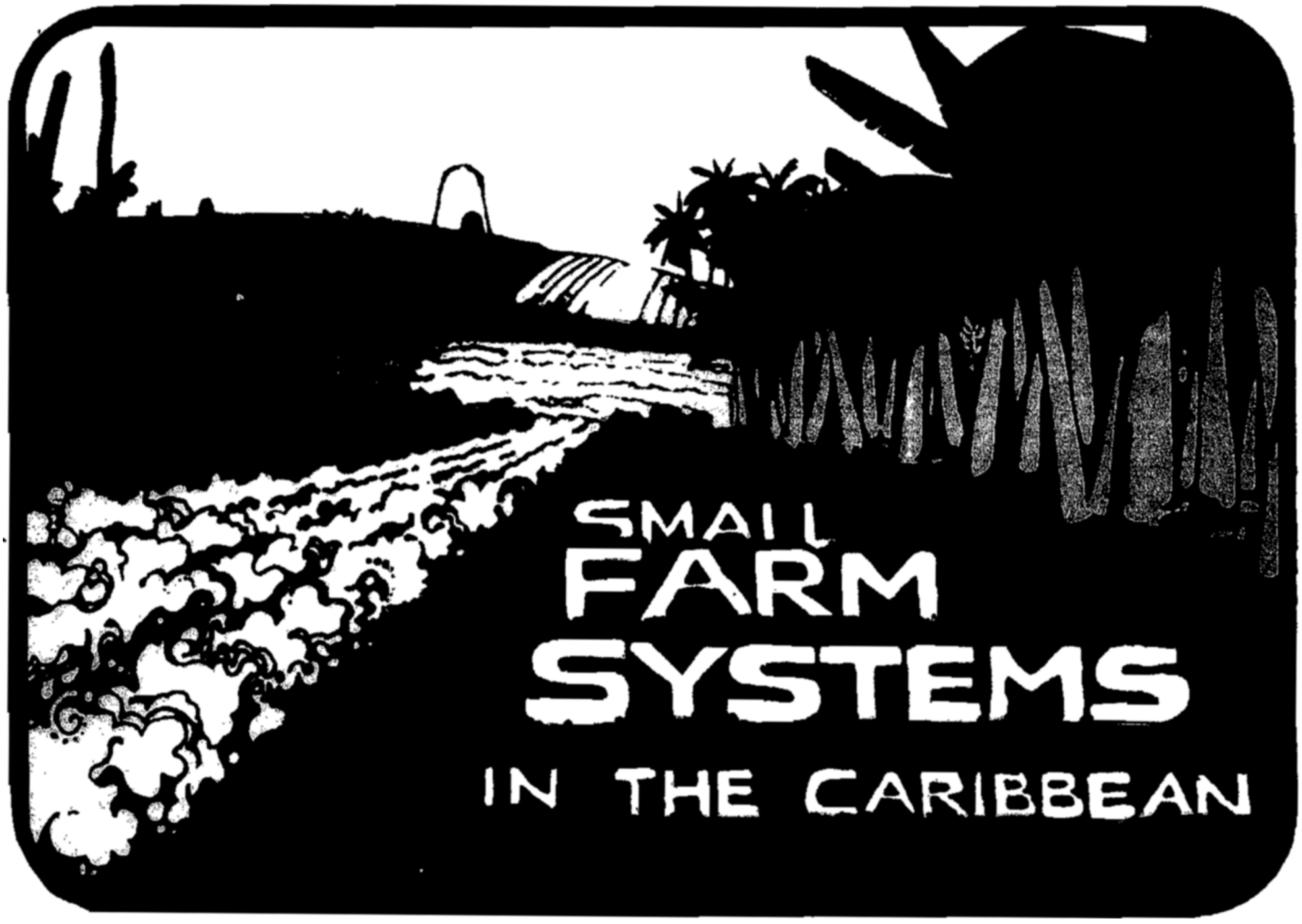

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Development and Implementation of Greenhouse Operations — A Case Study —

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Intensive small-scale farming can be one of the better avenues for agricultural development in the Caribbean area. These farm operations can be targered to local consumption to replace imported goods or for export to major markets. In either case there is an increase in the available foreign exchange to the country. Other benefirs also accrue due to this type of enterprise. Employment is enhanced although most of the gain is indirect. There are many different appmaches that can be raken to initiate a greenhouse operation. First, a feasibility study has to be undertaken which includes markets, capital acquisirion, costs, projections of returns, governmental incentives and local involvement. There are worldwide and other governmental agencies that can be tapped for help in the development and implementation of a greenhouse operation. This is a description of a fictitious (but real) greenhouse enterprise and the approaches used to enable the company to start production in the Caribbean area.

The Caribbean Basin Economic Recovery Act of 1983 has given an extra impetus to the development and implementation of horticultural enterprises in this region. Starting at the beginning of this year, January 1, 1984, the law provides for duty-free entry of agricultural products into the United States for 12 years. To protect domestic (U.S.) producers the law has provisions for seeking emergency relief if imports hurt their business.

In September 23-27, 1984, more than 500 growers and agri-industry personnel from the Caribbean area and the U.S. met in Miami, Florida, during the Second USDA Marketing Workshop for the Caribbean Basin. As mentioned by Waldo Heron, President, Food Processing Consultants Co., California, and member of Secretary of Agriculture John Block's Agribusiness Promotion Council, it takes more than a law and enthusiasm to bring an industry to fruition. It also requires time, effort, money, well planned strategies and a thorough knowledge of U.S. markets.

Horticultural crops are probably the best suited of the possible Caribbean agricultural products to fit into the new U.S. law. Horticultural crops are, of course, land and capital intensive; that is, they are high value crops capable of being grown on relatively small holdings. However, we should look at horticultural crops not only for the U.S. marker hut also for internal consumption, especially if the commodity has to be imported. The majority of horticultural crops sold and bought fresh have a limited life after harvest. It is in this aspect that local produce has a tremendous advantage. It is a quality advantage to the consumer which in turn can be a monetary advantage to the producer.

Foreign exchange can be gained or retained. In the case of exports to the United States, countries may gain foreign exchange; whereas if countries import less of one commodity due to local production, foreign exchange is retained and made available for other necessities.

Tropical areas are very well suited for the production of a variety of food crops; however, in some cases certain crops cannot be grown unless the environment is modified considerably. It is very costly to substantially modify an environment. However, environmental modification may be economically feasible for production of some specific high-valued crops.

There are several sreps in the development and implemenration of a horticulrural or any other industry anywhere in the world. However, I am going to address the development sreps in the creation of a new agri-industry in a Caribbean country. Industries start as an idea by individuals to provide goods or services where there is a demand or where a demand can be created.

The case in study is a horticultural industry geared for local consumption. In the majority of the Caribbean counrries there are several horticulrural products which are imporred fresh. Examples are: apples, pears, strawberries, tomatoes, and lertuce. An individual looking at the potential for commercial production of most of these crops would discard all but tomatoes, and in some cases due to humid climatic conditions, even tomatoes could be discarded. However, mosr crops can be produced anywhere if the proper elements—including climate—are made available.

In this case, the individual who firsr conceived the idea had no agricultural background and, therefore, was not encumbered by knowledge. This person arrived in the Caribbean area on vacation and during the first days noticed that iceberg (crisp-head) lettuce was served as a salad ingredient or as a garnish with every meal. He asked several restaurateurs where they obtained letruce. The answer was, "In the United States, from California." Markets were visired and revisited later. Two things were noticed: firsr, the price, and second, the size. The price was about $1.40 per head. The size varied daily as more and more outer leaves had to be removed. At the end of a ten day period the head of lettuce was slightly larger than a baseball. Of course, the letruce was wrapped in film, unwrapped to remove the spoilage and rewrapped over and over. During that same period the price did not vary.

Without disclosing any ideas or preliminary market evaluations the entrepreneur visited some of the local government agencies such as those dealing with labor, agriculture, commerce, customs, and others ro get as complete a picture as he could of the imporr process, the minimum and customary wage scales, agricultural production regularions, and marketing and socio-economic dara for the country.

Upon returning to the country of origin the person contacted international organizations to seek help in consolidating ideas and in looking for possible sources of funding. The Caribbean Project Development Facility of the International Finance Corporation, a part of the World Bank, is one such body. Organizations such as the World Bank, Inter-American Bank for Development, and U.S. Agency for International Development can also be approached for help in making the correct contacts.

One of the first obstacles met was that iceberg lettuce could not be grown satisfactorily in this specific environment. Could other lettuces or leafy vegetables be grown? The answer was a definite yes! Several leafy vegetables could be produced but were either poor substitutes for lettuce or could not be used as substitutes at all. However, leaf and bibb lettuce might grow if the environment were changed in a substantial manner.

The next problem was to ascertain if leaf and bibb lettuce could be acceptable as a substitute for iceberg. During another vacation the individual went back to the markets and asked the managers. The response was somewhat positive and hinged mainly on the quality of the locally grown product and the price. For these questions there was no answer, at least not yet!

From this point on the entrepreneur started to obtain information on technical matters. Knowledge was needed of how to grow bibb lettuce in the tropics and what it would cost. If it was feasible, then help in seeking and obtaining the necessary funds to start such an enterprise was needed. After consultation with a group of financial experts from an international organization, the entrepreneur put together a team to write a pre-proposal which included estimated costs, production, marketing, and returns. With this document in hand the person went to an organization to help put together a comprehensive proposal that could be used to seek financial help.

The organization examined the pre-proposal and accepted the responsibility for ascertaining the economic and technical possibilities and serving in an advisory capacity until the enterprise was started and funds were made available for its completion. Since it did not have the technical production expertise within its staff, it approached the U.S. Department of Agriculture (USDA) to locate and lend them an individual with expertise. The USDA, through the Office of International Cooperation and Development and Extension Service, complied. Two professionals—a USDA person and a financial expert—went to the country for a short period. Agriculture in general and specifics such as water quality and availability, produce quality and shelf-life, prices, and volume of lettuce and other crops imported were examined. The financial expert developed the financial and profitability projections for the project. The project proposal developed contained the following parts: an introduction with a project overview and its sponsors; the project, its concept, site and site preparation, physical plants, crops and their production, implementation schedule, management and general ecology; the market and its general description, the demand, imports, prices, local production and distribution and marketing strategies; project cost and financial plan; and the profitability and financial projections including the production costs and sensitivity analysis.

Once this document was prepared it was presented to several of the financial institutions in the country which could invest in such an operation. The project sponsor, the entrepreneur, committed himself to contribute about US$250,000 provided the local companies or investors contribute an equal amount (50% of the shares). The balance of the required funds, US$300,000, was to be borrowed from local banks at current interest rates. The total amount needed was US$800,000. During this time and with the help of local individuals and companies, the government of the country gave this new industry some tax benefits and market protection.

The other phase of the project was to recruit management and labour. It is in this part where most enterprises fail regardless of whether the planning is excellent or deficient. The owners of these enterprises many times do not understand, are unwilling to see or do not truly believe that management of a horticultural enterprise needs to be oustanding if that enterprise is to be economically successful. We need to remember that an average manager fails in making any agricultural enterprise economically viable. An excellent manager for production and management is needed and, therefore, a high salary is required. The English have an old, but wise saying, "Penny wise and pound foolish." This is true in many agricultural enterprises. Horticulture is land and capital intensive, and capital has to be protected by excellent management.

Even though this paper is presented in anecdotal fashion, it is extremely important and necessary to consider all the factors of a horticultural enterprise. This project dealt with a greenhouse—which is probably more exacting, less forgiving, than other cropping systems; however, all of the pieces must be present in order to be a success.

The development and implementation process follows the following sequence: an idea, development of a concept, technical and financial expertise consultations, funding mechanisms, and excellent production and marketing management.