

Haiti and the Artibonite Valley

BY

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Speaking at the opening session of a two-week seminar on farm management sponsored by the Food and Agricultural Organization in Manila on October 3, 1960, Cesar Fortich, Philippine Secretary of Agriculture said that poverty in Asia is ironical because "...we possess lands so rich in potentiality but are utilized poorly".²

Mr. Fortich continued by mentioning that rapidly increasing population and under-production compounded the problem in Asia, "We were never so many in number as we are now in spite of war and poverty".

He pointed out that Asia's population was increasing faster than the increase in food supply. He urged Asian farmers to abandon their "tradition-bound primitive technology" and their superstitions and adopt modern farming methods to offset the population explosion.

He said there should be more mechanized farming, more diverse crops, more extensive use of fertilizers and a shift from subsistence farming to the production of more marketable crops.

Much the same language could be used to describe the situation in Haiti. Haiti is a republic of the West Indies, occupying the west part of the island of Hispaniola (one of the Greater Antilles Islands), which it shares with the Dominican Republic. It has an area of 10,204 square miles, being slightly smaller than the state of Maryland. The population is estimated to be 4,000,000. This means that there are about 400 inhabitants per square mile, making Haiti one of the most densely populated areas in the western world. Only about one-third of the area is tillable, which places a heavy demand on the acreage which can be cultivated.

Much of the country is mountainous, there being three principal ranges. Some of the peaks reach elevations of 8,780 feet. Between the ranges and plateaus are fertile valleys.

Although the average rainfall is approximately 60 inches annually it may vary from 20 to over 100 inches. The so-called "rainy season" varies greatly from one part of the country to another.

All tropical plants and trees grow in profusion in Haiti. In addition, nearly all vegetables and fruits of temperate climates may be successively cultivated in the highlands.

1. Arizona State University, Tempe.

2. «Asian Student», October 22, 1960.

Cotton, rice, maize, tobacco, cocoa, ginger, native indigo, arrow-root, manioc (cassava), pimento, banana, plantain, pineapple, artichoke, yam and sweet-potato are indigenous to Hispaniola.

Mango and breadfruit trees (both said to have been imported from the East Indies by Captain Bligh of "Bounty" fame) grow in every part of the country, along with coconuts, oranges and shaddock (*Citrus grandis* (Linn.) Osbeck). These supply a part of the peasant's diet for which he does not have to work. So rich are mangoes in food values and so common in the country that Revolutionary generals are said to have planned their campaigns to fall within the "Mango Season". Other important food products are coffee, sugar, melons, cabbage, peanuts, beans of various kinds, Irish potatoes, caimite (star apples), almonds, grapes, mulberries and figs.

No less than 94% of the people gain their livelihood as small proprietors, lessees or tenant-farmers from agriculture or such related occupations as charcoal and lime-burning, village handicrafts and fishing. Of the remaining 6% a fairly large number are engaged as wage earners in agricultural industries, a smaller proportion in domestic services and a relatively small number engaged in trade, government service and small industry.

The average daily wage is pitifully low—perhaps from 60 to 70 cents. Estimates of the annual cash income of the Haitian family will run somewhere between \$50—\$100.

Coffee is Haiti's most valuable export crop, yet the amount exported is decreasing. One reason for this is the growing scarcity and high price of food, which has forced the peasant to turn some of the best coffee-growing slopes into vegetable gardens.

Some sisal is being produced on semidesert lands, but the demand for sisal, especially from the world market, is small. However, much is used locally for weaving rugs, place mats and sandals.

Considerable sugar is refined from the cane grown in Haiti, some of which reaches the world market.

Formerly, bananas were an important crop for export. Now only a trickle reaches the export market compared to the amount exported in the late 1940's.

Cocoa production may be revived, for in colonial times Haiti was a leading exporter of cocoa.

Cotton, another crop suffering under independent peasant auspices from haphazard cultivation and unchecked insect pests, is exported in very small quantities.

Rice production in 1952-53 was estimated at 64,000,000 pounds. Most of this was produced in the small paddies of the Artibonite Valley. The country is still not self-sufficient in this staple food, but it is the opinion of rice technicians that it should be possible to increase the production many fold—placing the country on not only a self-sustaining basis, but becoming an exporter of rice.

Rubber, of excellent quality, can be grown in the rainy south. There is further advantage for the trees are free of the South American "leaf-blight".

There are deposits of bauxite near Miragoane and Gonaives. It is being mined in small quantities. Some rich manganese ore is found near Trouin.

When Haiti's century of isolation ended in 1915, it was found that competent physicians were few, hospital facilities were lacking and that an overwhelming proportion of the population were suffering from malaria, yaws, hookworm and from a large variety of intestinal diseases and parasites. Sixty-seven percent of the people were infected with malaria, 26% with hookworm, and 78% with yaws which had been brought over from Africa as early as 1509. Even before that, the Spaniards' smallpox had wiped out thousands of the Indians. The Indians themselves had unintentionally retaliated by infecting their conquerors with syphilis which shortly thereafter swept over Europe.

All of these plagues, to which typhoid and tuberculosis were later added, flourished during the Nineteenth Century, among a people who have always been susceptible in consequence of overcrowding, malnutrition, and lack of elementary sanitation. Even today, though there are more doctors, mainly in the cities, public health conditions have not materially improved for the masses.

One of the greatest drawbacks to Haiti's progress is the lack of education. The educational facilities are pathetically short, and in the past have been available mainly to the small wealthy minority.

The principal beasts of burden are the burro and the horse, yet by far the major portion of the goods is transported on the heads of women. The peasant women are capable of carrying heavy loads great distances, on their heads. This gives them a grace and a regal bearing that would do justice to a queen.

THE ARTIBONITE VALLEY

The Artibonite Valley is located near the coast in the central part of Haiti. (This is the portion of the country with which the author is best acquainted). Here the seasons are based on precipitation rather than temperature. During the year there are two seasons: the dry—from November to May and the wet—from June through October.

There are many conservation problems connected with the Artibonite, which need attention. A few of these will be discussed below.

One of the greatest losses in potential food production occurs from the custom of having small family plots or paddies for rice. Each paddy is delineated by large borders or dikes built to hold the water, thus a surprisingly large amount of space is taken up by these. Even though in many cases, plants such as banana trees, cane, cassava, corn or sorghum, grow on them, they do not offset the wasted space. As the peasants weed the paddies, the weeds are thrown on the dikes. Since the dikes are left in place, year after year, they continue to increase in size.

Such an arrangement means that all labor must be by hand. The machete and large cotton hoe are the principal cultural implements. Relatively few tractors and power equipment are seen. In fact, one is struck by the almost total absence of any type of plow, even the stick one. Most plots are hoed to prepare the seed bed.

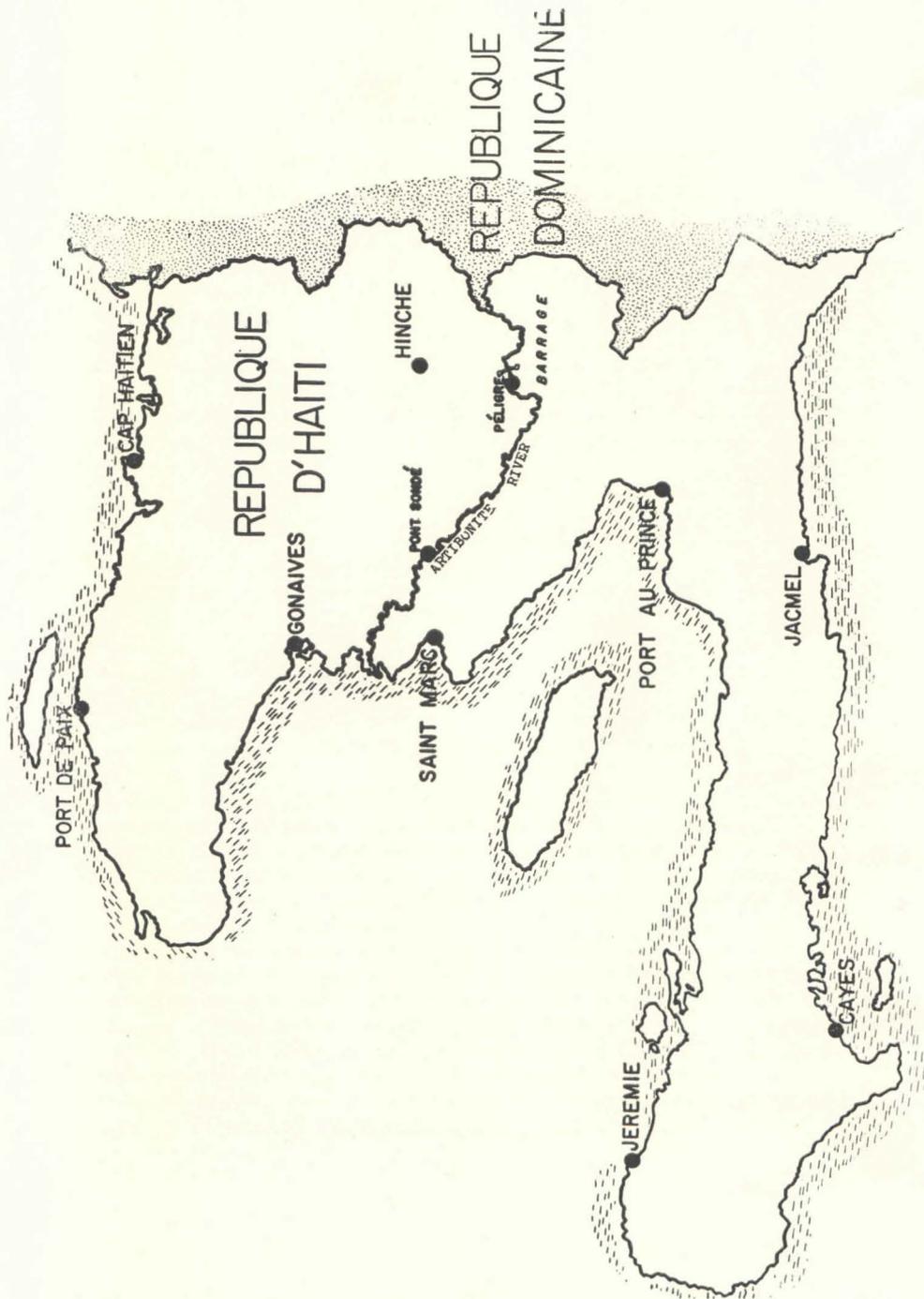


FIG. 1.—The Artibonite River and Hispaniola

If the numerous small units could be combined into one or two community enterprises, and modern machinery used, production could be increased many fold. In place of using rice nurseries and transplanting the nursery stock, direct seeding should be done. But it is difficult to get the natives to change.

If each community had a single variety of rice much time and effort could be saved. As it is, even in a single paddy, a heterogeneous mixture of varieties and types can often be found. This means that ripening and harvest may extend over several weeks. The peasant, usually the woman, goes into the paddy each day and plucks the heads. Artibonite could increase the irrigated land in the valley from approximately 80,000 (1956) to some 120,000 acres.

When land is cleared, the trees which provide the wood for making charcoal are destroyed. This robs the peasants of their principal source of fuel and some supplemental income. How important is charcoal to the peasant? A necessity. The use of charcoal is such a deep-seated custom that it is a ritual with the people. As an example, the native cooks who work in the homes of the whites (*blancs*) or the professional classes may have modern gas or electric stoves to prepare food for employers, but when it comes to preparing food for themselves they usually use a charcoal brazier in the yard.

Every village or community should have plantings of mangoes, citrus, bananas, plantains, breadfruit, and coconuts (where soil and water are suitable) to furnish food. In addition, reserve plantings of mesquite for charcoal, kapok for fiber and oil and calabash (gourd) to supply water jugs and primitive dishes should be encouraged. The wisdom of this can be seen when one considers the population increase, the ultimate additional land subjugation and the destructive practice of burning to clear lands.

One of the greatest potentials in agriculture production in the Artibonite Valley, in the estimation of the author, is that of cattle raising. There are some peasants in every village who have a few animals. These are non-descript ones, so poor that few calves, little milk or beef are produced. Most of the cattle are staked out or tethered. The owners are negligent about changing the animals about often, consequently they never seem to have sufficient forage although feed in abundance is often available.

From observing how well Napier grass, sometimes called Elephant grass, (*Pennisetum purpureum*) and pangola grass (*Digitaria decumbens*) did on the farm of the Hopital Albert Schweitzer near Deschappelles, forage production could be unlimited. One of the author's co-workers saw Angleton grass (*Andropogon nodosus*) being grown and put up for hay near the Dominican border. He said that he had never seen more productive pastures anywhere in the United States.

Cattle raising on a commercial scale should be a natural here. The animals can be grazed yearlong and a number of breeds, such as the Santa Gertrudis, have possibilities for high beef production.

An agriculture industry which could be developed to go hand-in-hand with beef cattle production is meat packing, including modern processing and refrigeration. Whether the demand for properly pre-

pared meat would justify the expense involved, would need to be determined. Frozen meats were available in the modern markets and the commissary, but it was shipped in from the United States. An additional demand might come from the Guantanamo Naval Base, Cuba, only some forty miles by air or water from the mouth of the Artibonite River. In the past, at least, the meat supply for the Base was being shipped in from the United States.

At present the animals that are to be marketed are driven to the cities, often times over 100 miles. Here they are slaughtered under the most primitive and unsanitary conditions imaginable. In the larger cities sometimes the slaughter pens have a shed roof with cement floor. The smaller community market sites lack even these facilities.

There should be opportunities for developing a country-wide dairy industry, with the major production coming from the Artibonite. No dairies nor dairy herds were seen.

Loss of top soil by erosion is serious. Check dams constructed along drainage channels would be helpful in lessening the erosion damage from flash floods. However, these would be only stop-gap measures, medicine to alleviate the illness. The cure would necessitate proper remedial measures applied on the watersheds.

In the mountainous and hilly sections the practice of burning the trees and brush to make way for farm plots should be stopped. Granted that utilizing the less steep slopes is necessary for food production, the farming should be done on the contour. On the steeper slopes proper terrace construction would permit the lands to be used with a minimum of soil loss.

On the steepest slopes, reforestation should be practiced. This would result in stabilizing stream flow and reducing erosion. In addition, if the native mahogany were found to lend itself to afforestation it would provide a plentiful supply of mahogany for the exquisitely carved items and furniture for which the local people are noted.

Most of the once abundant native mahogany forests have been stripped or burned off.

Many villages lack adequate, permanent domestic water supplies. Cisterns could be devised and installed to offset this lack. For stock water, tanks or charcos, similar to those used in the Southwestern United States might be constructed to provide for the livestock.

Where there are water courses (except in the intermittent stream channels or swiftly flowing rivers) hydrophytes, especially water hyacinth, are clogging the ditches and canals. Since no work has been done on control the problem becomes more serious with time.

Fertilizers, either organic or mineral are practically unknown to the peasant farmer. Should a crop management program coupled with use of fertilizers be followed in the Artibonite, production could be phenomenal.

The Valley is literally overrun with rats. Though no statistics are available, they must take a tremendous toll of the limited food supply. Control measures would need to be nation—or island—wide to be really effective.

Plant diseases and insects have gone on unchecked since colonial times. For example, all cotton encountered (perennial, small tree type) was badly infested with pink boll worm.

Spraying of stagnant water for mosquito control could wipe out malaria.

The periodic political upheavals with the resultant change in leadership makes for more hardships for the peasants.

Someday, yes, someday, the machete and hoe will be replaced by tractors and plows; the old hollowed-out-log mortar and wooden pestle will give way to a modern mill. But until then, the peasants will continue to live and work in about the same manner as their slave ancestors did three hundred years ago.

Given a sympathetic, stable government, and a core of dedicated young Haitian technicians trained under those acquainted with the highly productive methods of modern agriculture, production could reach heights, not now even dreamed possible, for Haiti is one of the most potentially productive areas in the tropical world.

But how can a country, with the illiteracy rate estimated to be higher than 90%, make great strides in any direction without education? How difficult it is to lift oneself up by the bootstraps when one has no boots.



E.A.P. NOTES

Professor René Velasco, a graduate of the University of Puerto Rico and the recent recipient of a master's degree from Texas A.x.M. has been appointed Assistant Professor in the Department of Horticulture.

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Preliminary yield trials at EL ZAMORANO show that the variety San Marzano consistently out yields other tomato varieties in the rainy season.

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A trial vineyard of 44 vines of *Vitis rotundifolia* was planted in March. The varieties Magoon, Dearing scouppernong were out and all have begun growth. A one wire trellis will be used.

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A nursery of several thousand Cleopatra mandarin seedlings for citrus rootstock is developing well. A number of varieties of seeds for trial rootstocks has been received from the University of Arizona Citrus Experiment Station, Tempe.