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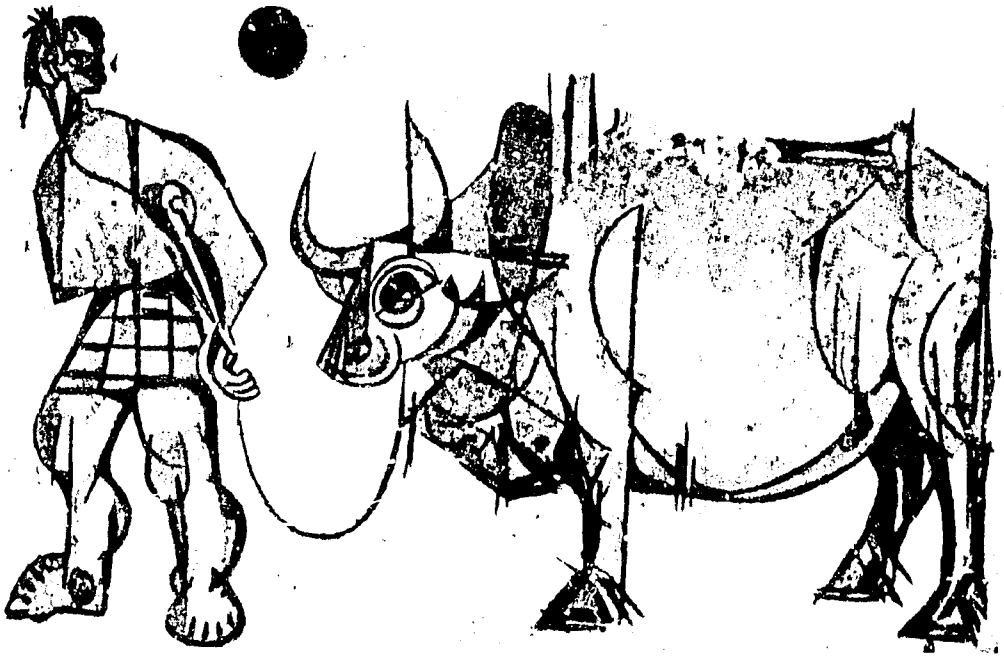

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RESOURCE MANAGEMENT AND AGRICULTURAL DEVELOPMENT IN JAMAICA: LESSONS FOR A PARTICIPATORY APPROACH

Harvey Blustain

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RESOURCE MANAGEMENT AND AGRICULTURAL DEVELOPMENT IN JAMAICA: LESSONS FOR A PARTICIPATORY APPROACH

Harvey Blustain

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Chapter 1
INTRODUCTION

Resource management -- which covers such activities as soil and water conservation, forestry, rangeland management, and irrigation -- is becoming an increasingly important component of rural development programs. In large part, this has been due to heightened awareness of the precarious nature of the resource base upon which the world's population must be fed and nurtured. Among the many recent studies concerned with the state of the earth's resources, the Global 2000 Report presents a particularly gloomy picture.

> The world in 2000 will be different from the world today in important ways. There will be more people. For every two persons on the earth in 1975 there will be three in 2000. The number of the poor will have increased. Four-fifths of the world's population will live in less developed countries.
>
> The environment will have lost important life-supporting capabilities. By 2000, 40 percent of the forests remaining in the LDCs in 1978 will have been razed. The atmospheric concentration of carbon dioxide will be nearly one-third higher than preindustrial levels. Soil erosion will have removed, on the average, several inches of soil from croplands all over the world. Desertification (including salinization) may have claimed a significant fraction of the world's rangeland and cropland. Over little more than two decades, 15-20 percent of the earth's total species of plants and animals will have become extinct -- a loss of at least 500,000 species. (Global 2000 Report to the President 1980:39)

The growing number of projects which aim to preserve and improve environmental conditions, as well as the burgeoning literature on the subject, attest to the perceived seriousness of the problem.

This past decade has also seen greater recognition of the need for people's participation in development activities.

> Because of accumulated experience suggesting that projects are likely to be more successful in the long run when local officials, organizations and people are involved in design, decision-making, implementation and evaluation activities, some government and many international development agencies have made decentralization, local organization involvement, and participation in the development process by the poor majority one of the central concerns of their official policies. (Cohen and Uphoff 1979:1)

Among the organizations and agencies accepting the desirability of a "participatory strategy" have been the United States Agency for International Development (USAID), the United Nations General Assembly, and the World Bank. The position taken by the Food and Agriculture Organization's (FAO) World Conference on Agrarian Reform and Rural Development (WCARRD) is typical of that taken by many agencies:

> Participation by the people in the institutions and systems which govern their lives is a basic human right and also essential for realignment of political power in favour of disadvantaged groups for social and economic development. Rural development strategies can realize their full potential only through the motivation, active involvement and organization at the grass-roots level of rural people, with special emphasis on the least advantaged. . . . (FAO 1979:8)

The simultaneous concern with resource management and participation is not coincidental. It is farmers, herders and fishermen who actually manage natural resources at the local level. They are the people who decide what crops will be planted, how large a herd will be kept, and where and how often they will fish. They may not always make the right decisions, and their management strategy may be damaging to their long-term interests. But they are the people who use those resources on a daily basis, and thus the search for measures to preserve and manage the environment must involve these people.

There will be times when government officials will try to change the way in which those resources are managed. Perhaps as a step toward increasing rice yields, they will build an irrigation system. Or to prevent overgrazing, they will attempt to limit the size or grazing range of livestock herds. Or they may want fishermen to adopt a new kind of net. Or as in the Jamaican project discussed in this study, they may try to induce farmers to establish new soil conservation treatments, use more agricultural inputs, and change their patterns of land use. Accordingly, the government, as part of its rural development program, can dig irrigation channels, pass enclosure laws, distribute nets, and build soil conservation terraces. But the government has not the desire, the manpower, or the money to clean out the channels, keep an eye on the whereabouts of every cow, man the boats, or reshape the terrace walls after the rains. The rural people must bear that responsibility. The success of the program will thus depend directly upon the willingness of rural people to cooperate with the government and among themselves in such efforts.

This simple observation, however, has often been overlooked. Many resource management projects over the past several decades have been operated under the

assumption that with the proper administration, inputs and packaging, plans formulated at the center could be implemented in the rural areas. It has been expected that with the right carrots and sticks, the government could inspire, motivate, cajole, prod, bully, intimidate, threaten, or hoodwink farmers into behaving as the government would like them to behave. This is the essence of the "top-down approach." Like the New Yorker cartoon that shows a South Sea Islander warmly welcoming a Westerner to his shores with the words: "You have no idea what a drag it is living in this godforsaken place, waiting for an anthropologist to show up," development practitioners unwittingly often take the position that rural life is a series of inchoate activities which gain organization, coherence, and meaning through the intervention of some "project." It is assumed that a project, perhaps because it is well-intended, takes logical and functional priority over everything else.

Yet farmers have another perspective.[1] Unless the project involves something crucial like disaster relief, migration, or forced labor, or unless the program itself turns out to be an unavoidable disaster, farmers have a tendency to relegate it to a level of importance that is commensurate with their other concerns. For the administrator or advisor, however, the project is a full-time occupation, perhaps even a passion. But for the farmer, the project is just one more element in his life. He may view it as a good thing, he may get involved, and he may convince his friends to participate as well. But if he sees the project as irrelevant to his needs or damaging to his interests, he will ignore it, or even undermine it. In this sense, the farmer is the final arbiter of project success.

To a great extent, many development projects have failed precisely because they have either ignored or been ignorant of the farmers' concerns, interests, or way of life. In a typical project proposal, a rationale for the project is outlined, goals are set, a logical framework is produced, administrative mechanisms are identified or instituted, and output indicators are established. All of these are exhaustively substantiated by detailed and quantitative appendices. What is usually not found, however, is a satisfactory discussion of how the project fits in with the social and economic life of the "beneficiaries." Data derived from macroeconomic studies and surveys provide some information on local conditions, but as Cochrane notes, programs "have in the past

---

[1] Although there are many categories of rural people who manage different types of resources (farmers, peasants, fishermen, pastoralists, horticulturalists, etc.) I will simply use here the term "farmer." This is in keeping with the subject matter and for literary elegance. Many of the general arguments advanced here, however, are applicable, mutatis mutandis, to the other categories of rural people. Similarly, the use of the generic pronoun "he" is not intended to exclude or ignore the many women farmers of Jamaica.

said little about social and cultural characteristics of the people. . . . Cultural factors can no longer be thought of as extrinsic to project design; project design has to conform to and take account of the social landscape" (1979:5).

Projects for some agencies now require a "social soundness analysis." But these short, appendant exercises, in addition to being based, often solely, on survey data, reflect the prevailing "project-centric" bias. Usually they are concerned to identify the relevant (and isolated) social variables "out there" that will affect the successful completion of the project. Little is said of how the project fits in to the overall socioeconomic and cultural context. Incompatibilities between the project and the society it is supposed to improve are either explained away, ignored, or never considered.

The introduction of projects in the rural areas is often analogous, therefore, to an ill-considered force meeting a resilient object. Farmers and other rural people have been labeled conservative and unchanging not because they do not change, but because they do not change in the manner and at the speed expected by policy-makers. And for good reason, since many of the proposed changes are irrelevant or inimical to the farmers' interests.

The prevailing interest in people's participation is, to a large degree, an attempt to bring an understanding of context to the development process. Recognizing that the planning and implementation of projects require information about the lives of the people to be affected, the proponents of participation argue that that information is best acquired from the people who know most about the context -- which is after all the local people themselves. Knowing the attitudes, perceptions, concerns, aspirations, experience, and expertise of the rural people one is trying to help is necessary for designing appropriate programs that meet their needs.

In addition to the knowledge that a participatory approach can bring to the resolution of a problem, practitioners are also finding that the involvement of people at all stages of the project can provide a basis for mobilizing community interest and commitment, forging consensus, and articulating local ideas and opinions to higher levels. Experience has shown that development done with the people and by the people is more effective and sustainable than development simply done for the people.

Yet in attempting to design and implement projects that involve local people in a meaningful way, proponents of participation have faced a problem similar to that faced by technicians -- finding an approach that is appropriate to local conditions. What is practical in societies where the government and rural people have a long tradition of working together might not be practical where government officials and farmers are

mutually suspicious and antagonistic strangers. Similarly, the intensity of communication that bureaucrats can maintain with farmers living an hour's drive from the capital will be different from that maintained with the farmers several days' walk from the end of the road. The bottom line is that planning for appropriate participation in resource management projects cannot be treated in global terms, but must be related to specific national and local systems. There are, of course, similarities among social systems, and lessons from one situation can be applied to others. But there are no blueprints, and all projects will face their own challenges. Just as technologies have to be designed and applied to specific contexts, so, too, does a participatory approach have to be tailored to existing political and social relationships and processes.

This case study and analysis of the Second Integrated Rural Development Project (IRDP) in the hills of Jamaica will demonstrate that an understanding of political context is essential for the design of an appropriate participatory strategy in development activities. The IRDP presents an interesting case because the manner in which farmers have participated in the program is counterproductive to the achievement of the project's goals of soil conservation and agricultural productivity. Instead of a long-term commitment to soil conservation, for example, farmers seek primarily the short-term benefits to be attained from the terracing subsidy. Similarly, many of the project's activities have been directed at individual farmers, when organized groups would have been a more appropriate and productive unit of activity with which to work.

While these patterns of participation (and others) are inappropriate for meeting the resource management objectives of the project, it will be seen that they are consistent with existing generalized patterns of interaction between farmers and government and further, that they fulfill vital political objectives. In Jamaica, where competitive party politics is combined with a highly-centralized clientelism, the provision of patronage to individuals take precedence over conservation objectives. By viewing the IRDP within its socio-political context, therefore, one gains a better understanding of why the project operates the way it does, why people participate the way they do, and what realistically can be done to promote people's participation in ways conducive to proper resource management.

Chapter 2 will present some necessary background information on the IRDP and on the two watersheds in which it operates. After a brief prologue on the history of government concerns and programs for small farmers, some physical and social characteristics of the Pindars River and Two Meetings watersheds are given. This is followed by a brief description of the IRDP's structure, operations, and objectives.

Chapters 3 and 4 deal, respectively, with the soil conservation and agricultural productivity objectives and performance of the project. Both chapters discuss what the project has tried to do, what measure the success it has achieved, and what problems it has encountered. These problems include the availability of agricultural labor, insufficient marketing mechanisms, and patterns of land tenure.

There is another set of problems affecting project implementation, however, and these are more deeply rooted in the Jamaican political system and in the structure of interaction between farmers and the government. Two of these problems -- the short-term and individual nature of project participation -- have already been mentioned. Others, which will be discussed in Chapter 5, are the lack of meaningful participation by farmers in project design, the lack of commitment by the farmer to the goals of the project, and the lack of effective local organizations. To understand these problems, all of which present significant obstacles to project success, we must go beyond an analysis of local social and cultural conditions, such as are usually touched on in "social soundness" analyses, and analyze more systemic and macro-level issues.

Thus, in Chapter 6, basic features of the Jamaican political system are reviewed. Among the issues examined are the two-party system of competitive politics, the class structure of Jamaican society, the role of small farmers in policy-making, and the clientelistic basis of Jamaican politics. By the end of the chapter, it will be seen that the problems encountered in Chapter 5 are connected to the political logic of Jamaican society and cannot be adequately resolved by simple tinkering with project operations.

Chapter 7, then discusses the implications of this extended analysis for the formulation and implementation of a participatory approach to resource management. If the present processes by which farmers participate is unsatisfactory, then how, and by whom, can the system be changed? Here, we will see that none of the sets of actors in the system -- government officials, project administrators, local leaders, or farmers --have the necessary incentives to alter significantly the prevailing patterns of interaction and participation. We will also note that there is little likelihood for positive change through the "natural" evolution of the system. Yet through our understanding of the Jamaican political system, we will see that certain steps can be taken that would enhance the achievement of resource management objectives within the existing context. Finally, ten "lessons" will be presented which should have widespread applicability for the design and implementation of a participatory approach to resource management projects.

Chapter 2
PROBLEMS, PROJECTS, AND WATERSHEDS

Before describing and analyzing some of the specific resource management objectives of the IRDP, it is first necessary to provide some background on the project and the project area. Thus, this chapter will have three main concerns. First, it will consider the perceived needs of, and the Jamaican government's attempts to promote development within, the small farm sector of the country. Second, there will be a brief discussion of the two watersheds which comprise the IRDP area -- their topography, history, impressions, and socio-economic characteristics. Finally, an overview of the project itself will be presented.

Prologue to a Project

For most of Jamaica's history, the government's agricultural policy, to the extent there was one, was concerned with the productivity of the large estates. During slavery, and then after the Emancipation of 1838, much attention was paid to such matters as the adequate supply of labor (whether enslaved, free, or indentured) and the tariffs levied on sugar and rum. Little interest was shown in the small-scale, or yeoman, farmer, except to the extent that he was able to supply labor for the estates. The disturbances of 1938 and the introduction of universal adult suffrage in 1944, however, were the catalysts which prompted the colonial government to look more closely at agrarian conditions and to adopt programs geared to the small farmer. The result was a gradual shift in agricultural policy away from the interests of the hitherto-dominant planter class and toward an emphasis on domestic food crop and small-scale production (Stone 1974a).

The Wakefield Commission Report of 1941 was one of the first comprehensive analyses of the agricultural sector. In addition to recommending the expansion of government services through such organizations as the Jamaica Agricultural Society, the Department of Agriculture, statutory boards and producers' associations, the report "stressed the evils of soil erosion, bad systems of land tenure and fragmentation and recommended special aid to producers of export crops and the livestock industry" (Ministry of Agriculture and Lands 1954:2).

The Agricultural Policy Committee took up where the Wakefield Commission left off, and placed an even greater emphasis upon the plight of the small farmer. Its 1945

Report highlighted the critical problems of the sector, chief among them being misuse of land and inadequate use of land resources, lack of capital and inadequate credit facilities, low levels of productivity, illiteracy among farmers, and failure of the government to enunciate a far-sighted policy which would "minimize the risks in farming and provide incentives for improvement" (Ministry of Agriculture and Lands 1954:2). It urged the government to adopt programs to rehabilitate misused lands, increase productivity, improve cropping patterns and cultural practices, institute limited land reform, maximize marketing facilities and improve access to credit. In short, the Report recommended as a policy objective "the achievement and maintenance of a reasonable standard of living for all the people with the possibility of providing for a progressive increase in that standard."

The 1952 mission of the International Bank for Reconstruction and Development viewed agriculture within the context of the overall Jamaican economy. Recognizing that agriculture at that time was the "basic industry in Jamaica," the report made recommendations for improvements in the sector. Of significance for the arguments presented here are the mission's findings on soil erosion and agricultural production.

> For a long time now, soil erosion has continued apace. More and more hill and mountain slopes have been burnt over, cleared of trees and put under cultivation without provision for proper terracing, contouring and drainage....In the last few decades, the rate of deterioration appears even to have accelerated. The spectacle of abandoned land and eroded hillsides has become only too common (1952:21).
>
> At present, hillsides are tilled primarily by small farmers under conditions which accelerate soil erosion. One of the principal problems is to make their agricultural practices consistent with soil conservation (1952:12).

Regarding food production, the mission stated that

> . . . the importance of food crops for local consumption has never been fully recognized and their proper cultivation has not received adequate attention. Yields of food crops and livestock products are generally far below the levels that could be achieved with proper agricultural practices . . . The small farmers predominate in the hills and produce nearly all the food for local consumption. An increase in their output is a matter of paramount concern (1952:12,13).

Since the 1940s, a great many schemes and programs have been launched to boost the productivity and well-being of farmers throughout Jamaica. The Farm Improvement Scheme (1945-1955), the Farm Development Scheme (1955-1960), the Agricultural Development Programme (1960-1962), the Farmer Production Programme (1963-1968), the Farmer Development Programme (1969-1972), Operation G.R.O.W. (1973-1976), the Emergency Production Plan (1977), the start of the Five-Year Development Plan (1978-1980), and now the Comprehensive Rural Development Plan -- all have been geared to stimulating the agricultural sector.

Yet the problems have persisted. In 1973 the new People's National Party (PNP) administration of Michael Manley issued its "Green Paper on Agricultural Development Strategy." In addition to highlighting the need for "better and more widespread use of soil and water conservation measures," the report also outlined six overall policy goals, two of which were directly related to production: "to produce as much food and raw materials for domestic consumption and export as is economically and technologically feasible," and to "structure the production so as to reduce the growing reliance on imports and reverse the adverse trade balance in agriculture" (Munn 1973:2).

Toward this end, the government, in addition to continuing some of the projects of the Jamaica Labour Party (JLP) government between 1962 and 1972, initiated a variety of its own programs aimed at leading Jamaica on the road to self-sufficiency in food production. The Second Integrated Rural Development Project was one of those new programs. Situated in two very hilly, yet productive, watersheds of central Jamaica, the project had as its two major goals, the conservation of soil resources and the establishment of "an agricultural production model that could be replicated in small hillside farms throughout Jamaica" (USAID 1977:5).

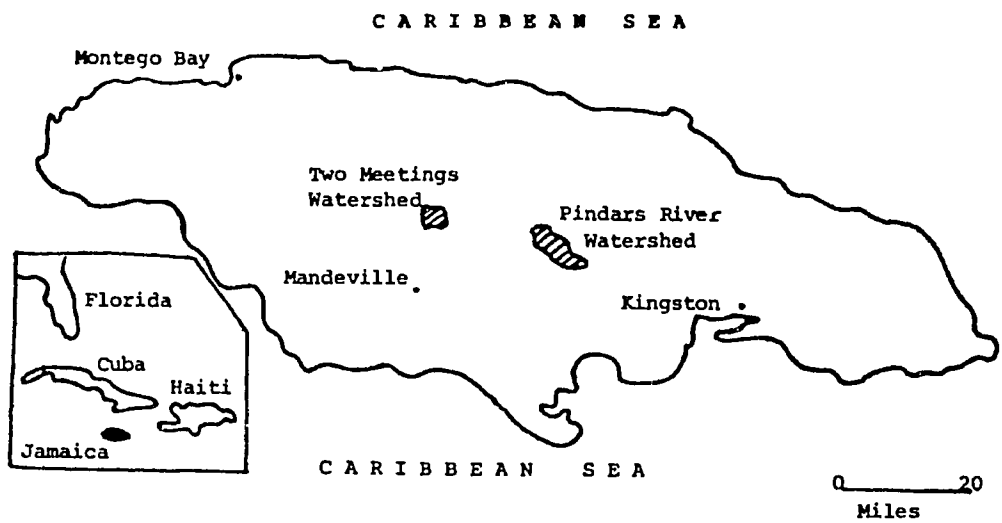
The Project Area

The hilly region of northern Clarendon and Manchester has gained a certain notoriety. Lord Olivier, who was governor of the Island at the turn of the century, remarked on the "diminished delightfulness" of the upper Rio Minho Valley (Olivier 1936:337). The Report of the Agricultural Policy Committee cited Christiana as a "critical region where the land is in danger of complete breakdown" (1945:49). The area also drew the critical attention of the 1952 IBRD mission:

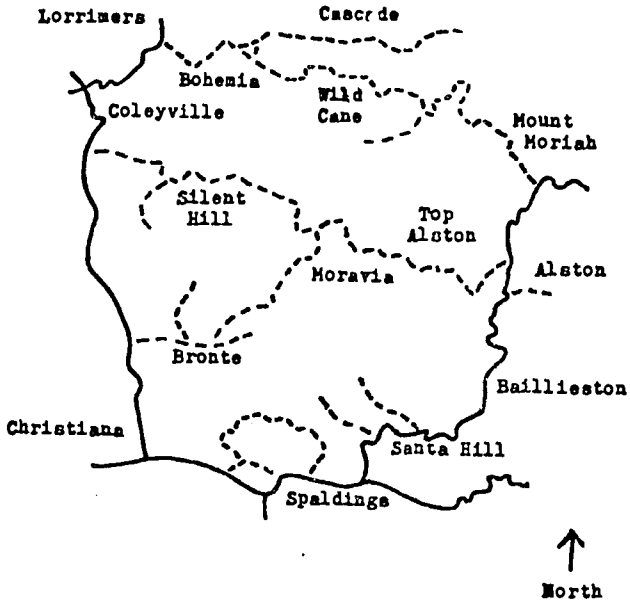
> We recommend for special attention the Christiana-Upper Clarendon area. Situated in the center of Jamaica and embracing parts of four parishes -- Clarendon, Manchester, Trelawny and St. Ann -- it comprises some 160,000 acres of agricultural land which for the most part was once very productive. Reckless burning of the hillsides and the cultivation, without soil protection, first of sugar cane and bananas, and then of ginger and such food crops as yams and maize, have caused serious erosion and depletion. Our own observations, supported by those of many agriculturalists conversant with this region, have convinced us, however, that the damage can be repaired and the land restored to a high level of production (IBRD 1952:22).

Between 1967 and 1975, the Food and Agriculture Organization of the United Nations did an evaluation study of the government's watershed protection and soil conservation programs. Based upon a survey of Jamaica's 33 principal watersheds, the team found eighteen watersheds contained "severely disturbed areas", five of which were classified as requiring first priority treatments. Two of those five --the Two Meetings and Pindars River watersheds -- are located in this upper Clarendon/Manchester area. And it is these two watersheds that FAO recommended -- and that the Government of Jamaica and USAID accepted -- as the focus of an intensive watershed rehabilitation project, the IRDP.

The Two Meetings watershed -- centered around the towns of Spaldings and Christiana and covering 10,000 acres in the parishes of Clarendon, Manchester, St. Ann and Trelawny -- actually consists of two smaller watersheds, as the Cave and Yankee Rivers flow west to east and meet t the eastern boundary of the watershed. The Pindars River watershed, the main town of which is Kellits, covers 20,000 acres in Clarendon and a corner of St. Catherine, and is dominated by the Pindars River and its three tributaries, the Black, Crawle, and Juan de Bolas Rivers.



Map 1.1. Location of Two Meetings and Pindars River watersheds

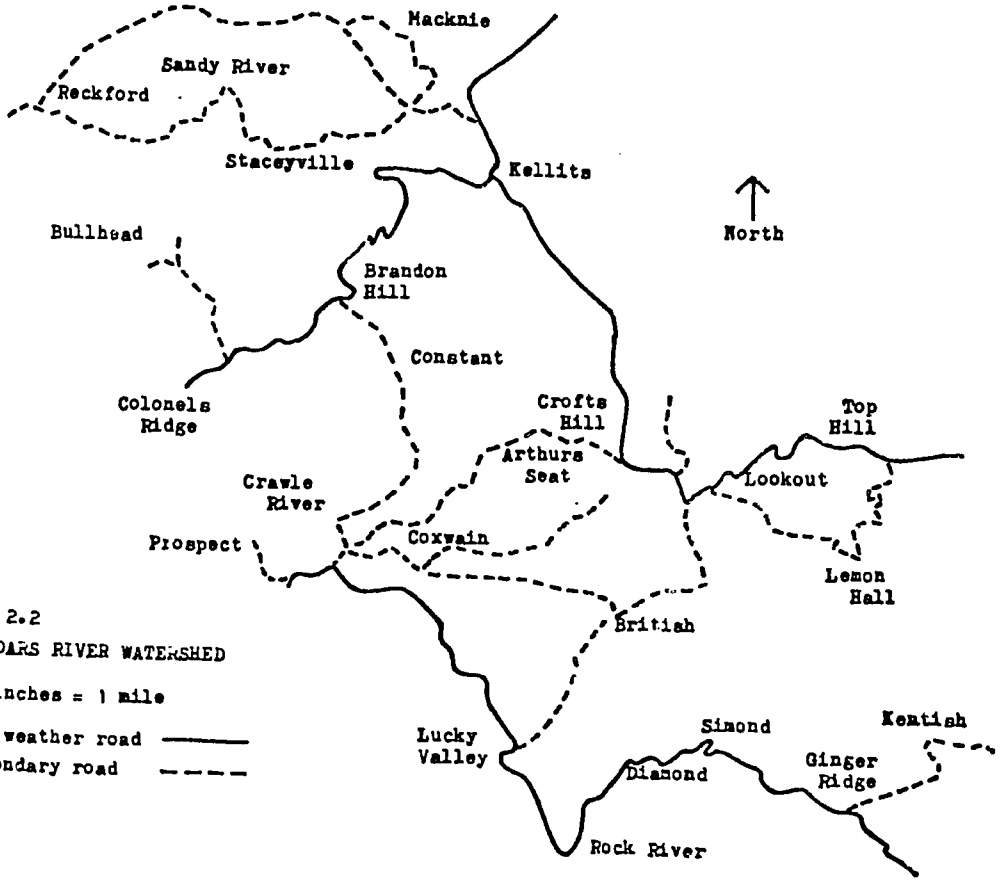


Map 2.1
TWO MEETINGS WATERSHED

.5 inches = 1 mile

All weather road ———

Secondary road - - - -



Map 2.2
PINDARS RIVER WATERSHED

.5 inches = 1 mile

All weather road ———

Secondary road - - - -

The similar geology of these two non-contiguous watersheds helps to explain why they have attracted so much attention. Both are part of the cretaceous central inlier of Jamaica, which is made up primarily of limestone formations. Ninety percent of Pindars, and 75 percent of Two Meetings, are occupied by shales, conglomerates, and tuffs, soils which are susceptible to erosion (FAO 1977:36-37).

In addition to easily-eroded soils, the watersheds are also characterized by steep slopes and seasonally heavy rainfall. A third of the land in Pindars, and a fifth of that in Two Meetings, is over 25 degrees in slope (FAO 1977:48). Table 2.1 shows the slope distribution for the two watersheds.

Table 2.1
Slope Distribution in Two Watersheds

Slope ( )	Pindars River (%)	Two Meetings (%)
7	8	7
7 15	23	32
15 20	21	24
20 25	14	16
25 30	15	13
30	19	8
	100	100

The months of May-June and September-October are usually the rainy season in Jamaica. Rainfall averages between 60 and 75 inches per year throughout the watersheds, but the concentration of the precipitation at certain periods leads to some high-intensity rains.

In addition to their geological formations, the two watersheds can also be compared in a number of other aspects -- their history, the impression they give to the observer, and their farming populations.

History

The early history of both watersheds was characterized by large estates, yet of a very different nature. The area around Christiana and Spaldings in the Two Meetings watershed was on the fringes of the coffee and pimento belt in Manchester parish and thus escaped much of the brutality of the sugar plantations that was prevalent over much of the rest of the Island in the 17th, 18th, and 19th centuries. Pindars, on the

other hand, consisted mostly of sugar estates. Kellits, one of the largest plantations in the area, had at one time (1817) more slaves than any other single plantation in Jamaica (Upton 1927). Between 1804 and 1834, the estate annually produced an average of 325 tons of sugar and 130 puncheons of rum (each puncheon containing about 115 gallons) (Blustain 1981a).

Following Emancipation in 1838, the historical record fades. but it is clear that both areas became occupied by small-scale farmers. The geographer Eyre argues that "Freed slaves and their descendants had left lowland estates to settle the hill country with the result that by 1911, densities along the mountainous spine of the island were comparable to those on the lowlands and in some parishes such as Clarendon were considerably greater." (1970:19-20) These migrants were, of course, in addition to the descendants of slaves already residing in these hilly areas.

A study of parish records from the latter half of the 19th century shows a very uneven development for the two areas (their official identification as watersheds being established much later, and even then mostly for administrative and technical convenience). Kellits (or Far Enough, as it was then called) and its environs give the impression of remaining very much a backwater. Numerous requests by local residents to the Parish Vestry for the improvement of roads were either turned down or, just as deadly, referred to a committee for investigation. The refusal by the Vestry to invest money in the area is due to the fact that the estate (which by this time consisted of 5,000 acres) continued to be the property of a single individual and therefore was not, in the eyes of the Vestry, eligible for development at public expense.

Spaldings and Christiana, on the other hand, showed signs of significant development. By 1900, Spaldings could boast a new market, a post office, new roads, and a growing commercial sector. The level of political activity can also be judged, perhaps, by many references in the minute books to threats by the residents of Spaldings (which lies in Clarendon parish) to secede from the parish and join neighboring Manchester, from whence greater benefits were promised.

The most telling indication of the difference between the two areas, however, comes from two separate entries in the Clarendon Parish minute books. On May 12, 1927, one Board member complained that the residents of Spaldings were registering their automobiles in Christiana (which, although only five miles away, is in Manchester parish), thereby depriving Clarendon of a considerable sum of tax revenue. Two years later, on February 14, 1929, the owner of Kellits estate, H.E. Upton, petitioned the Board for permission to drive a truck over a few hundred yards of parochial road connecting his property with the main road. The Board approved his request, "provided Mr. Upton uses the truck at his own risk".

In 1929, Kellits earned the distinction of being the first land settlement sponsored by the government. Through an agreement with its owner, the government bought all 5,065 acres and, after leaving some land for forest reserve (now used for the illicit cultivation of ganja), divided the remaining 3,600 acres into plots which were sold to an initial 738 settlers. It had been publicized several years earlier that tenants of the estate would have priority in the allocation of the land, and this initiated a pre-settlement migration into the area. Many of the migrants came from the area around Christiana and Spalding, and it is due to their influence that Kellits in the 1930s became one of the major ginger-producing areas in Jamaica.

The Two Meetings area, from an earlier time, had earned much of its income from ginger and from bananas. Percy Junor, a commodity dealer whose operations extended throughout the hills, is reputed in the area to have been Jamaica's first millionaire. By the 1940s, Christiana became something of a playground for Jamaica's wealthier citizens. The site of the island's second movie theater, the town could boast of several elegant inns and hotels which were the sites of Christmas and New Year's balls. In 1954, for the benefit of those citizens with less status and economic resources, the Christiana Area Land Authority (CALA) was established following the recommendations for urgent action by a series of reports (see above). There were a few estates of several hundred acres remaining in the area (most of the land had been sold off to small farmers earlier in the century), and these were bought by the CALA and turned into land settlements, with most of the plots going to the former tenants.

Impressions

The present state of the two watersheds reflects their different historical experiences. Two Meetings presents the picture of a much more dynamic area, while Pindars remains, as it has for much of its history, depressed.

Christiana is, by rural Jamaican standards, rather impressive in its modernity. The narrow streets have not expanded with the automobile population, so on Saturday morning, what is normally a one-minute drive from one end of town to the other becomes a slow tortuous crawl past government offices, plate-glassed, suburban-style commercial banks, hole-in-the-wall bars, "department stores," supermarkets, the Bevo theater, and a number of other commercial establishments. Although "prosperous" is not a word that comes comfortably to the tongue when describing Christiana, it gives the impression of being a fairly bustling place.

One can go north from Christiana on a new highway constructed with World Bank funds. After a few miles, one sees off to the right a small airfield which is used, by

day, as a base for the Banana Company's spray planes and, at night, as a landing strip for a parade of small aircraft transporting marijuana to the United States. As one criss-crosses through the Two Meetings watershed on any number of roads, one is struck by the modest solidity of the houses -- brightly-painted concrete boxes topped with corrugated zinc roofing. From every vantage point there is evidence of cultivation -- yams, bananas, potatoes, ginger, red peas, and a mixed profusion of other crops. To be sure, there are many pieces of land in fallow, but this does not erase the impression that every piece of land in the watershed has been captured and claimed by someone. Even as one drives along the road, there are few stretches along which there is not a house, shop, church, water tap, or some other indication of human habitation.

Two Meetings is ringed by roads, and one can circumnavigate the watershed in about an hour. But if one leaves the main road at the northeast corner of the watershed and heads east, after an hour and a half's drive, one reaches the Pindars River watershed.

Here, the impression is altogether different. Entering the watershed through its northwest corner, one comes to the Bull Head Mountain area. Originally a sugar cane area, the area over the past decade has seen a shift toward cabbage cultivation and a concommitant rise in population, incomes, and pick-up trucks. After five miles, one reaches Kellits.

The recent addition of Miss Mac's restaurant and bar on the main square is the only new construction that has occurred in Kellits in years. Basic provisions are difficult to obtain, and the Saturday parish market has little to offer. The "supermarket" burned down several years ago, leaving some charred foundations. Most of the other buildings are made of wood, and few houses do not have sagging balconies, missing boards, or rusting zinc roofing. Unlike Christiana, the donkeys control the street and an automobile that is not immediately recognizable is an object of momentary curiosity. In the infrequent press reports about Kellits, the most frequently used adjective is "sleepy".

The few paved roads which lie in the watershed wind their pot-holed way through a string of houses, churches, and small shops. The people and structures one sees here are in considerably poorer shape than the ones seen in Two Meetings -- older, more decrepit buildings; fewer people in fancy clothes; more ragged uniforms on the school children (and fewer children in school uniforms); more bare feet. Official statistics indicate that in 1974 per capita income, including the value of subsistence production, was J$306 (US$336) in Two Meetings and J$224 (US$246) in Pindars River (FAO 1977:128); in real human terms, however, the discrepancy appears to be much greater.

Unlike Two Meetings, the topography of Pindars offers a variety of landscapes. In the Bull Head region, the few plots of cultivated land stand out amid the grassy ruinate. Just south of Kellits, untended cocoa trees and dense bush give the Pindars Valley the look of a jungle; the scattered and overgrown ruins of slave plantations add to the wilderness effect. There is one four-mile stretch of river along which one can walk and never see a building, a cultivated field or, sometimes, a person.

A few miles farther downstream, the valley opens up and the scenery changes dramatically. Lucky Valley, as the area is called, is extremely dry. Except for some large citrus plantations and 30 acres of tobacco (the latter being the only irrigated land in the two watersheds), little grows except Seymour grass (Andropogon pertusus). Most people tend a few cattle and earn what they can from casual work on the estates. The past few years has seen a big drive to plant forests on public lands (all under the auspices of the IRDP) so some money has been entering the area of late. But the people here are among the poorest in the project area (if not in all of Jamaica), and one comes out of the valley feeling depressed and unsettled.

The overall impression of the Pindars watershed is one of dispersed poverty. Although Pindars is twice the size of the Two Meetings watershed, the two areas have roughly the same population. According to the 1970 census, some 13,000 people live in Two Meetings, and 11,400 live in Pindars. Given the difference in their areas, however, Two Meetings is more than twice as densely settled (833 versus 380 people per square mile; this compares to a national average of 419 persons per square mile).

One question which will not be raised in this monograph is the wisdom of subsuming, under one project, two areas with very different histories, infrastructures, cropping patterns, employment opportunities, and needs. Yet the IRDP is proposing to find an agricultural production model and to meet the needs of farmers living in widely divergent conditions. That these farmers need help is undeniable; whether that help can be provided by a project with a single set of blueprints is questionable.

Socio-Economic Characteristics of the Watersheds

A more comprehensive picture of the socio-economic conditions prevailing in the two watersheds is provided elsewhere (Blustain and Goldsmith 1979; Goldsmith and Blustain 1980). Here it would be useful to highlight some of the more important features of small-scale farming in the areas: farm size, cropping, land tenure, labor, and marketing.

Farm Size

For Jamaica as a whole, there is an uneven distribution of land ownership. According to the 1968 agricultural census, holdings with fewer than five acres accounted for 79 percent of farms, but only 15 percent of agricultural acreage (Department of Statistics 1979:459).

In the two watersheds, however, the distribution is less skewed. Except for two relatively large plantations in the Lucky Valley area of Pindars, the smallholder farming pattern is prevalent. Over half of the farms are under five acres, and only two percent of the farms are over 20 acres. On the average, farm size in Pindars is larger than that in Two Meetings (5.6 versus 4.2 acres).

In addition to being relatively small, farms in the watersheds are also fragmented. Only a quarter of farmers surveyed in 1979 cultivated a single plot of land; about a third of them worked two separate plots, another quarter farmed three pieces, and over ten percent farmed four or more pieces.

Cropping

More will be said about cropping patterns in Chapter Four. It is important to note at the outset, however, that there is diversity not only between watersheds, but within them as well.

Two Meetings is one of the major domestic food-producing areas of Jamaica. Much of the island's Irish potato production comes from there, as is evidenced by the large membership of the Christiana Potato Growers' Cooperative. Other significant crops include yams (particularly yellow and negro yams), bananas, red peas, and ginger. Most of the farms are intercropped.

Pindars River watershed offers a greater diversity of patterns within its boundaries. As mentioned earlier, the northwest corner is moving out of cane and into cabbage. Moving southeast, one finds cane, coffee and banana, cocoa, citrus, pasture, and sorrel.

Land Tenure

The issue of land tenure will be discussed more extensively in Chapter Three in connection with the project's soil conservation program. There are several forms of tenure among small farmers in Jamaica. The first category is owned land. Included in this grouping is "bought land," in which the farmer, through his purchase of land, holds all legal rights to the land, and "family land," a more customary system in which various rights to land are diffused through a kindred (Blustain 1982a). Leasing and renting are

also common, the former being distinguished by its more long-term and secure nature. Many farmers also operate land on a rent-free basis, in which a farmer is given a piece of land to work by the owner, with the understanding that at any time, but usually after the crop is taken off, the owner can reclaim the land. Even though the owner of the land receives no payment for the use of the land, he is secure in the knowledge that he can regain control over the land when he wants with a minimum of trouble.

Survey data show that 71 percent of the farmland is owned by the person or persons who cultivate it. The rest is held under the other forms of tenure, of which rented and rent-free land each account for about 10 percent. It is also noteworthy that in Two Meetings, rented land is more common than rent-free land, while the opposite is true in Pindars River. The likely explanation is land scarcity: where land is in shorter supply, as it is in Two Meetings, more of the people wanting land must pay to get it.

Since farmers commonly operate several plots, it is important to remember that often not all of these plots are held under the same forms of tenure. Only somewhat more than half the farmers in both areas own their entire holding; a quarter own at least part of their holding but have access to additional land on some other basis. About a fifth of farmers in Two Meetings, and a tenth of farmers in Pindars, do not own any of the land they operate, but instead farm it on a rented, leased, rent-free or captured basis.

Labor

Farmers have access to three main sources of labor: hired labor, household labor, and exchange labor. As Chapter Four will indicate, farmers' inability to mobilize sufficient labor presents an obstacle to the adoption of the project's recommended labor-intensive agricultural practices.

It is difficult to generalize about the uses of various kinds of labor. Some tasks, such as coffee-picking or cane-reaping, are conducive to exchange labor, because marketing schedules (particularly in the case of cane) demand that a great amount be reaped in a short period of time. The reaping of peas, on the other hand, is more often done through the mobilization of household labor.

In terms of aggregate use of labor, however, there are differences between the two watersheds. In Two Meetings, family labor was shown to be the principal source of labor in one-third of the households surveyed. The proportion was much higher in Pindars, 57 percent. The pattern is reversed for hired labor; it was the major labor source of 41 percent of farmers in Two Meetings, versus only 17 percent in Pindars.

Marketing

Farmers have three main outlets for their produce. In the case of export commodities (cane, coffee, cocoa, citrus, bananas), marketing is done through official commodity associations (Goldsmith 1982). Food crops can be marketed in one of two ways. A small percentage of production goes through the government's Agricultural Marketing Corporation. Because of administrative financial problems faced by the Corporation, the low prices paid to farmers, and transportation difficulties, farmers generally prefer not to deal with the A.M.C.

An estimated 80 percent of food crops are marketed through small-scale intermediaries known as higglers. Usually the wives of farmers, the estimated 20,000 higglers island-wide buy small quantities of produce from farmers and sell it, either retail or wholesale, usually at the parish markets (Gardner 1979). Among the advantages of selling to higglers rather than the A.M.C. are: higher prices; assistance to the farmers in reaping, transportation, and credit; and lack of grading procedures. Among the problems of the higgler system are the small volume of produce which the higgler can purchase and the lack of grading and storage facilities (Lewars 1982).

The Project

Having looked at the resource management efforts in Jamaica as a whole, and at the Two Meetings and Pindars River watersheds in particular, we can comprehend better the Government of Jamaica/USAID Second Integrated Rural Development Project, which aims to raise the incomes and standards of living of 4,000 hillside farmers and their families through soil erosion control and improved agricultural practices.

The IRDP developed directly from the work undertaken by the FAO between 1967 and 1975. After starting a scheme to institute a watershed management project in the Lucea/Cabaritta area of western Jamaica, FAO went on to do an evaluation study of the government's watershed protection and soil conservation programs. Its 1973 study focused on the physical features, water resources, social conditions, and cropping patterns of Jamaica's watersheds, as well as on the legislative and institutional aspects of the problem.

In 1977, FAO presented a detailed proposal for the rehabilitation of the Two Meetings and Pindars River watersheds. The thrust of the program was to encourage

soil conservation practices which would improve production, reduce soil loss, improve the efficiency of fertilizer applications, increase crop production, encourage mechanization, utilize farm labor more fully and attract young people back into agriculture.

The Project Paper for the IRDP was essentially a cut-and-paste edition of the 1977 FAO report. The substantive changes were: (1) relatively more emphasis was placed on the crop production aspects of the program; (2) components on small farmer organizations, credit, marketing, and extension were called for but not planned in any detail; (3) much of the valuable technical and social information in the FAO report is excluded; and (4) project life was reduced from ten years to five years.

With a budget of US$26.2 million, the overall goal of the six-year[1] project is to "improve the standard of living of small hillside farmers in rural Jamaica.... The subgoal is to establish an agricultural production model that can be replicated on small hillside farms in Jamaica's watersheds" (USAID 1977:20). To reach this goal and subgoal, the project has three purposes: (a) increase agricultural production on small hillside farms in the Pindars/Two Meetings watersheds; (b) control soil erosion in the watersheds; (c) strengthen the capability of the Min Ag's human resources (USAID 1977:20).

There are also activities of an "integrated" nature -- road-building, employment generation, water, electrification, and the like -- but these are to be supportive of the objectives of controlling soil erosion and increasing agricultural production and incomes.

The success of the IRDP is dependent upon the ability of the project administrators and field officers to get farmers to change the way in which they manage their land resources. Instead of allowing water and soil to run freely down the slopes, they are to construct and maintain hillside ditches or bench terraces; instead of planting root crops on steep slopes, they are to plant food trees or coffee trees; instead of planting on marginal lands, they are to establish forest plantations; instead of planting yams in individual hills, they are to plant them in continuous mounds running across a slope; and instead of minimizing costs on labor, fertilizer and sprays, the farmers are to intensify their use of these inputs.

Since the inception of the project in 1977, the project's goals and activities have been expanded to include a total of thirteen components: soil conservation, extension, agronomy, research, forestry, land acquisition, small farmers' organizations, credit,

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[1]The project was intended to last for five years, but because of a late start-up in implementation, the project life has been extended by one year, to February, 1983.

marketing, home economics, communications, engineering works, livestock, and training. Despite these additions, however, the core project activities still revolve around resource management objectives -- soil conservation, agronomy, and extension.

The IRDP, which falls under the portfolio of the Ministry of Agriculture, has until recently maintained a fairly autonomous management system.[2] The two watersheds are divided into 20 subwatersheds (12 in Pindars, 8 in Two Meetings), each of which has between 100 and 200 families. On paper, each subwatershed is staffed by a soil conservation officer, an extension officer, a home economics officer, and three field assistants; this gives the IRDP the extraordinarily low farmer/officer ratio of 35:1. In fact, however, not all of the subwatersheds are fully staffed. In each of the two watersheds, these field officers (depending on their job) are under the supervision of a senior soil conservation officer, a senior extension officer, or a senior home economics officer, all three of whom report to the assistant project director for that particular watershed. At the top of the organizational chart is the project director. In addition, there are officers in charge of each of the components listed above, some of whom (e.g. soil conservation, agronomy, extension, credit, marketing, home economics) have been supported by short- or long-term expatriate technical assistants.

To derive benefits from the IRDP, an individual farmer contacts an extension officer, and together they draw up a farm plan. The plan includes soil conservation treatments (which is compulsory if the farmer is to get any other benefits), proposed cropping, and loan information. For the first two years of the project, the farm plan was 26 pages long and included a variety of information one would expect to get from a survey questionnaire; recently, however, the farm plan has been reduced to a more manageable four pages.

Once the farm plan has been drawn up and has been approved at the head office, implementation can begin. The soil conservation officer and his field assistants line out the terraces or ditches, which are then dug by the farmer and/or hired labor of his own choosing. The subsidy on soil conservation work is 75 percent, so if the farmer contributes his own labor (or even is he doesn't),[3] he can make money through his participation (assuming even a moderate opportunity cost). The Project also supplies

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[2]For an insightful analysis of the management structure of the IRDP, see Armor et al., 1981.

[3]The subsidy rates are based on estimates of how much earth a man can movein a day. The rates are also based on a laborer earning the government minimum wage (now $13 a day), well above what the farmer actually pays his laborers.

planting material at highly subsidized rates. In one year (April, 1980 - March, 1981), the project supplied farmers with 10,500 citrus seedlings, 44,500 coffee seedlings, 1500 coconut seedlings, 11,000 banana suckers, 25,000 pineapple suckers, and 12,000 yam heads.

The project also has within its budget provisions for a limited number of subsidized houses and water tanks. Through their local-level Development Committees (Blustain 1982b), communities can also get springs entombed, marketing depots, farm trucks, and playing fields. With IRDP funds, the Rural Electrification Programme is extending electric lines in sections of the watersheds, and the Public Works Department is constructing or rehabilitating 22 miles of roads.

Having seen in general terms why the project is needed and what it is trying to do, the next two chapters will take a closer look at the specific objectives, methods, successes, and problems of the project's two main resource management goals -- soil conservation (Chapter 3) and agricultural productivity (Chapter 4).

Chapter 3
SOIL CONSERVATION

The need for a comprehensive soil program in Jamaica can be appreciated from a cursory examination of the topography of the island. Approximately two-thirds of the island's bedrock is limestone, a condition which makes the soils susceptible to erosion (IICA 1978:2). In addition, 25 percent of the island's surface area is on slopes of greater than 30 degrees, a slope category which is generally considered unsuitable for agriculture; slightly over 50 percent of the land is on slopes greater than 20 degrees (FAO 1973:49).

The IRDP, accordingly, has not been the government's first attempt to promote soil conservation measures. A soil conservation officer was first appointed by the colonial government in 1944, and in his initial report, outlined the problems and remedies associated with soil erosion (Lester-Smith 1946). In 1954 a soil conservation division was established within the Department of Agriculture (Department of Agriculture 1955), and by the late 1950's there were several land authorities established in severely eroded areas of the country. One of these, the Christiana Area Land Authority, encompassed what is now the Two Meetings watershed of the IRDP area.

Starting with the Farm Improvement Scheme of 1949-1955, the government has instituted a series of programs designed to develop the agricultural sector, and most of these have provided grants and subsidies for soil conservation. The technology for these early attempts was consistent with the recommendations of the colonial advisor. "The important prerequisite of all soil conservation works and measures (is) that these should be as simple as possible and as cheap as is consistent with efficiency and durability" (Lester-Smith 1946:2). The soil conservation treatments recommended to farmers consisted of vegetative and rock barriers, grass strips, strip cropping, cover cropping, and contour trenches.

That many of these earlier programs were ineffective can be seen by the fact that the IRDP is still trying to rehabilitate a watershed which was under the management of the Christiana Area Land Authority for 22 years.

As noted earlier, between 1967 and 1975, FAO conducted an evaluation of the government's resource management program. In addition to highlighting the critical condition of the Pindars River and Two Meetings watersheds, the study came up with several recommendations concerning the need for inter-agency coordination, land capability guides and the like. Commenting on previous programs, it also found that

"Many of the simpler or less expensive and less permanent conservation treatments in the past were inadequately designed and implemented, resulting in uneconomic and ineffective programmes. Jamaica needs more permanent or effective types of conservation measures because of the steepness of the slopes and higher rainfall intensities" (FAO 1973:3). Much of the blame for the failure of the previous programs was attributed to technically inappropriate technology -- the social appropriateness of the technology was only superficially explored (pp. 51-54). The soil conservation program for small farmers in Jamaica, designed by FAO technicians provided most of the rationale, objectives, data, and technology for the IRDP.

The IRDP Approach

The primary aim of the IRDP's soil conservation activities is to reduce the amount of soil that is lost through run-off. Studies conducted at the government-operated Smithfield demonstration farm showed that yam cultivation on untreated land of an unspecified slope resulted in a soil loss of 53 tons per acre per year; with bench terraces the loss was seven tons. In banana cultivation, soil loss was 74 tons per acre per year, compared with 6.7 tons under bench terraces (USAID 1977:K 4). Thus, the Project Paper claims that "Success will be achieved . . if soil erosion is reduced from an average of 53 tons per acre per year in 1977 to seven tons two years after the end of the project" (p. 20). In this regard, it is interesting to note that soil loss studies are only now being undertaken within the project area to establish actual benchmark levels.

To achieve these soil conservation objectives, the project has established three sets of activities, each being administered as a separate component. The most important of these involves terracing, ditching, and other earth-moving operations supervised by the soil conservation unit. The forestry component is establishing pine plantations on steeper, more marginal land in the hope of taking that land permanently out of food crop production. And the extension component is promoting agricultural practices, such as yam cultivation on continuous mounds, that reduce soil loss during the production process. Each of these three strategies requires some changes in the farmers' usual farm management style, and each has achieved a different measure of success.

The Soil Conservation Component

In keeping with the perceived need for more "permanent" soil conservation treatments, the FAO technicians devised an array of measures -- bench terraces, hill-

side ditches, orchard terraces, individual basins, and mini-convertible terraces. What these treatments have in common (with the exception of individual basins, which are simply holes for seedlings in which the earth is replaced with a back-slope) is their highly technical nature. Each of them must have a horizontal grade of one percent and a reverse grade of between five and ten percent. To carry water off of these structures, waterways are needed. Although the great majority of waterways are made of pre-fabricated cement modules (which have caused tremendous construction, transportation, and breakage problems), the original FAO designs called for seven different types of waterways, each with its own shape (parabolic, rectangular, or trapezoid), channel protection (grass, concrete, or stone), velocity limit, slope limit, and uses.

Specification tables are issued to each officer which provide the details of spacing, vertical intervals, and subsidies, all of which are themselves dependent on slope and soil type. Hand levels, dumpy levels, and measuring rods are among the paraphernalia needed to lay out a ditch or terrace. All of the soil conservation officers are graduates of the Jamaica School of Agriculture, and both they and the field assistants (who are secondary school graduates) have been given several refresher courses by the project.

It was originally envisioned that 17,700 acres would be treated in the two watersheds. The expectation that this amount of land could be treated was based upon several assumptions, most of which have been proven unfounded: that two-thirds of the work could be done by machine (in fact, less than a third of the work is performed by machine; steep slopes and poor access were not adequately considered); that machines could work twelve hours a day (on two shifts), six days a week, nine months of the year; and that contiguous plots would be treated in one fell swoop. In 1979, the goal was reduced from 17,700 acres to 10,600 acres; in 1980, it was reduced again to 8,500 acres. By March, 1981, the approximate mid-point of the project, 1,929 acres had been treated.

The procedure for establishing the treatments is for an extension agent and an individual farmer to draw up a farm plan in which the proposed soil conservation for that farm is outlined. The soil conservation officer or one of his field assistants then "lines out" the ditch or terrace with stakes and markers and instructs the farmer in what he is supposed to do and how he should dig. When the farmer is finished, the officer comes back, checks the work, and adjustments are made. If the officer is satisfied, the farmer is issued a payment voucher to cover the subsidized portion of the

work. It is now the farmer's responsibility to maintain the treatment and to ensure that it will serve its intended purpose of conserving the soil.

There are several dimensions along which the IRDP's soil component can be evaluated. First, there is the cost of establishing the various treatments. As will be seen, the high (and rising costs) preclude its replicability in other areas of the country. Second, there is the question of maintenance. Farmers are not maintaining their treatments, thereby ensuring that soil erosion will continue to be a problem in the future. Failure to maintain the facilities properly is due to three general factors: the attitudes of farmers, the system of extension used by the project, and the economics of agriculture in the area. Third, there is the appropriateness of the technology to the farmers. The relevant considerations here are the insecure tenure under which some farmers operate their land and the inability of farmers to transfer the treatments from one plot to another.

Cost. The designers of the IRDP clearly intended the project to be a test of the replicability of the soil conservation package for the rest of Jamaica. The current cost of the soil conservation treatments, however, all but precludes its replicability. Extending the project to the estimated 150,000 hillside farmers in Jamaica would cost approximately $900 million (Armor et al 1981:25).

Since the Project Paper was written in 1977, the costs for establishing the various treatments have risen dramatically. By September 1980, the per-acre cost of machine-built terraces had risen from the initial estimate of J$755[1] to J$1100; hand-built terraces, from J$1249 to J$2800; hillside ditches, from J$470 to J$490[2]; orchard terraces, from J$600 to J$1130. With labor and material costs continuing to rise, the prices of these treatments can only go up.

It could be argued that the costs are justified if the treatments are maintained and if the technology is appropriate for the hillside farms. However, neither of these two conditions is met.

Maintenance. Amending somewhat the FAO/UNDP report of 1973 (which blamed unsuccessful soil conservation programs on inadequate design and implementation), the IRD Project Paper claimed that "Failures of soil conservation efforts in other countries

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[1]Presently, U.S. $1 equals J$1.78.

[2]The small cost increase for the ditches is due to the fact that the Project Paper cost includes individual basins as well, whereas the current estimates are for the ditches alone.

and in Jamaica have seldom been due to inadequate design or construction; they have come from poor maintenance and negligence" (p. K 11). This reflects the statement by Lester-Smith, the first colonial soil conservation officer in Jamaica, about "the paramount importance of the proper and continued maintenance of all soil conservation works" (1946:3). To achieve sustained maintenance, the Project Paper proposed the organization of "special inspection teams," the application of soil-binding chemicals, hydro-seeding, and special loans for maintenance work. In fact, none of these measures have been instituted.

In a study conducted in early 1981 by the author and a senior soil conservation officer from the IRDP (Blustain 1981b), 58 farmers, all of whom had been participating in the program for two years, were surveyed to assess the impact of the project on their farm operation. One of the concerns of the study was a field-checking of the soil conservation treatments to determine the quality of construction and of maintenance. On the whole, construction was good. Maintenance, on the other hand, was generally inadequate.

Several indicators were used to measure the quality of maintenance on each of the various treatments, such as whether the toe drain leading to the waterway was clear, the condition of the risers, and the grassing of risers. Most important, however, was the category "General Maintenance", where, for a total of 99 different plots of treated land (including bench terraces, hillside ditches, orchard terraces, individual basins, and waterways), we found eleven cases of excellent maintenance ("what we would demonstrate to farmers as the proper way of doing things"), 49 cases of average maintenance ("what we saw was adequate, but some improvement is needed") and 39 cases of poor maintenance ("what we would show to farmers as an example of how things should not be done").

After only two years, it appears that many farmers were letting their treatments deteriorate and these would probably be of little use within several years. Many of the cases in the "average" category were receiving little or no maintenance, and it was a matter of time before they eroded sufficiently to put them in the "poor" category. The problem of unmaintained treatments was addressed in a memo by the project director in October, 1980. On proposing new procedures to deal with the problem, he stated that, "The days of just treating lands for treatment sake is over."

There are several reasons why farmers are not putting in the time and effort needed to ensure the future productivity of the land, and these reasons are instructive in their lessons for rural development.

First, however, it is necessary to dispense with one explanation for the farmers' failure to maintain properly -- ignorance. In an early report on soil conservation in Jamaica, Blaut and others (1959:420) argued that "It is clear that the chief hindrance to soil conservation is lack of awareness on the part of farmers that serious erosion exists, or alternatively, that anything can be done about it". While this may have been true in another time, in another part of Jamaica, it is certainly not true of the farmers within the IRDP project area, especially those who had been exposed to the Christiana Area Land Authority for 22 years. Farmers were well aware of the basic causes of erosion (steep slopes, inadequate ground cover, heavy rainfall), its effects (lower productivity), and its remedies (hillside ditches, permanent crops, grassing). In addition, many farmers have instituted their own methods of soil conservation. By pegging long bamboo poles called "bridges" horizontally across the slope, water runoff is slowed down and, after several years, a small terrace is built up. Furthermore, farmers can be quite articulate about why they have adopted the practice. Ignorance, therefore, cannot be blamed for farmers' failure to maintain their treatments.

Three factors contribute to the lack of maintenance. The first reason -- lack of proper extension work -- will be discussed in Chapter 5. A second explanation -- the attitude among farmers that it is the government's responsibility to pay them to do maintenance -- will also be explored in that chapter. The factor we will focus on here concerns the economics of treatment maintenance.

The literature on the economics of soil conservation deals primarily with the short-term costs and the long-term benefits of soil conservation programs. Among the important issues are future prices as the key to the profitability of proposed practices (Miller 1981:10), and the rate of interest or discount that should be used in determining future costs and benefits (Held and Clawson 1965:26). Of particular importance is the time horizon within which farmers can expect to make a return on their investment. Some studies have indicated that "a farmer would need 40-60 years before the benefits of averting the loss of productivity . . . would match the costs of undertaking the measures" (Brubaker and Castle 1981:2). One study indicates "the cost of reducing soil erosion to tolerable levels to be three times as expensive as the benefits" (Rosenberry, Knutson and Harmon 1980:134). One gets the impression, from a cursory reading of the literature, that the economics of soil conservation remains a mystery to many of the experts.

> If the links between farm practices, soil loss, productive capacity, and capital value are clear to the owner, then one might expect the system to again be largely self-regulating in this matter. However,

> those links often are murky, even to specialists, and it would be very difficult for a farmer to incorporate them rationally into his planning. (Brubaker and Castle 1981:3).

Since the cost of soil conservation is paid for by the government, the individual farmer does not have to worry about regaining his investment over the long run; all future gains are, in principle, his profit. Yet the critical issue for both the farmers and the project is the cost of the labor needed for the maintenance of the treatments. Although no reference is made to this in the IRD Project Paper, the 1977 FAO proposal for the rehabilitation of the two watersheds estimated the amount of labor required to maintain each of the treatments: bench terraces, 15 man-days/acre/year; hillside ditch, 5 man-days/acre/year; orchard terrace, 5 man-days/acre/year; waterways, 8 man-days/acre/year. Thus, if a farmer's three-acre plot (to take an example) has two acres of hillside ditches, one acre of bench terraces, and the necessary waterways, he should be prepared to commit, according to the best-known estimates, 49 days of labor to the maintenance alone.

This is quite a large expenditure of labor, particularly if the farmer relies on hired labor for most of his labor input. Assuming an average daily wage rate of J$8, maintenance alone would cost the farmer J$392 a year. In an area in which, in 1974, per capita income, including the value of subsistence production, was J$306, this represents an untenable expense to the farmer, even given a rise in income over the past decade. And as will be shown in the following chapter, no increase in agricultural productivity that would give the farmer the profits to afford that expenditure is likely.

It could be argued that there are times of the year when there is little agricultural work to be done and when the farmer's own opportunity cost is close to zero; these seasons, it could be claimed, would be good times to spend on maintenance. Yet most of the repair work is required during the rainy seasons, when terrace walls or the risers on ditches have a tendency to erode away. And it is these times that are also the peak season for agricultural work.

Appropriateness. A final set of arguments concerning the soil conservation component centers around the appropriateness of the technology adopted by the IRDP in terms of land tenure and the ability of the farmer to replicate the treatments.

Land Tenure. Land tenure concerns the system of rights which people exercise over land. For a farmer to establish bench terraces or hillside ditches he must have security of tenure which clearly grants him the right to do so.

There are several forms of tenure in the hills of central Jamaica. First, there is land which is owned. Included in this category are "buy land" (where the farmer himself has bought the land) and "family land" (a situation in which land use rights are shared by members of a family because of a common inheritance). While there are important differences between these two types of owned land, they are both characterized by security of tenure. Second, there is the category of leased land. As leases are usually long-term, they allow the operator a degree of freedom in his management of the land. Most of the leases in the project area fall under the government's Project Land-Lease, in which leases are granted for periods up to 49 years. These two forms of tenure -- owned and leased land -- can be classified as secure forms in that the farmer has long-term access to the land and can make a range of management decisions.

There are also several insecure forms of tenure. Renting, like leasing, involves a farmer operating a piece of land by paying the owner a fixed sum for its use. Such an arrangement is short-term (usually one year, with an option to renew) and involves restrictions on what the operator can do (e.g. on planting permanent crops, uprooting sugar cane, or instituting soil conservation measures). Rent-free land is where the owner allows his trusted friends or relatives to work the land free of charge for a limited period. This is usually done where the owner is leaving the area for a while and wants to ensure that his interests are being looked after. Captured land, also called squatting, involves a person setting up his own little farm on land which is unutilized and over which the owner, for any number of reasons, does not exercise his right of possession.

The difference between secure and insecure tenure has important implications in the way in which the land resources are managed. If a farmer is uncertain that he will be farming that plot in the following year, he will be reluctant to plant coffee, build terraces, or take any other steps which will ensure the continued productivity of the land. Similarly, if he is restricted in the ways he can use the land (as he is when land is rented, rent-free, or captured), it is equally unlikely that he will make long-term improvements on the land.

The problems involved in insecure tenure have long been recognized. An early annual report from the Christiana Area Land Authority (1957:2-3) presents the problem most forcefully when it states that:

> . . .short-term tenant land . . . is, without doubt, the main factor in bad land usage and the chief cause of erosion. As far as the well-being of the people on these tenanted lands is concerned, the system constitutes a menace. It matters not whether it be occupation by

> short term tenancy of a complete holding or small sections of large properties, or of the renting of small plots from a small holder, the system is thoroughly bad for both land and people.
>
> Every parcel of rented land in the CALA is abused and eroded. On them there are no trees, no permanent crops, no houses, no animals, no planned rotation, and no 'life', and it is upon these factors that keeping the land in fertility, and the people in good heart, depend.

The problems of insecure tenancy are two-fold. First, if a farmer is going to rent out land, it is likely to be his least productive land -- land which is steep, has eroded soil, or has poor access. He would retain for his own use the more productive plots. Thus, much of the land being operated by someone other than the owner is apt to be poor and vulnerable land to begin with. Second, the farmer who rents that land has no interest in maintaining or improving the quality fo the land. He knows that his tenure is short-term and thus, he is not concerned with the long-term productivity of the plot. His strategy is often just to exploit the land for the limited time he uses it. There is no incentive for him to plant such crops as coffee and other trees or to establish soil conservation measures. Further, as Edwards (1961:217) found, farmers "feared that work on soil conservation measures on rented land might encourage the owner to take back his land sooner than he would if no soil conservation measures were undertaken".

Given the precarious nature of these lands, one would assume that getting short-term operators -- and the land they farm -- into the project would have been a high priority of the project planners. In fact, however, by relying on capital-intensive measures, they have all but excluded those farmers from participating in the scheme. In other words, insecure tenancy is effectively barring many farmers from participating in the program and is thus ensuring that the land most urgently in need of soil conservation measures is not being treated.

To assess the inability of the project to protect insecurely-held lands, two sets of figures can be compared. First, there is the distribution of land under the various forms of tenure throughout the two watersheds. These data were obtained through a survey of the project area (Blustain and Goldsmith 1979). Second, there is an analysis of 1063 farm plans drawn up for farmers throughout the watersheds. On the farm plan is a table in which the extension officer lists all of the plots operated by the farmer and the tenure under which they are held.

The problem of insecure tenancy and participation can be examined from two perspectives -- the proportion of <u>farmers</u> operating lands under insecure tenancy who are participating in the project, and the number of <u>acres</u> managed under insecure tenurial forms which are being treated.

Turning first to the farmers, they can be divided into three categories -- those who farm all of their land under secure forms of tenure (own, lease), those who occupy all of their lands under insecure tenurial arrangements (rent, rent-free, and captured), and those who operate various plots under both secure and insecure forms of tenure. Table 3.1 shows the percentage of farmers in each category, both for the watersheds (WS) as a whole and as reflected in the farm plans (FP).

Table 3.1

TENURE OF FARMERS IN THE WATERSHEDS AND FARM PLANS

Type of Tenure	Two Meetings		Pindars River	
	WS	FP	WS	FP
All secure	55.7%	87.6%	66.8%	87.6%
All insecure	17.4%	1.7%	10.3%	3.2%
Both secure and insecure	24.4%	10.7%	20.6%	9.2%
Not Stated	2.5%	---	2.3%	---
TOTAL	100%	100%	100%	100%

It is obvious from these figures that the project is not reaching or helping those farmers who operate their lands under insecure forms of tenure. In the Two Meetings watershed, for example, almost a fifth of farmers manage all of their lands on a rented, rent-free or captured basis. Yet less than two percent of farmers participating in the IRDP operate their land on that basis. In both watersheds, it is primarily those farmers owning or leasing their land who are coming into the project. The inescapable conclusion is that the IRDP, albeit indeliberately, is concentrating its resources on those farmers with secure access of their land, and is not involving those farmers who operate their land under more insecure forms of tenure and whose land is most likely to be in need of treatment (Blustain 1980:25).

It is also valuable to examine the problem from the perspective of the land itself. Table 3.2 compares the percentage of acreage under each form of tenure in the watersheds as a whole and as represented in the farm plans.

Table 3.2

PERCENTAGE OF ACRES UNDER VARIOUS FORMS OF TENURE

Form of Tenure	Two Meetings		Pindars River	
	WS	FP	WS	FP
Secure	73%	94%	78%	95%
Insecure	27	6	22	5

Here again, there is a predominance of owned and leased land which appears in the farm plans. In Two Meetings, 73 percent of the land in the watershed is owned or leased; yet 94 percent of the land covered by the farm plans is owned or leased. At the same time, 27 percent of the acreage is operated under insecure forms of tenure, but is only six percent of the area covered in the farm plans.

The reason for the project's failure to reach those farmers operating insecurely-held land lies in the fact that capital-intensive soil conservation treatments are inappropriate where the farmer (a) has only short-term access to the land, (b) has no interest in improving the long-term productivity of the soil, and (c) does not have the legal right to institute improvements on the land unilaterally.

Replicability of the Technology. The lining out of a bench terrace or hillside ditch requires a fairly complicated series of measurements. The horizontal grade is one degree, with a back slope of five to ten degress. This requires the use of a hand level and measuring pole. The ditches are spaced at approximately 33 foot intervals (the "approximately" depending on the slope of the hill). Waterways are made of prefabricated concrete which are manufactured by the IRDP's own team of waterway makers.

Given the sophisticated nature of the technology, it would be next to impossible for the average farmer to replicate a terrace or ditch on a newly-acquired piece of land or on a plot which, while the project was in operation, had not been treated.

Thus, the overall question becomes one not just of the sustainability of the treatments that are established, but whether soil conservation work can continue without the intervention of a government program.

The Forestry Component

The IRD Project Paper proposed that 5000 acres of marginal land be established in plantations of Caribbean pine. These trees would not only help bind the soil, but they would ensure that the land was not used for the production of food crops.

Of the 5000 acres, 2000 are to be planted by individual farmers on their own holdings. The cost of plantation establishment is subsidized by the project, so sales of the lumber constitute profit to the farmer. The remaining 3000 acres are to consist of publicly-owned land which is now either under the control of the government or to be sold by farmers to the government.

For plantations established on privately-held lands, the government covers 60 percent of the cost of establishment and pays for the first three years of weeding. In addition, a bonus payment of J$40 per acre per year is paid to the landowner for the first five years of the scheme. Although these subsidy arrangements seem quite generous, they actually amount to about one-half of the subsidy per acre for forms of soil conservation treatment such as bench terraces and hillside ditches.

As of April, 1981, a little over 1200 acres of forest had been planted -- precisely the acreage that should have been established by that time (IRDP 1981:18).

The forestry program has run up against some problems, of course, but these have not been too serious. Some of the seedlings arriving from the nursery have been undersized or in poor condition, and this has resulted in some seedling mortality; but on the whole, the mortality rate has been acceptable. Drought or direct sunlight also contribute to some mortality. Some farmers allow cattle to graze in the plantations before the seedlings are of a sufficient height, and this causes some trees to be trampled. In a very few cases, the pine seedlings died because the farmer failed to remove the trees from their plastic bags before planting them.

A more serious problem that has threatened to slow down the progress of the component has been delays in the selling of private lands to the government. Many farmers have offered their land for sale, but government regulations require that the farmer produce a registered title. Most farmers do not have such a document, and the $700 or $800 that the farmer would get for selling the land is not enough to encourage him to go through the expense (about $400) and hassle (a six-month wait and lots of red tape) to obtain his title. As of May, 1981, the project had been offered 650 parcels of land, but because of the title requirement, only two had been purchased.

In general, farmers have been enthusiastic about the forestry activities. For the most part, the land upon which they plant the pine trees has been marginal land, lying in fallow, from which they were deriving little or no income. Figures supplied by the component head estimate that over a twenty-five-year period, the farmer can earn J$60,800 per acre through the sale of timber, with an input cost of J$40,000 spread over the twenty-five years.

To a large extent, the success of the forestry component has been due to three factors. First, the component head has been energetic and able to motivate his field officers. More importantly, he has recognized the importance of repeated extension visits to the same farmers. And perhaps most important of all, subsidies are spread out over an extended period and are dependent on adequate maintenance of the plantation.

The Extension Component

The extension component, although concerned primarily with the achievement of the project's agricultural production goals, also has an important role to play in the program's soil conservation activities. First, it is the extension officers who are supposed to encourage farmers to maintain their soil conservation treatments. Second, by promoting land use planning on the basis of land capability, it is expected that appropriate crops will be planted on the steeper slopes. And third, new cultural practices are being recommended to farmers which should help to stem the flow of soil down the hillsides.

Supervision of Treatment Maintenance. The project officers within each watershed are supposed to operate as a team. Although the soil conservation officers have the prime responsibility in establishing the treatments, extension agents should also see that they are maintained. That they have not been uniformly successful should be apparent from our earlier discussion.

Promotion of Land Use Planning. When a farm plan is drawn up, the extension officer draws a land capability map of the farm on which he indicates soils, soil depth, slope, and other limiting factors. In principle, this information is supposed to help the officer and the farmer plan appropriate cropping for that farm. In fact, the application of this principle has varied.

As we will see in the next chapter, farmers have been enthusiastic about the planting of permanent tree crops on their holdings. The idea of receiving highly subsidized coffee, cocoa, mango, and citrus seedlings, as well as the prospect of relatively low labor costs and future income, is appealing to the project's farmers. Where such plantations have been established on steep slopes formerly planted out with food crops, a definite step has been taken toward the reduction of soil erosion.

Where trees or pasture are not established, the extension officer may recommend that the farmer not plant certain crops (especially such root crops as ginger, yams, or potatoes) on the steeper parts of his holdings. However, because there is no systematic

follow-through in the extension of information, advice and assistance to farmers, farmers have the tendency to plant crops where they have usually planted them and where they know they will get a reasonable immediate yield. Where the farmer's land resources are small, he may continue growing ginger on a 30^{o} slope through lack of an alternative.

Although the farm plan outlines anticipated cropping patterns for the following several years, it is questionable whether it serves as a guide for the farmers' operations. Each farmer receives a copy of his plan, and most of them keep it in the same plastic bag that they keep birth certificates, titles, voter registration cards, and other valuable, but rarely-consulted, documents. Farmers continue to plant on the basis of practice and perceived market conditions, and there is little evidence that efforts to promote long-term, soil-conserving cropping patterns will be realized.

Improvement of Cultural Practices. Most of the project's recommendations on cropping -- such as use of fertilizers, weed and pest control, and spacing -- are oriented toward increasing the farmers' production and productivity. In one case, however, cultivating yams in continuous mounds, the rationale for the practice included the reduction of soil erosion.

Traditionally, farmers plant their yams on individual hills about 24 inches in diameter. Each hill may contain two or three yam heads, the vines of which climb up a tall (usually bamboo) pole to gain access to sunlight. Experiments at government research farms have led agronomists to advocate the planting of yams in continuous mounds. By planting yams heads along a raised mound which extends continuously along the contour of a hillside, it is argued that several advantages are realized: (1) the mound provides a barrier for the run-off of water down the slope, thus enhancing erosion control; (2) yam heads can be planted closer together, thereby increasing the yield per acre (under the traditional hill method, a farmer can plant up to one thousand hills an acre); (3) by planting the yams closer together, more vines can run up a single pole, thereby cutting down on the labor and material costs of yam poles; and (4) by cutting furrows straight across the hillside instead of willy-nilly through the field, labor requirements are reduced.

With such obvious advantages, it would seem surprising that of the 22 yam fields investigated, only two were planted under the continuous mound system; the other twenty were planted according to the customary hill system.

The low rate of adoption can be explained in several ways.

First, many extension officers do not push the practice strongly; it may be suggested to farmers, but few participating farmers claim that they had ever been given practical instruction in how to dig such a mound.

Second, although mounds have been touted by agronomists as a labor-saving method, farmers who have tried it, claim that it is more labor-intensive. And with rising labor rates, this is not seen as an advantage.

Third, farmers claim that because the yams are planted closer together, the vines become more entangled and, in high winds, this causes the vines to pull from the roots. Under normal conditions, this may not be a major problem, but in 1980, the first year in which many farmers were trying the continuous mounds, Hurricane Allen brushed the island with 60 and 70 mile-per-hour winds.

Fourth, recent experiments at the government-operated Allsides research farm indicate that the mature yams cultivated on continuous mounds weigh less than those grown on individual hills. This is because when the yam heads are planted closer together, a greater number of vines are competing for sunlight. The total yield from both methods is about the same, but continuous mounds require twice as much planting material. Government agronomists defend this by saying that smaller yams are more marketable.

Fifth, the spring of 1980 experienced a drought, which may have reduced the yield of all yams, regardless of how they were planted. Yet because this was the first year that farmers had tried the mounds, they may have blamed the poor yields on the new practice.

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Before discussing issues of agricultural production, and before analyzing the problems faced by the IRDP, its experience with regard to resource management can be summarized as follows.

In an attempt to promote soil conservation in the two watersheds, the IRDP has attempted to change the ways in which farmers manage their land resources. Through the terracing and ditching of land, farmers were expected to maintain a system which would reduce surface run-off. By establishing plantations of Caribbean pine, they would be taking marginal land out of food crop production. And by changing their land use patterns such as adopting the practice of continuous mounds, farmers would be reducing the amount of soil lost through erosion.

Farmers' acceptance of these practices has been varied. While they have been enthusiastic about building the terraces and getting the subsidy, they have not committed the resources necessary for long-term maintenance. The forestry program, on the other hand, has generally been well-received by farmers. The recommendations of the extension officers for the most part have not been accepted.

Chapter 4
AGRICULTURAL PRODUCTION

In this chapter, we will look at the agricultural objectives of the IRDP and see what changes have been instituted by the project. After a brief discussion of cropping patterns in the two watersheds, we will examine the project's agricultural goals. This will be followed by an analysis of the two main areas in which the project has tried to have an impact on the farmers' resource management strategies -- land use patterns and the adoption of new agricultural practices.

Cropping Patterns

The IRDP area is characterized by a diversity of cropping patterns. Although almost all farmers practice some form of multiple cropping, the specific crops vary from area to area.

In Two Meetings, the northwest corner of the watershed specializes in bananas. As one moves around the area, one encounters mixed cultivation based on combinations of yams (Dioscorea spp.), peas (mostly red peas, Phaseolus vulgaris), ginger, bananas and Irish potato. There are also permanent tree crops such as coffee and ackee (Blighia sapida). The predominance of one crop varies among districts. In the northwest corner of the watershed, for example, where bananas are the major crop, one farmer even has his own boxing plant and ships bananas to England under his own label. In the eastern section of the watershed, enough farmers grow ginger to have formed a marketing cooperative.

Pindars River watershed is more diverse in its micro-climates, soil types, and rainfall patterns. As one moves southeast along the tilted rectangular watershed, one finds the dominant crops to be cabbage, sugar cane, coffee and banana, citrus, gungo peas (Cajanus cajan), pasture (mostly Seymour grass, Andropogon pertusus), mango, and finally, mixed cultivation with a concentration of sorrel (Hibiscus sabdariffa).

The variety of cropping patterns varies not only over space (which involves distances of just a few miles), but time as well. Kellits exemplifies the historical transformation of agriculture in this region. Originally a slave plantation specializing in sugar, coffee and rum, Kellits (or Far Enough as the community was then known) became after the 1838 Emancipation a tenanted estate based on mixed cultivation. By the turn of the century, farmers renting land from the estate were growing yams and peas, but were concentrating on bananas, which they sold to the United Fruit Company

on the north coast; during the mid-1920s, there were even newspaper reports that United Fruit was planning to buy the 5065-acre estate. With the coming of the government land settlement in 1929, farmers were given title to and security over their holdings, and they began to plant tree crops. They also started to cultivate ginger as a dominant crop, a change prompted by the large influx of settlers from Christiana, who brought the planting material and techniques with them. In the 1940's the Worthy Park estate started buying cane from small farmers, and this started a shift back to sugar cane. The past five years has seen a greater emphasis on coffee; while this had always been a cash crop in the area, the world market prices, combined with the availability of seedlings through the IRDP, has stimulated farmers to expand their coffee cultivation.

Other areas exhibit their own patterns of evolution, as well. In the Sandy River district of Pindars, the dominant crop used to be yam; this was complemented by cane in the 1940's and 1950's. In the early 1970's, the KK variety of cabbage was introduced, and this has led to a rise in income, a greater demand for land, the entrance of more young people into agriculture, and a profusion of pick-up trucks, as farmers gained access to more lucrative markets.

Christiana in the Two Meetings watershed has also followed its own path. Although much of the land in the area was Crown Land, it was captured by small settlers in the mid-nineteenth century. In the 1860s, when the banana trade with North America began, the area became one of the most important banana-growing regions of Jamaica. This crop continued to be predominant until the 1930s, when the production of Gros Michel bananas (the dominant type grown) was cut in half by the introduction of Panama Disease and Leaf Spot Disease. By 1944, when there was a severe hurricane, the banana industry in Christiana had been all but wiped out. The other major crop in the area, coffee, was also adversely affected by the Great Depression. In place of these two crops, farmers started cultivating yams and ginger, both of which have contributed to soil erosion problems. After 1945, the Lacatan bananas were introduced, a variety resistant to Panama disease. With the help of the Christiana Area Land Authority, which was established in 1954, many farmers once again turned to bananas as the mainstay of their economy.

In addition to demonstrating that the evolution of cropping patterns must be viewed on an area-by-area basis, and over time, these brief synopses also indicate the responsiveness of the Jamaican farmer to market conditions, government policies, and other outside interventions. Contrary to the notion of peasants as slaves to their agricultural traditions, just waiting for a government program to show them a "better way," small farmers have always been aware (with greater or lesser degrees of

sophistication and understanding) of options and alternatives in their cropping patterns. And the great variety of government programs that have been implemented in Jamaica since 1945 has also made farmers sensitive to, and wary of, proposals from outside agencies.

Project Goals

Based upon research done at government agricultural stations, the project planners set as the IRDP goal "an average increase in rural incomes of 250 percent to participating farmers" (USAID 1977:20). This projected increase within the five-year life of the project was based upon the gross value of production which could be expected after the establishment of soil conservation measures and intensive cropping. For example, yields per acre of Irish potatoes were expected to increase from 2.5 to 4.5 tons; yam, from 3 to 6-8 tons/acre; bananas, from 50 to 600 stems; coffee, from 20 to 300 boxes; and oranges, from 40 to 350 boxes.

It should be noted, however, that from these yield projections, income levels are calculated to be 2.5 times higher at the end of the project than they were at the beginning; yet 2.5 times the base figure is an increase of 150 percent, not 250 percent (Davis 1981:11).

The Project Paper anticipated that an evaluation of the agricultural model would occur two years after the completion of the project.

> The goal of increased agricultural productivity will be achieved if 75 percent of the farmers in Pindars and Two Meetings are maintaining the treated land two years after the project's end and are practicing multiple cropping, intensified farming techniques using higher-value crops appropriate to their own circumstances.[1] (USAID 1977:20)

To see if there were signs of increasing agricultural productivity, a mid-project impact study (see the preface) assessed two aspects of farmers' cropping patterns. The first were changes in land use patterns. Although not an explicit goal of the project itself, a shift in the crops farmers plant would indicate a change in the way they are managing that land. The second criterion of evaluation was is the intensification of cropping patterns. The Project Paper is very explicit in the establishment of multiple cropping and more extensive use of inputs as its primary goals.

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[1]Although the project goals include the introduction of higher-value crops, the Project Paper also maintains that "Future crops in the two watersheds will not differ substantially from those grown there now" (USAID 1977:37).

Land Use Patterns

To determine if there had been changes in land use, each of the 58 farms in the sample was remapped. By comparing our map with that drawn up by the extension officer on the farm two years earlier, we were able to check the changes in cropping patterns. This on-the-farm investigation confirmed that there have been significant changes in land use in some areas.

In drawing up the farm plan maps in 1979, some of the officers were very explicit about the types of crops they saw growing on the farms. Others, however, utilized the conventional symbols (GP for ground provisions, PC for permanent crops, etc.), thus preventing a detailed comparison and analysis of the specific shifts in cropping. For the sake of clarity, most of the data will be presented in terms of major crop categories. These categories are:

1) Fallow -- This is not a well-defined category, as there is no common consensus on what constitutes the difference between ruinate, fallow, and unimproved pasture. Different officers, viewing the same piece of land, may label it differently. This proved to be a problem in our evaluation, since what the farm plan referred to as, say, a half acre of unimproved pasture might be seen by us as a half acre of fallow land. What distinguishes this category from the others, however, is the fact that there are no cultivated crops on the land.

2) Permanent Crops -- Included in this category are coffee, cocoa, citrus, and such food trees as ackee, paw-paw, and avocado pear, among others.

3) Semi-permanent Crops -- Three main crops comprise this category: banana, plantain, and sugar cane.

4) Ground Provisions -- This is the largest of the categories, consisting of the food crops grown by farmers: yam, coco yam, cassava, ginger, peas, beans, sweet potato, Irish potato, and others.

5) Forestry -- This category refers specifically to trees planted under the supervision of the forestry component of the IRDP.

The prevalence of intercropping complicates the situation. In the case of ground provisions (e.g. yams and peas, or potato and pumpkin), this mixture of crops presents no problems in terms of "confounding the categories." Other forms of intercropping, however, cross the boundaries of the categories presented here -- for instance, banana (semi-permanent) and coffee (permanent). Where this occurred, either it is noted specially in the tables below (where it is an important aspect of the area's cropping system) or both crops were submitted under the category of permanent crops.

The sections and tables below present data on changes in cropping patterns in each of four selected areas, starting with the Kellits and British areas in Pindars River.

TABLE 4.1: Land Use -- Kellits
15 farms, 42.75 acres

	% of Land in Each Category	
Crop Category	1979	1981
Fallow	35%	8%
Permanent Crops	15%	29%
Semi-permanent and Permanent Crops	20%	31%
Semi-permanent Crops	28%	9%
Ground Provisions	1%	6%
Forestry	--	6%
Land in Preparation	--	11%

Clearly, over the past two years a big shift has occurred. There is more land in production (fallow land has decreased significantly), with an increase in land devoted to permanent crops (coffee and citrus) and food crops (primarily yam). Significant, too, is the decrease in the amount of land in pure-stand banana and sugar cane (semi-permanent alone). The category marked "Land in Preparation" resulted from an early bug in the survey; where farmers were in the process of preparing their land for cultivation, it was not always determined what was the crop to be planted.

TABLE 4.2: Land Use -- British
14 farms, 76 acres

	% of Land in Each Category	
Crop Category	1979	1981
Fallow	60%	39%
Permanent Crops	21%	42%
-(citrus)	(10%)	(33%)
-(other)	(11%)	(9%)
Semi-permanent Crops	7%	6%
Ground Provisions	12%	10%
Forestry	--	3%

The main shift in this area has been a decrease in uncultivated land and a concommitant increase in permanent tree crops, especially citrus.

TABLE 4.3: Land Use - George North
12 farms, 39 acres

	% of Land in Each Category	
Crop Category	1979	1981
Fallow	35%	29%
Improved Pasture	3%	10%
Permanent Crops	19%	16%
Banana	9%	8%
Ground Provisions	33%	34%
Forestry	1%	3%

The only significant change here involves less fallow land and more improved pasture, although once again, it should be noted that these two categories are not always easy to distinguish on the ground.

TABLE 4.4: Land Use — Yankee Valley
17 farms, 43.9 acres

	% of Land in Each Category	
Crop Category	1979	1981
Fallow	49%	40%
Permanent Crops	9%	10%
Semi-permanent Crops	26%	26%
Ground Provisions	16%	27%
Forestry	--	1%

The primary change in the Yankee area has been a decrease in fallow land and a corresponding increase in the land devoted to ground provisions. The increase in this sample of food crops, however, represents a growth from 7 to 11 acres.

It is evident from these data that the impact of the project on land use has been greater in Pindars than in Two Meetings. The change in Pindars is characterized by an increase in the area devoted to permanent tree crops, especially citrus and coffee. The shift, while facilitated by the project, has been a response by farmers to what had

become unfavorable market conditions for their traditional crops. Fewer trucks and higher prices for transport, along with rising wage rates, had made cane an unprofitable crop for small farmers. Bananas, too, which had at one time been the mainstay of the Kellits economy, were no longer a viable export crop due to the distance to the nearest boxing plant (17 miles) and the high rejection rate. Many farmers expressed the view that they had continued to grow these crops over the years, because it was "what they knew." In the British area, farmers had been in a particularly deep rut. With a dry climate, poor infrastructure, and few marketing outlets, farmers in that area had had few opportunities and little incentive for increasing their area of cultivation; in this sense, the I.R.D.P., with its subsidized seedlings, has given those farmers an opportunity to plant more citrus.

In Two Meetings, on the other hand, the changes have not been insignificant. To begin with, farmers in that area have long benefited from better marketing outlets, roads, and government services. Specifically, the Christiana Area Land Authority for 22 years provided farmers with concentrated extension and more readily-available inputs. In addition, George North was the site of a 1961 land settlement in which tenants, who had been subject to various restrictions on land use (e.g. no sturdy buildings, no permanent crops), were given the title to the land. The land settlement was administered by CALA, which provided farmers (including those in the Yankee Valley area) with the grants and subsidies to institute major land-use changes; this, along with the general lack of emphasis on tree crops in the area, accounts for the stability in the amount of land devoted to permanent crops. In the case of food crops, acreage is not being significantly increased for two reasons, both of which will be expanded on later: (1) catch crops[2] are labor-intensive and the cost of labor is increasing; and (2) market conditions were, at the time of the study, unstable, therefore giving farmers little incentive to expand their acreage of these crops. In addition, cultivating more land may be beyond the management capabilities of the farmer.

On the whole, it is difficult to state unequivocably whether the changes (or non-changes) in land use are a good thing or a bad thing. In the case of British, for example, it could be argued that increasing citrus production -- for which there is currently a good market demand -- will help to raise the incomes of farmers. On the other hand, however, the terrible (and during the rainy seasons, non-existent) roads and the lack of trucks have led to a situation in which even the crop currently being produced cannot

[2]Catch crops are those crops which the farmer plants in limited quantities. If the crop does well, he can "catch" the extra income, but if not, he has lost no major investment.

get to the processing plant. Similarly, the logic of encouraging farmers to expand their acreage of any crops depends upon the marketability of that crop.

From the point of view of soil conservation objectives, the changes in land use are encouraging. Although land in fallow does not pose a major erosion threat, the planting of much of that land in permanent tree crops ensures that the land will not be used for food crops. Also, the small, but universal, increase in forested land will help to achieve the soil conservation goals.

Acreage in production is only one aspect of the crop production component of the IRDP Of greater importance -- at least in the eyes of the designers and implementors of the project -- are the cultural practices by which these crops are produced. This is what the framers of the project referred to as the "production model".

The Production Model

Ideally, changes in agricultural productivity would be best measured by detailed cost/return data from a sample of "real" farms. There is no mechanism for this to be done by IRDP staff, and data from a one-shot sample survey would not have yielded the right kinds of information. Thus, in the absence of such data, we felt that the best means for assessing change would be to measure the rate of adoption by farmers of those practices which are associated with the projected increase in productivity. We assumed that if farmers had adopted the recommended practices, then, regardless of their actual present yield, they were "on their way" to achieving the desired results; where farmers had not adopted the necessary practices, the assumption was made that they are not likely to achieve the desired increase in productivity and income.

Thus, in our impact study, five indicators of the improved cropping model were chosen: intercropping, fertilizer use, use of spray materials to control disease and pests, continuous mounds in yam cultivation, and the mortality rate of seedlings supplied by the project. The fifth aspect is not a cultural practice per se, but the survival of the planting material is an important factor in assessing the future production and income of farmers.

It should be pointed out that in regard to the first three indicators -- intercropping, fertilizer use, and spray use -- there have been no clearly established and definitive guidelines established by the project. Although the Project Paper presents a long annex with detailed cost/return data for various crops, there are few indications of the types of inputs used to achieve those yields. For all crops, the amount of labor is precisely doubled, but the types, amounts and timings of fertilizer or spray applications are not documented. Nor are there data on the planting times or spacing of intercrops.

The officers are, of course, trained technicians, and most of them are aware of the "correct" cultural practices for the cultivation of various crops. Yet even the work done on the project's demonstration farms has not been disseminated to the extension component, and field officers have received no standardized list of practices which they should encourage farmers to adopt. Thus, in assessing the adoption of correct practices, we had to establish our own measures of what constituted "correctness." This was done by asking extension officers what practices they were recommending to farmers. This approach ignores, of course, that a farmer may be utilizing a practice more suitable for his local conditions, but it does give us a base from which to proceed with the analysis. Where appropriate, and for purposes of verification, I have indicated the standards we used.

Our survey of 58 farmers included an assessment of 90 fields on which crops were established. By "field", we do not mean "parcels" of land, but rather distinct sections of a farm which are devoted to specific crops. One parcel, for example, may have a field in banana, another in yam and peas, and yet another in cane. These 90 fields were planted out with 13 main crops: yam (22), coffee (18), banana/plantain (15), citrus (9), Irish potato (8), gungo peas (6), sweet potato (3), red peas (3), pineapple (2), coco yam (1), maize (1), cabbage (1), and tomato (1).

Intercropping. The Project Paper anticipates the establishment of an agricultural model based on "continuous multiple-cropping techniques". It is important to note that almost all farmers practiced multiple-cropping before the project began. It must be remembered, as well, that the farmers surveyed had been participating in the IRDP for two years.

In Table 4.5 the data are organized on the basis of the number of fields on which the main crop (1) had no intercrop; (2) was intercropped properly; or (3) was intercropped improperly.

Only 21 of the 90 fields we observed (23 percent) were properly intercropped; almost half (10) of these involved new coffee, where the seedlings and the banana suckers had been lined out by project officers.

The symptoms of improper intercropping were varied. The major reason had to do with spacing. In some cases, the spacing was too close; in most cases (particularly with peas) the spacing was too far; and in all cases, the spacing was not done systematically. In some cases, overpopulation of too many kinds of plants created unhealthy competition; for example, one farmer had planted corn and Irish potato in the same hole at the same time. In one area, the officer had instructed the farmer to plant the coffee

TABLE 4.5: Intercropping

Main Crop	No Intercrop	Properly Intercropped	Improperly Intercropped
Cabbage	1	0	0
Citrus	7	1	1
Coco	1	0	0
Coffee (new)	3	10	5
Corn	0	1	0
Gungo Peas	3	1	2
Irish Potato	4	1	3
Pineapple	2	0	0
Plantain/Banana	3	5	7
Red Peas	3	0	0
Sweet Potato	0	2	1
Tomato	1	0	0
Yam	15	0	7
TOTAL	43	21	26

seedlings on the individual basins and the banana suckers on the mounds, a reversal of accepted practice.[3]

From these data, it seems that only a minority of farmers are adopting the recommended practices of intensive intercropping. If such a system is a precondition for the attainment of the desired increase in production and income, then the project -- and the farmers --have a long way to go to meet this goal.

Fertilizer Use. Assessing of fertilizer use involves several distinct questions: Is the farmer using any fertilizer at all? If so, is he using the right type? At the right times? In the right quantities? Using the right method?

The Use of Fertilizer. Table 4.6 presents data on the number of fields on which fertilizer was used, broken down by the area and by the specific crop. The column marked "Yes" indicates the number of fields on which fertilizer was used, regardless of the type, quantity, or timing of application. The column marked "No" shows the number of fields on which no fertilizer at all was used.

Fifty-nine of the 90 fields -- or about two-thirds -- had had some amount of fertilizer applied to them. Analysis of fertilizer use reveals significant differences along two dimensions -- area and crop.

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[3]When the findings of this study were presented to the field agents, there was considerable discussion about which practice was, in fact, best.

In terms of area, it is clear that the farmers in the British area of Pindars do not use much fertilizer on any of their crops. This is primarily because there are no supply stores in the area, transportation is scarce and expensive, and farmers in that district are among the poorest in the two watersheds. In the other three areas, on the other hand, fertilizer -- and the means to transport it -- are more readily available.

Although the number of observations for some crops is small, there also appears to be a variation in the types of crops for which farmers use fertilizer. Yam, for

TABLE 4.6: Fertilizer Use

	Number of Fields							
	Kellits		British		George North		Yankee Valley	
Main Crop	Yes	No	Yes	No	Yes	No	Yes	No
Cabbage	--	--	--	--	1	--	--	--
Citrus	1	1	1	5	1	--	--	--
Coco	--	--	--	--	1	--	--	--
Coffee (new)	7	3	1	5	--	--	--	2
Corn	--	--	--	--	1	--	--	--
Gungo Peas	2	1	1	2	--	--	--	--
Irish Potato	--	--	--	--	4	--	4	--
Pineapple	--	--	--	--	--	--	2	--
Plantain/Banana	4	2	--	1	3	3	1	1
Red Peas	--	--	--	--	--	--	3	--
Sweet Potato	--	1	--	1	--	1	--	--
Tomato	--	--	1	--	--	--	--	--
Yam	4	--	--	--	7	1	9	1
TOTALS	18	8	4	14	18	5	19	4

example, is one crop for which farmers go to the trouble and the expense of using fertilizer; 20 of 22 fields had had some amount applied. Similarly, all eight fields of Irish potato had been given some fertilizer, probably because of the education and services provided by the Christiana Potato Growers' Cooperative. Other crops are generally neglected when it comes to adding nutrients to the soil. It is surprising that new coffee (except in the Kellits area) was not a crop which was generally given fertilizer.

Type of Fertilizer. A second question is the type of fertilizer which farmers are using on various crops. For some crops, more than one application was made, often with different formulas; thus, our unit of analysis was each application itself. In all cases, we will indicate the type of fertilizer which the extension officers say is correct for that crop, and then indicate the number of applications which entailed the use of the right or the wrong fertilizer.

Coffee -- Soil additive at time of planting; 6-18-27

Correct -- 2

Incorrect -- 10

Citrus -- Soil additive at time of planting; 6-18-27

Correct -- 1

Incorrect -- 1

Plantain/Banana -- Sulphate of Ammonia at time of planting; 12-4-28

Correct -- 3

Incorrect -- 12

Corn -- 16-9-18

Correct -- 0

Incorrect -- 1

Cabbage -- 12-24-12 or 7-14-14

Correct -- 2

Incorrect -- 0

Tomato -- 7-7-14

Correct -- 1

Incorrect -- 0

Yam -- 6-18-28 or 12-24-12

Correct -- 13

Incorrect -- 16

Irish Potato -- 6-12-28 or 12-24-12

Correct -- 6

Incorrect --2

Red Peas -- 12-24-12

Correct -- 1

Incorrect -- 3

Gungo Peas -- 12-24-12

Correct -- 1

Incorrect -- 1

Of the 76 applications of fertilizer used on all of the crops, 26 of them -- or one-third -- entailed the use of the correct type; 50 involved the use of the wrong type of fertilizer. Two caveats are in order. First, not all types of fertilizer are always available to the farmer in all areas; a few farmers stated that they had had to buy other types of fertilizer even if they knew these were not the best ones. Second, we do not imply that the 50 incorrect applications represented a total waste of the farmers'

resources; some nutrients were derived from even the incorrect fertilizer. However, if the aim is a maximized farming system, then these incorrect fertilizers were suboptimal.

Timing of Applications. Analysis of the data reveals that most farmers are aware of the correct times to apply fertlizer. Of 86 applications made on ten crops, 65 were made at the correct intervals after planting. The one crop for which the timing of applications presented a problem was coffee, where 8 of 12 applications were made at the wrong intervals. On citrus, one of two applications were correctly timed; on yams, 22 of 29; on bananas, 9 of 15. All applications on Irish potato (8), red peas (4), gungo peas (3), corn (1), cabbage (2) and tomato (1) were made at the right times and intervals.

Amount of Fertilizer. Given the fact that farmers will spread a bag of fertilizer on several different crops, it was not possible to determine the exact amount of fertilizer used on each crop. Thus, our analysis is more impressionistic than quantitative.

Many farmers apparently do not know the amount of fertilizer to be used on crops. Often, farmers use too much fertilizer. Some complain that it causes their yams to "burst," a sign of over-fertilization.

Method of Application. Farmers also need to be educated on the correct method of applying fertilizer. Some broadcast it through their crop, others build small mounds at the base of the stem. In many cases, particularly on vegetables, incorrect application causes a burning of the leaves.

Use of Spray Material. Our survey revealed that not many farmers -- especially in Pindars -- use spray to control pests and diseases. Table 4.7 presents data on the number of fields of each crop for which spray had been used.

TABLE 4.7: Use of Spray Materials

Crop	Number of Fields	Number of Fields Sprayed	Percentage of Fields Sprayed
Cabbage	1	1	100%
Citrus	9	0	--
Coffee (new)	18	0	--
Gungo Peas	6	1	17%
Irish Potato	7	6	86%
Plantain/Banana	15	5*	33%
Red Peas	3	2	66%
Sweet Potato	3	0	--

*In all cases, spraying was done by the Banana Company

Although the non-availability and cost of spray are two factors accounting for the low use of spray material, it is not the full story. Many farmers were ignorant of which sprays cured which problems; some farmers were using fungicides where insects were the problem, and vice versa. In addition, farmers have a tendency to use the same type of spray three or four times in succession, instead of mixing them or rotating them; in such cases, the insects had developed an immunity to that type of spray. Finally, few farmers use sticker in their spraying formula.

Continuous Mounds. In the previous chapter, continuous mounds were discussed in regard to their role in soil conservation. Agronomically, the practice was designed to reduce labor and yam pole costs to the farmer and increase yield and income. For reasons outlined in Chapter 3, the practice has not been adopted.

Seedling Mortality. Seedling mortality is an important indicator of future production. In our survey, we gathered data on the mortality rate of coffee and citrus seedlings supplied by the IRDP. The rates presented below are based upon farmers' own estimates and our own field checking.

Coffee. On the fourteen fields for which mortality data were gathered, approximately 4875 seedlings had been planted. Of these, an estimated 1535 had died. This translates into a 31 percent mortality rate.

Citrus. On the nine fields for which such data were gathered, 365 of 1000 seedlings had died, for a 37 percent mortality rate.

While some mortality is expected, the rates for both crops are high. As with most things, there are multiple reasons for this. In some cases, the nursery supplied poor planting material. In other cases, the seedlings had too long a wait before they were distributed to farmers. In other cases, farmers were negligent in their planting; several cases were uncovered of farmers failing to remove the plastic bag around the roots before planting it. Many examples were found of coffee and bananas being planted at the same time, thereby depriving the coffee of the needed shade which a more mature banana plant would have provided.

* * * * * *

The five indicators chosen to assess the progress of the agricultural production model indicate that farmers -- at least those who have been in the project for two years --have not adopted the practices necessary for the desired goal in production to be met.

1. Twenty-one of the 90 fields we surveyed (23 percent) were properly intercropped. Twenty-six fields were improperly intercropped, and 43 fields (48 percent) were not intercropped at all.

2. Two-thirds of the crops observed had had fertilizer applied to them. In most (two-thirds) of these cases, however, the incorrect type of fertilizer had been used. Most farmers are knowledgeable about the times at which the nutrients should be applied.

3. Many farmers do not use spray material; nor do they have the knowledge about the types of and differences between various sprays.

4. Very few farmers are planting their yams on continuous mounds.

5. The mortality rate for project-supplied seedlings is in the order of 35 percent.

Analysis Of The Findings

In another day and age, the preceding discussion might well have concluded with a rousing condemnation of the conservative and tradition-bound peasant. While farmers have been cautious about adopting the production model, it cannot be explained away by holding up the "straw-peasants" of tradition or fear.

To understand the reason for this lack of adoption, it is necessary to look at three aspects of the situation:

(1) Although the new technology anticipates an increase in the use of such inputs as fertilizer and sprays, there is usually, especially in Pindars River, an inadequate supply of those materials.

(2) Similarly,the Project Paper anticipated a doubling in the amount of labor required to adopt the recommended practices. In fact, it is very difficult for farmers to mobilize that amount of labor.

(3) While farmers were being encouraged to produce more food, there was little consideration of the actual demand for those crops which farmers were being encouraged to plant.

Availability of Inputs

The Project Paper assumes that farmers would be willing and able to increase significantly the amount of inputs they use in production. Planting materials, as indicated before, are usually supplied by the project. Yet other physical inputs, particularly fertilizer and sprays, are difficult for the farmer to obtain. This problem

has two dimensions: the national import situation and the ability of the farmer to buy the materials and transport them to his farm.

The Importation of Inputs. Jamaica produces very few of the material inputs needed for agricultural production and, as a result, is dependent upon imported inputs. With a dramatic decline in the foreign reserves of the country, it is not surprising that there has been a decline in the amount of inputs which have been imported. Table 4.8 shows the quantities of tools, fertilizers, chemicals, and planting materials that have been imported for the past five years (1975-1979) for which figures are available.

TABLE 4.8: Importation of Inputs

		QUANTITY				
INPUT	UNIT	1975	1976	1977	1978	1979
Tools						
Machetes	No.	419,898	73,145	41,368	168,135	209,354
Forks	No.	24,647	17,387	8,906	19,945	10,704
Hoes	No.	16,194	9,045	2,095	14,359	1,332
Fertilizers						
Ammonium Sulphate	Short Ton	25,698	25,824	22,330	26,919	27,407
Ammonium Nitrate	Short Ton	558	503	546	286	139
Superphosphates	Short Ton	4,817	3,176	1,640	1,650	4,171
Potassium Chloride	Short Ton	10,406	10,149	9,533	6,293	9,657
Urea	Short Ton	7,401	2,687	1,861	1,060	2,423
Chemicals						
Insecticides	Short Ton	2,851	1,017	943	977	959
Fungicides	Short Ton	4,068	6,739	5,145	5,928	5,428
Weedicides	Short Ton	457	265	208	1,787	499
Planting Materials						
Seed Potato (Irish)	Short Ton	2,066	3,565	3,672	1,742	187
Vegetable Seeds	Short Ton	65	2,301	110	198	32
Banana Plants	No.	328	---	350	---	---
Cocoa Plants	No.	317	500	190	---	---

Source: Ministry of Agriculture, Data Bank and Evaluation Division.

All but three (ammonium sulphate, fungicides and weedicides) of the fifteen categories of items showed a decrease in imports, this during the same period that the Ministry of Agriculture was devising an agronomic package (for nationwide replicability) that required an increase in inputs. Even where there has not been an absolute decline in the amount of inputs being imported into Jamaica, the fluctuation and variation effectively acts as a barrier to long-range planning and to consistent increases in agricultural productivity. Farmers cannot adopt a more input-intensive cropping system when the availability of those inputs is subject to uncertainty.

Local Availability. The uncertainty of obtaining the right inputs at the right time is magnified at the local level, where the scarcity of input stores, poor transportation facilities, and high costs serve to reduce the amount of inputs that farmers can use.

The first problem to be considered is the distribution of sales outlets throughout the watershed. The Two Meetings watershed is served by at least five stores in Christiana and Spaldings. A few are privately-owned but the bigger ones are operated by organizations such as the Jamaica Agricultural Society, the Christiana Potato Growers' Cooperative, and the Jamaica Livestock Association. Each store may lack specific items, but given time and patience, the farmer can often get the input he needs.

In Pindars River, on the other hand, there are few places at which farmers can buy their fertilizer or tools. A few shops may occasionally carry a few items, but there are no shops that carry the variety of stock as those in Two Meetings. South of the watershed, in Morgan's Pass, is a Jamaica Agricultural Society Store, but that has been closed for a few years because of lack of goods. The nearest and most dependable are in May Pen or Spaldings (the latter being in the Two Meetings watershed), each of which is a two-hour bus-ride from Kellits.

Transportation, too, is a problem. Many fields are not close to a road, and even where the farmer can get a bus or taxi to take several bags of fertilizer to his home, there is still the task of getting it to the fields. The cost of transport is also a deterrent. Depending on the distance and mode of transport, getting the product from the store to the field may add considerably to the cost of the input.

Each type of input also has its own special problems associated with it. Fertilizer, for example, is one-third subsidized by the government. But instead of applying the subsidy at the dock or the wholesale outlet, the farmer has to obtain from his extension officer a special form so that he can get the discount at the retail store. This involves some delay and often considerable hassle. A further problem with

fertilizer is that there are many kinds, each of which is crop-specific, and few stores carry the variety of fertilizers which would allow the farmer to buy the type most appropriate for a particular crop. Farmers, therefore, are often forced into buying a fertilizer which gives them sub-optimal results.

Sprays are generally available, but some farmers find it difficult to find a mist-blower or spray-pan with which they can apply the weedicide, fungicide, or pesticide. Even when other farmers in the community do have these items, the charge for material and labor may deter some farmers from utilizing the input.

Vegetable seeds are sold in one-quarter, one-half, or one pound containers. For a small farmer, who may be interested only in sowing a small back-yard kitchen garden, these sizes are too large and may result in a large portion of wasted seeds.

The results on the use of inputs, therefore, must not be viewed solely in terms of the failure of the farmers to innovate or the failure of the project to provide proper extension. There is a serious problem with the supply and distribution of inputs, and this has contributed to the low adoption rate by farmers of a more input-intensive cropping system.

Labor Mobilization and Utilization

Labor is one of the most important inputs in the agricultural process. The production model advocated by the Project Paper foresaw a doubling in the use of labor. In addition to increasing the farmers' production capacities, it was anticipated that "Long-term employment opportunities will be created by the increased need for labor generated by establishing continuous and intensified cropping techniques" (USAID 1977: 19). In fact, an increased labor requirement was seen by planners as a benefit accruing from the project (P. J23).

The rationale for adopting a more labor-intensive cropping system was based on what was perceived to be the vast reservoir of rural unemployed youth. Regarding the mobilization of workers for soil conservation activities, the Project Paper asserts that

> Hiring labor is not expected to be a problem, however, for the target group, farmers under five acres. On the contrary, the considerable underemployment on small farms, especially during the drier seasons of the year when crop production activities are minimal, means adequate labor will be available. (USAID 1977:J14)

The bodies are certainly there, but no investigation was made into the terms under which the farmers would be able to employ those bodies for non-subsidized activities. An examination of the three major sources of farm labor -- hired, household, and

exchange -- reveals the existence of significant constraints around the ability of the farmer to recruit twice his normal amount of labor.

Hired Labor. Farmers throughout both watersheds contend that they would have no problem hiring labor if they had the money. The problem, in other words, is the expense of labor, not the availability of laborers. From its inception until the middle of 1981, the project has generated over 160,000 man-days of labor. Much of that labor was employed directly by farmers and involved the cutting of ditches, the building of terraces, the planting of tree crops, the establishment of forestry plantations, and other project activities. On the surface, this short-term employment generation is a boon to farmers -- the farmer can hire labor courtesy of the project and earn a contractor's fee besides. In fact, however, it means that farmers have generally had to pay higher wages rates; and this cost of labor is cited by farmers as the major deterrent to labor use.

Project-related wage rates are calculated on the basis of a $13-a-day minimum wage, a figure significantly above the average daily rate. In some cases, where the laborers are paid directly by the project, this has had the effect of diverting available labor away from farming operations and toward the more lucrative project-related work. In British, for example, where the forestry component is establishing a 299-acre plantation on government land, the 22,000 man-days generated in that area have made the wage rate ($10-12) for agricultural labor the highest in the two watersheds; and British is, by most reckonings, the poorest district in the project area. With the labor force preferring to work on the better-paid forestry activities, farmers must offer higher wages if they are to recruit the labor they require.

Even though the farmers themselves do not pay their laborers $13 a day, the greater overall demand for labor, combined with the increased expectations of laborers, have caused a rise in the wage rate. Evidence indicates that the daily rate for agricultural labor in the two watersheds is as high as -- and usually higher than -- the rate in surrounding non-project communities. Around May Pen, for example, the rate is $6-7; in Morgan's Pass, $6-8; around Allsides (where there is another government project), $8-10. The rates around the project area are: Kellits, $9-10; British, $10-12; Yankee Valley, $6-8; George North, $8-10.

While the farmer, therefore, can get short-term benefits from project subsidies, the lasting effect has been an increase in wage rates, either because the laborers can get more pay working directly for the project; or because the farmer who needs labor

for his everyday operations must now compete for labor with other farmers who are utilizing subsidized labor they would not otherwise employ.

This situation would not necessarily be bad if the farmer was getting a return from his crop which would allow him to meet the labor cost. In 1981, however, prices had fallen, and the farmer was in the position of paying inflated wage rates while getting lower returns. Ironically, by creating short-term employment, the project is making it more difficult for farmers to hire the labor needed to adopt the cropping system which would generate long-term employment opportunities.

Household Labor. A recent report from the Allsides project (IICA 1980a) claims that its agricultural "techno-pack" (which is similar to that of the IRDP) would "create a demand for labor." Based on several (untested) assumptions about household structure (e.g. 300 working days in a year, four persons in each household between 14 and 65 years of age who would be available for farm work, few school attenders in the rural areas), the report optimistically projects that with the exception of peak periods, the household could easily accommodate a cropping system which doubled the current labor requirements.

In fact, harnessing household labor is a difficult task for most farmers. In the sample of 58 farmers, only 30 used any amount of household labor (excluding the farmer himself); even among these 30, many of them claimed that this help came only on the infrequent occasions when the children were not attending school or the spouse was not tending to domestic or marketing matters.

The difficulty with the Allsides study is the assumption that household members, particularly those in their teens and above, would be willing to work for free or for pocket money alone. Most young people would prefer to work outside the farm sector or, failing that, to work for wages on other farms; in many cases, farmers reported that they have had to pay their sons to work on the farm, thereby erasing the presumed advantage of "free" household labor. Farmers often prefer that their sons work off the farm; the additional income is often used to meet household expenses.

A related factor militating against the retention of labor within the household is the fact that farmers control the land until they either die or retire from active work. Although the concept of family land allows for the sharing of land between members of a family, it is unusual for the son to exercise his claim while his father is still active. Assuming that the farmer is fifty and has fifteen more years of active life left in him, it is unreasonable to expect the son to hang around and work on the farm for the fifteen or so years it would take for his father's death to give him control.

Exchange Labor. The system of day-for-day exchange labor, while an important factor in meeting the labor requirements of some farmers, cannot supply the manpower needed for continuous intensive cropping. This system is more important in Pindars, where 12 of 39 farmers reported that they worked with partners at various times during the year; in Two Meetings, only 3 of 29 claimed to have done so. This is primarily due to the labor requirements of cane-cutting, in which the crop from one field must be moved off quickly; day-for-day is particularly suited to this sort of labor mobilization.

On the surface, labor exchange would seem ideal for farmers with little cash to invest in their farm operation; by giving a few days of his own labor, he can expect the same amount in return. Two factors, however, inhibit its more widespread adoption. First, many farmers claim that they have had bad experiences with it; labor given has not always resulted in labor returned. Second, many of them argue that they only work for other people when they need the wage income; in other words, day-for-day does not generate the income for which they would enter the labor market.

In sum, the agricultural model which the project is encouraging the farmers to adopt depends upon a doubling of labor use. Yet the mobilization of labor presents a great constraint on the adoption of that system. Farmers are being encouraged by the project to increase their labor input at a time when the project is raising the cost of labor to the farmer through its own employment generation activities and at a time, as we shall see in the next section, when they are experiencing a drop in the demand and prices for their produce.

The Problem of Markets

A final deterrent to increased production is the uncertain market for the farmers' produce.

Markets can be viewed in two ways: the actual path by which produce moves from the producer to the consumer, and the overall demand for that produce. In both senses, the Jamaican farmer has found that the market presents major constraints on his ability to increase his agricultural production.

Market as Path. With its focus on food crops, the IRD Project Paper asserts that "The availability of market outlets for farm produce is not judged to be a major constraint to increased production since both higglers and the AMC (Agricultural Marketing Corporation) are active in the project area. However, the performance of the marketing system is a constraint to farm income, and project activities are

intended to improve that performance" (USAID, 1977:38). As it turns out, however, both the AMC and the higglers do pose problems for the farmer.

The Agricultural Marketing Corporation has collection facilities in each of the two watersheds, but the amount of produce which it buys from farmers is well below what the farmers can supply. Other problems with the AMC include the long distances from the farm gate to the collecting stations, the cost of transportation, and the low price paid by the AMC. (For a detailed analysis of the AMC, see Lewars 1982.)

Higglers are preferred by farmers as an outlet for their produce, primarily because of the convenience. Higglers sometimes come into the fields to do their own reaping and selection. By providing transportation, they also save the farmer time and expense. The higglers also offer prices which are competitive with, and often better than, those offered by the AMC. Unfortunately, because the higgler buys only as much as she can carry on her head, her donkey, or the roof of a country bus, she can buy but a small amount of produce from the farmer. The farmer, therefore, must rely on the services of several different higglers, and at certain peak periods of the year, it is often difficult to coordinate the optimal reaping times with the availability of higglers.

Neither option provides the farmer with a dependable means of selling his produce. In a recent paper by the Marketing Division of the Ministry of Agriculture (1981:1), it is argued that "the marketing system does not have, at present, the volume wholesale distribution capability required to effect the total assimilation of large volumes of produce located in small areas into the marketing system and then distributing them to the regions where they are required." The farmers were thus being asked to produce more with no corresponding improvement in market facilities.

Market as Demand. The problem of marketing goes beyond the difficulty of getting produce into the marketing system. There is also a fundamental issue concerning the aggregate demand for that produce.

The agricultural production model of the IRDP was based on the logic that if the farmer produces more, then he can sell more; that if he sells more, he earns a greater income; and that if he earns a greater income, then he will be in a position to raise his standard of living. Yet the first assumption -- that an increase in the supply of produce would meet a demand of similar magnitude -- was never seriously explored. And one reason why farmers have not responded to the call for increased production is that there is often inadequate demand for his produce.

The winter and spring of 1981 was a particularly dreadful time for small hillside farmers; for a variety of reasons they took a beating on the marketing of their crops.

In the case of ginger, the drop in demand was due to the collapse of the demand for Jamaican ginger on the international markets. Although more pungent than roots from countries such as Taiwan, Fiji, and Nigeria, Jamaican ginger has the disadvantage of being smaller (and thus, more difficult to peel) and more expensive.

Bananas, as well, created special problems for farmers early in 1981. Farmers have usually complained about the cost of transporting bananas to the Banana Company's boxing plants, and of the high rejection rate once they got there, but this year both production and marketability were lowered by Hurricane Allen, which brushed by the island in August, 1980.

Cane and citrus were plagued by transportation problems that had been building up for several years. Both crops are dependent upon the ability of a fleet of trucks to get around the countryside and pick up the produce. With deteriorating roads -- and the financial inability of the Parish Councils to pay for their rehabilitation -- and lack of spare parts for the trucks, farmers found it more and more difficult to sell their cane or fruit. In addition, a strike at Worthy Park Estates slowed down the reaping of the cane crop.

The greatest blow to the market, however, was felt in the area with which the IRDP was most directly concerned -- food crops. With the argument that they had been elected "to put food back on the shelves," the new administration imported huge quantities of rice, flour, sardines, tinned mackerel, pork, chicken parts, and corned beef. This resulted in a serious decline in the demand for locally-grown products, especially those such as yams, Irish potatoes, and pork which are produced in the IRD Project area.

One newspaper columnist summarized the situation when he wrote about the pork glut:

> The Minister of Agriculture, Dr. Percival Broderick, has told pig farmers that his Government intends to close down Jamaica Meat Packers. He also counselled the farmers to be business-like ... study the market ... know where and to whom products will be sold. It was not good business to go on producing without knowing how the products would be disposed of. No one can quarrel with the Minister for offering, what on the surface of it, is good advice. The only problem is that the farmers were following the advice ... nay, the exhortation of the previous Government to produce, produce, produce. Farmers were told to help the Nation feed itself. Be self-sufficient!
>
> In came the JLP Government with a policy of providing cheap food. Tons of chicken necks and backs, pork tails, canned fish, dried and wet salted fish, corned beef, milk solids were imported. All well and

> good. But that Party's slogan was "Change, without chaos." The abrupt turn around has led to a chaotic situation among farmers who are now unsure whether to continue producing or get out of the business altogether and go on the job market. (Witter 1981:3)

This is not the first time that the farmers have been told to produce, only to find that there has been no market for their crops. Crop-lien programs established to encourage farmers to produce onions or red peas resulted in gluts on the market. Farmers in the western part of Jamaica were told to produce cassava in anticipation of a new flour factory, only to find that their cassava plants were ready long before the processing plant.

Although the problems that farmers encountered in 1981 were more exaggerated than usual, they were indicative of the general situation. Not only is the marketing mechanism unable to cope with the volume of produce, but the market demand is itself rather unstable and subject to the vagaries of the political process. The IRDP is thus in the unenviable position of trying to convince farmers to produce more at a time when the farmers cannot dispose of what they already have. Prices have dropped, and some farmers are talking about taking lands out of production. To make matters worse, the Project Paper's technology for achieving the desired increase in production requires additional labor and expensive inputs. If farmers have not been responding to the call for increased food crop production, it is not due to a lack of will or capability; they simply have no incentive to do so.

Chapter 5
PATTERNS OF PARTICIPATION IN THE IRDP

In the past two chapters, we have seen that the IRDP is having mixed success in meeting its resource conservation objectives. On the one hand, farmers are not maintaining the soil conservation treatments that would reduce soil loss through run-off; nor are they adopting the cultural practices that the Project Paper asserts would increase their output and their incomes. On the other hand, there are indications of positive change. With more land being put into forestry and permanent tree crops, soil loss is being reduced on some of the steeper slopes, and farmers can look forward to some added income when the trees mature. On the whole, however, it is questionable whether the IRDP will meet its overall goals.

The most obvious question is: why hasn't the project been able to achieve its objectives? Some of the answers were provided in the last chapters -- the soil conservation technology is inappropriate, farmers are not maintaining their terraces and ditches, farmers have difficulty recruiting labor, and inputs are often unavailable or expensive to transport.

Yet there is another set of reasons to consider, and these have to do with the ways in which farmers have participated in the project. As noted in Chapter 1, the ability of a government to implement an effective resource management project depends directly upon the cooperation of farmers. <u>They</u> are the people who must maintain the terraces, use the inputs, and hire the labor.

To gain that cooperation, the government has to engage the farmers in a process that ultimately changes the farmers' attitudes and behavior toward the resources they are managing. How those farmers are engaged in that process, i.e. how they participate, thus becomes a crucial question. People must become involved in the process in a manner appropriate to the task at hand. In the case of the IRDP, farmers have certainly participated in the project, but they have not done so in a way that encourages them to manage their resources better. In other words, participation is occurring, but it is the wrong kind of participation.

In this chapter we will examine the patterns of farmers' participation in the IRDP. Two general areas will be explored. First, we will discuss specifically the project's resource management activities -- the ways in which the project is getting farmers to

we will look at the project's local organization component. Although not actively engaged in the resource management endeavors of the IRDP, the project-sponsored Development Committees were created both to provide support for the more technical objectives and to furnish a basis for other, more "integrated," aspects of community development.

The Resource Management Activities

Four issues relating to the manner of farmer participation will be examined in this section:

(1) Although the soil conservation and agricultural production technologies were designed for farmers, they were not designed with or by farmers. As we have seen in the last two chapters, this has led to incorrect assumptions about the rural sector and to interventions that are inappropriate for the intended beneficiaries.

(2) Farmers participate in the IRDP on an individual basis, yet many of the projects activities are best addressed by farmers working together in groups.

(3) Soil conservation and increased agricultural production are long-term processes, yet farmers participate in the IRDP on a short-term basis only.

(4) Farmers commit no resources of their own to the project, and this has led to a general lack of commitment to the success of the project.

Participation in Planning and Decision-Making

Experience from around the world has shown that farmers must play an effective role in the planning and implementation of projects. Such participation not only provides policy-makers with the information they need to design an appropriate program, but it is also a means of stimulating enthusiasm and support within the local population. Evidence from FAO and IRDP documents indicates that there were some attempts to involve farmers in the design of the soil conservation and agricultural production technologies, but further analysis reveals that these efforts were ill-suited and inappropriate. Rather than seeking the farmers' expertise and ideas, the technicians sought farmers' acquiescence. Even where the farmers' knowledge and experiences were considered, the data obtained were superficial, second-hand, and often inaccurate. Even during project implementation, there has been little opportunity for farmers to contribute their ideas on basic policy or technical issues.

The Soil Conservation Technology. As part of their evaluation of watershed management programs in Jamaica, the FAO/UNDP technical team designed, on the government-operated Smithfield farm, a soil conservation technology which could be used by small farmers throughout the island. In 1970, it was decided to extend the technology to small farmers in the area. To test their package, the technicians chose 36 farmers operating land in Buxton, Hanover, a small watershed nearby to the research station. The farmers were taken on two tours of the Smithfield farm, "their reactions and comments were collected," and "the response was encouraging" (FAO 1977:142). After a soils and land capability survey were completed, a farmers' meeting was held to explain the program. Seventeen farmers expressed interest, and after a cost-sharing system was worked out (with farmers contributing 15 percent of the treatment cost), implementation began. In the following two years, 21 farmers operating 25 acres of land had their land terraced. A survey conducted near the end of the implementation stage revealed that "Most farmers interviewed approved the Buxton program and accepted generally the innovation of soil conservation work," although they added that there was a need for "a tangible demonstration of the conservation benefits" (FAO 1977:144). A 1975 visit to the area "revealed that many farmers were properly maintaining their terraces and many others showed interest in continuing the program." Among the recommendations made for future activities were: the need for "good follow-up, i.e. better crop production and marketing"; more mechanization; more cooperation between farmers; and more infrastructural development.

In 1975 the Government made a further test of the technology in a pilot project in the Sandy River area of Pindars River. Again, the same FAO technology was used, this time with the Government picking up 100 percent of costs. No evaluation reports are available at the IRDP office (and one IRDP officer who was involved in the Sandy River scheme says that none was done), but the Project Paper refers to a study of the pilot project which established that: (1) farmers' acceptance of the soil conservation work was "satisfactory"; (2) that more maintenance of the treatments is necessary; and (3) that the field office needs to be strengthened (USAID 1977:K6).

It was on the basis of these two pilot projects that the IRDP soil conservation program was launched. While it would appear that an attempt was made to test the technology on, and with the help of, farmers, several issues arise which lead one to question the effectiveness of these pilot projects.

First, there is little evidence that either of these two schemes led to a change in the technology that was offered to the farmers. In the case of the Buxton project, this

is hard to substantiate one way or the other, because no records could be found of the technology that was introduced in 1970. One might presume, however, that if there was a change in the method of soil conservation treatment, the 1977 FAO discussion of the Buxton project would have mentioned it. For the Sandy River scheme, on the other hand, the evidence is more conclusive. The treatments outlined and diagrammed in the 1977 IRD Project Paper are the very same ones, that appeared in the 1973 FAO report.

Second, it appears that the underlying purpose of these trials was to test the acceptability, not the appropriateness, of the program to farmers. Reading more into reports than what is written can be misleading, but it appears in both cases that the technicians were more interested in the farmers' positive reactions to the program than their constructive input. Both the FAO report and the IRD Project Paper are concerned with finding the right incentives (i.e. cost-sharing) for ensuring the participation of farmers (FAO 1977:144; USAID 1977:55).

Third, even where the pilot schemes did reveal problem areas, there is little indication that the planners did much to improve the situation in the next phase of operations. For example, both the FAO and USAID documents underscore the need to resolve certain problems: the lack of follow-through on cropping and marketing, the lack of treatment maintenance, lack of cooperation between farmers, and lack of coordination between the farmers and the extension officers. Significantly, these are the very problems that continue to plague the IRDP.

The Agricultural Production Model. Unlike the soil conservation technology, there is little evidence to indicate that the "improved cropping model" was tested out on or with farmers before the IRD Project Paper was written. In this case, however, there was an attempt made to collect information from farmers on their cropping patterns, use of inputs, and yields. Once again, questions arise about the appropriateness and effectiveness of the farmers' participation in this exercise.

In preparation for its own proposal for the rehabilitation of the two watersheds, the FAO conducted a survey of 112 farmers in both watersheds. In addition to questions that could be raised about the size of the sample, the survey suffered from at least two other problems. First,

> It was by no means a randomly selected statistical sample. The area extension officers, who acted as enumerators, were instructed to solicit the cooperation of potential respondents who, in their experience, they considered to be representative of the typical situation in the area (FAO 1977:134).

In Jamaica, as in many other countries, extension officers tend to work with the more progressive and successful farmers. Thus, the attitudinal, social and economic data upon which the FAO (and ultimately, the IRDP) model was based, was obtained from a small sample of farmers who were probably not typical of small farmers in the area.

In addition, however, the production costs were not collected from the farmers themselves.

> No attempt was made to collect information on cost of production of farmers' crops. Experience in the areas suggested that farmers maintained no records and were unable to recollect all their various transactions in the production process. When questioned on production costs they tended to rely on the prompting of the enumerator to suggest appropriate estimates. It was, therefore, decided to utilize standard cost of production data for project analysis and to adjust, where necessary, to reflect local differences (FAO 1977:134).

Much of that standard cost of production data is itself secondary or tertiary and is somewhat suspect. Tables showing costs of production for specific crops were "based on estimates by Agricultural Production Officers" (1977:220). And it is these estimates upon which the estimates in the IRD Project Paper are based.

In addition to these data, the Project Paper makes veiled references to "experimental results at the Smithfield research station" (USAID 1977:J21). None of these data are presented, however, and thus the details of that research were effectively removed from the design or implementation stages of the project.

It is clear that the planning and design of the agricultural model for the IRDP was done without the active participation of the small farmers who were the intended beneficiaries. Surveys were conducted, but the nature of the questionnaire (in which farmers' input was limited to what they could recall from the previous year) renders the accuracy and relevance of the data highly suspect. Estimates of current levels of production, along with the projected increases, were not derived from any "on-the-ground" research which could adequately measure the present or future productive capabilities of small farmers.

Participation in Technological Implementation. The failure to incorporate appropriate farmers' participation into the design of the soil conservation and agricultural production technologies has been extended into the implementation phase of the project. The IRDP maintains five demonstration and research centers at which variety

trials and farmers' tours are conducted. In addition, the project has started establishing fifty "sub-centers," which are to be mini-demonstration plots on the holdings of farmers. The farmers are supplied with intensive extension advice and free inputs for a period of two years, and in return, the farmer is expected to conduct tours for his neighbors and keep records on his costs, inputs and returns.

In fact, however, neither of these two approaches adequately allows for farmer participation in the development or evaluation of cropping systems or soil conservation technologies. The variety trials on the five project centers provide no means for farmers to contribute their ideas or experience; they are taken on tours, but there is no real attempt made to elicit their ideas or to act on their suggestions. Surprisingly enough, the problem also occurs in the reverse sense: farmers have difficulty in reaping the benefits of the lessons learned on the research farms. In other words, there is little coordination between the agronomy and extension components of the project. In an evaluation of the IRDP conducted early in the implementation phase, a team from USAID concluded that:

> While there is close linkage between soil conservation and extension activities, the relationship of extension with research, credit and marketing is poor. Although the experiment station at Allsides has some research results suitable for transmittal to farmers, extension service agents do not appear to be aware of them. Information on costs and yields of the recommended inter-cropping systems on the newly treated lands, necessary for credit determination, are not normally provided . . . In the same vein, marketing information, prices and forecast production levels are not part of the information base carried by agents. Without this information, recommendations made by extension officers could prove detrimental to the farmer's interest . . . The extension arm is the link between farmers and researchers. Research pursued independently of a clear effort to discern farmers' needs is a luxury the Project cannot afford (Curtis et al. 1980:42-43).

The sub-centers, which were designed to test the improved technologies on real farms and provide a data base for production and income increases, also have not been established in a way which promotes active farmer involvement. As of June 1981, the question of whether the sub-centers fall under the portfolio of the extension or agronomy component was still unresolved. No systematic method of selection had been established, with the result that some farmers were chosen by the agronomy component, some by the extension component, and some by the field officers. It was only well after some of the farmers had been selected that a system was worked out for

recording the types and quantities of inputs supplied to farmers. And there is still no adequate means of documenting the farmers' costs and returns on production. Yet, as the 1981 IRDP annual report indicates, "The standard of some of these plots was far from satisfactory . . . It could be concluded that farmers were not consciously aware of the objectives of these demonstration plots and their responsibilities hereto." (IRDP 1981:5)

During the implementation phase therefore, farmers have had little say in the formulation of the technology they are supposed to adopt. This is not to say that farmers are ignored. Demands for services and resources are responded to in a manner rare in international development experience. Meeting the perceived needs of farmers has even resulted in the creation of new components, such as home economics. But farmers have little impact on the overall goals or operation of the project. Even the Development Committees, community organizations mandated to "analyze and evaluate proposals, facts, background information, and program results," do little more than channel local demands to project management (see below).

Participation in Project Evaluation. In the evaluation of the IRDP as well, it is questionable whether the farmers will play a significant and meaningful role. A proposed strategy for evaluating the IRDP was drawn up by the Ministry of Agriculture at the start of the project. In that document, the Evaluation Branch listed the sources it would use to ascertain the effects and possible impacts of each of the project's activities:

(a) Project documentation;

(b) Research data on soil conservation treatments and their effects on Smithfield and IICA Allsides Project (N.B. These two projects are government research stations);

(c) Subject matter specialists in different fields including extension, soil conservation, forestry, etc.;

(d) Journals and periodicals from various sources including Ministry of Agriculture, UNDP, JAS, Credit Board, USAID. (Evaluation Branch 1978:8)

Nowhere is there evidence of any direct participation of farmers in the evaluation exercise.

In 1977, however, the Data Bank and Evaluation Unit of the Ministry of Agriculture had conducted a survey which it hoped would provide baseline data for

future evaluations. Here again, however, it relied on a one-shot survey which gives farmers little opportunity to contribute meaningful information in a meaningful way. Based on a sample of 548 households (or about 14 percent) in the Two Meetings and Pindars River watersheds, the questionnaire was comprehensive in its scope, perhaps overly so. In addition to answering questions about household composition, farm size and slope, credit, participation in organizations, housing, labor, and the role of the spouse in the farming operation, the farmer was expected to recall the acreage, yields, value, and use of inputs over the past year for 46 crops. When the data were analyzed, it was found that "the crop-yields computed from the reported acreages and production were not within the known ranges for that area" (Ministry of Agriculture 1977: 3). To compensate for the apparent discrepancy, 50 farmers (stratified into 12 categories) were selected for more in-depth surveying, and on the basis of these data, the yield results for the total sample were recalculated. Another problem with the survey is that in the compilation of the data, the two watersheds were not disaggregated. Given the great diversity between (and even within) the two areas, the survey's usefulness for future evaluations is significantly diminished.

By supplying information, it could be said that people are contributing to project planning or evaluation, a kind of "participation." Yet because of the inappropriateness of the survey as a means of understanding agricultural and social systems, people are deprived of meaningful participation at even this minimal level.

The Individual Nature of Participation

One of the most prominent features of the IRDP is the individual nature of farmers' participation. Project resources, benefits and activities are targeted toward farmers as individuals, not as groups or communities sharing the same concerns and interests. There is a definite logic to this approach, as the main production unit is the household. The farmer may hire outside labor and he may market most of his crop, but it is he or she who is responsible for what is grown on the farm and for the utilization of household resources. By dealing with the farmer directly and in an individual manner, therefore, the project is moving its resources directly at the farmer and in a very culturally-appropriate way. Furthermore, by setting a target of 100 percent farmer participation (USAID 1977:23) the planners of the project sought to provide resources and help for all farmers. By the mid-point of the project (1981), over half the farmers in the watershed had farm plans submitted. Given the expected start-up delays and mistakes, this is an impressive accomplishment. The project, therefore, is, in fact,

directing its resources at the intended beneficiaries and it is doing so in a way that is consistent with, and sensitive to, existing production patterns.

Yet there are problems with the farmer-as-individual approach, namely that it leads to production imbalances and decreases the effectiveness of the soil conservation component.

Turning first to the issue of unplanned and uncontrolled production, it must be recalled that the farm plan epitomizes the individualistic orientation of the project. Individual extension agents draw up a farm plan for individual farmers (and sometimes even for individual parcels of land held by the farmer). On the plan is listed what the farmer currently grows and how he uses his land, along with a list and maps of intended land use, cropping, and soil conservation treatments. Currently six pages, the farm plan was previously an unwieldly 26 pages long, the filling out of which was in itself a major development task. What is important to realize about the farm plan is that it carries information solely about the individual farmer and his own credit, cropping, livestock, plans, needs and desires. Decisions are made by the farmer, with the technical guidance of the extension officer, for his own operation. The availability of subsidies and grants for various treatments and planting materials may influence what the farmer decides to do, but there is no attempt to coordinate the planning and operations of all of these individual production units.

In fact, some of the project resources influence too many farmers, with an unfortunate result. Credit for pigpens, for example, was provided to all farmers who had the necessary land and water resources to care for pigs. As a result, many farmers went into pig production at a time when the price for pork was relatively high. Within a short time, however, and as part of a nationwide fiasco, there was a glut of pork on the market, prices fell, and many farmers were left with, literally, fattened investments. Similarly, farmers in the British/Morant area of the Pindars River watershed took advantage of the highly subsidized citrus seedlings that were being supplied by the project. Estimates indicate that between 1979 and 1981, land in citrus expanded from one-tenth to one-third of the cultivated area, despite the facts that transportation problems prevented a considerable portion of the 1979 crop from being marketed and that no provisions were being made to improve the citrus marketing situation.

Similarly, the soil conservation component also operates on the basis of individual farmer participation to the detriment of the program's effectiveness. The IRD Project Paper had envisioned that there would be cooperation among farmers, but this has not materialized.

> Cooperation among recipient group households, particularly in regard to the matter of land terracing, is critical for project success. Land tenure follows a dispersed miniplot pattern, with few households owning contiguous parcels. If the terracing were to follow the tenure patterns, that is a dispersed patchwork fashion coinciding with the physical location of the plots of only those families who agreed to participate in the project, the scheme would fail. To be technically and economically feasible, it must be carried out over the entire area. This in turn requires the participation and cooperation of all farmers.
>
> From the standpoint of cost and efficiency, it is more economical to terrace contiguous pieces of property to avoid excess ditching and waterway construction. (USAID 1977:55, 22)

Although the Project Paper never addressed the issue of how that cooperation would be promoted, the implicit assumptions were that (1) contiguous parcels of land are often held by kinsmen who would be more likely to work together, and (2) that farmer organizations would somehow mobilize farmers to cooperate with each other. The first assumption is not necessarily valid, and the second assumption was never followed through. Lands were treated at the mutual convenience of the project officer and the farmer, and with infrequent exceptions, there was no attempt to construct treatments on a "hillside" or "mini-watershed" basis.

This has resulted in certain problems beyond those feared by the Project Paper. Officers find that much of their time is spent walking from farm to farm and in search of the farmer. Also, lack of roads in certain areas means that to build terraces by machine would necessitate the bulldozing of numerous fields just for the Caterpillar to reach the designated farm. And finally, there are some irate farmers who complain that the waterway on the farm just up the hill is discharging its water into the middle of his untreated field.

Other project components show the same bias toward individual participation. Except for where the government buys marginal lands for public forestry, the project provides subsidies for the planting of trees on individual holdings. The home economics officers teach women to plant vegetable gardens in their own backyards. Although the marketing component tried (unsuccessfully) to form buying and selling cooperatives, most of the marketing effort has been aimed at improving the individual farmer's access to market outlets. Credit, as well, is given to individual farmers.

Even agricultural extension is to a large extent a one-on-one operation. It was only after the project had been in operation for some time that the extension officers began to conduct farm tours, field days, and group instruction on a widespread basis.

Still, visits to individual holdings far outnumbered group demonstrations and field days. For the year ending March 1981, field extension officers throughout the project area had made 6,428 farm visits, yet had conducted only 30 field days (IRDP 1981).

One concludes, therefore, that although individual participation is appropriate for local conditions in that it is targeted for the individual production units, the effectiveness of the project would have been enhanced by greater attempts at fostering cooperation among farmers.

The Short-Term Nature of Participation

Resource management is a long-term endeavor. Soil productivity is not maintained simply through the construction of a ditch or a terrace. Similarly, agricultural production and rural incomes are not increased through the one-time supply of planting materials. Meeting the project's goals requires a long-term commitment by both the government and the farmers. The structure of the project, however, lends itself mostly to short-term participation by both parties. This can be seen both in the stress on drawing up ever-larger numbers of farm plans and in the lack of follow-through in both extension and soil conservation.

One of the major indicators of project activity (and, by extension, of project success) is the number of farm plans that are drawn up, approved and implemented. Monthly totals are added to cumulative tallies, and these numbers figure prominently in reports to the Ministry and to USAID. The importance attached to the number of farm plans produced as a measure of project progress has put pressure on extension and soil conservation officers to draw up and implement more and more plans. One result has been the failure of extension agents to follow through on the progress of their clients.

Data are collected, for example, on the number of seedlings distributed to each farmer, but no figures are collected, and thus the extension officer is not accountable for, the number of seedlings that survive to maturity. Since there is no measurement made of actual farmer progress (measured, for example, by crop yield, income, or maintenance of treatments), there is little incentive for officers to go back and check on the progress of farmers whose implementation is officially listed as complete.

This is particularly true in the case of soil conservation. The data presented in Chapter 3 attest to the failure of farmers to maintain their treatments, and by implication, the failure of the soil conservation officers to ensure that the treatments are maintained. Yet the problem extends beyond just maintenance. Due to a shortage of cement, some farms did not have the necessary waterways installed when the terraces or ditches were dug. Many of those farms still have not had the waterways put

in. In a survey of farm plans that had been implemented two years earlier, it was found that of 53 farms requiring waterways, 37 had not been built at all. Not unexpectedly, this has created severe gullying problems in some areas.

The fault does not rest entirely on the officers or on the project's administrative system. Once a farmer gets his ditches dug, his coffee seedlings planted and his subsidy in hand, there is little incentive for him to continue his involvement with the project. Other benefits may be derived through a supplemental farm plan, but unless the farmer pursues the matter, he or she is often lost to the project.

Regardless of where the blame lies, one must conclude that the farmers participate in the IRDP on a short-term basis. Rather than encouraging people to manage their natural resources over the long term, the project involves the farmer through the implementation of the earth-moving activities, and then leaves him to his own devices. This is contrary to good management practices and serves to undermine the project's ultimate objectives.

The Lack of Commitment by Farmers

Another feature of participation in the IRDP is the fact that substantial resources are, literally, given to the farmer with no requirement that he or she commit anything in return. Even the farmer's own labor is paid for by the project.

The project's contribution to the cost of soil conservation treatments, although defined as a 75 percent subsidy, can in fact be a substantial grant. As indicated previously, the project calculates construction costs on the basis of the amount of earth moved and the time it takes to move it, the latter figure then being multiplied by a base wage rate of J$13 per day. The farmer, however, pays his laborers only $8 or $10 a day, and the difference thus becomes the farmer's profit, or if one prefers, his "worker-management" fee. If the farmer does all of his own construction, and if his opportunity-cost is low, the entire subsidy becomes a cash transfer. The project, in effect, is buying the participation of farmers through the provision of the subsidy, a point made by the Project Paper: "A promotional campaign which stresses the potential monetary benefits of the project could be a strong inducement for gaining cooperation and participation of the farmers" (USAID 1977:55).

And there are added inducements. Subsidized planting material is available for participating farmers. At a time when private nurseries were selling citrus seedlings for one dollar, the project was supplying them to farmers for ten cents (later raised to 25 cents). The term "subsidy" takes on a new meaning here as well. One meeting of the project's Senior staff revealed that steps had only just been taken to establish a means

for recovering the minimal unsubsidized costs from the farmers. By March 1981, the project had distributed, free to the farmer, 81,500 coffee seedlings, 14,000 citrus seedlings, 4,200 pineapple suckers, 3,500 coconut seedlings, 24,000 banana suckers, 18,000 yamheads, and 3,500 mango seedlings. Participants in the program are eligible for other benefits, as well. Subsidized pigpens, water tanks, and houses are also available for those with an approved farm plan.

The Project Paper also provides resources for communities. A local Development Committee (see below) can request that the project entomb springs for domestic water, make farm tracks, build marketing sheds, or bulldoze a playing field. The IRDP also channels funds to other government agencies for the construction or rehabilitation of roads, the provision of piped water, and the extension of electricity lines. As with subsidies for soil conservation and planting material, these benefits require no resource input or commitment from the farmers. In those ventures which require a labor input, such as the construction of springs or sheds, the project has often paid community members to supply that labor.

The result of this unmatched resource flow has been an expectation on the part of farmers that they are entitled to the benefits provided by the project and subsequently one finds a lack of local self-reliance and community initiative. When asked what benefit they have received from participation in the project, most farmers will total up the amount of subsidy they have received. The farmer who criticized the project for not paying him enough money to buy a car was an extreme case perhaps, but this criticism indicates the extent to which the welfare attitude is entrenched. At one local meeting of the Jamaica Agricultural Society, a large group of farmers expressed enthusiasm for a proposal to form a buying cooperative, but most lost interest when they found that they would have to put up their own seed capital; they had assumed the IRDP would provide that as well.

This expectation that "the government will provide" has certainly been harmful to the soil conservation component of this project. Farmers in the Sandy River pilot scheme were at first given a 100 percent subsidy on their soil conservation treatments; later, when the subsidy was reduced to 75 percent, which still allowed farmers to make money, the pilot farmers (whose terraces and ditches, after only two years, were in need of rehabilitation or complete rebuilding) complained that they were not getting the benefits to which they were entitled. Other farmers throughout the watershed justified their lack of maintenance of the treatments by arguing that it was government money that built them, so it should be government money that maintains them.

Suggestions that community problems might be tackled with community resources usually elicit agreement in principle, but the resulting inactivity exposes the dependence of farmers on governmental resources.

Experience from the IRDP points at the desirability and necessity of having some local resource input. With their own investment at stake, farmers might be more willing to maintain their soil conservation treatments and nurture their seedlings, problems which were discussed in the previous two chapters. Such a commitment might also curb what field officers decry as a "freeness mentality."

The Local Organization Component

In addition to providing farmers with individual subsidies and benefits, the project planners hoped to stimulate development through local farmers' organizations. We can examine the local organization component of the project by focusing on four issues: (1) the Project Paper's conceptualization of how farmers' organizations were to provide support for development activities; (2) a history of the formation of the Development Committees (DCs), with an emphasis on the issues that arose during their establishment; (3) a discussion of the Development Committees' functions and performance; and (4) an analysis of farmers' and local leaders' participation within the DCs.

The Concept of Local Organizations in the Project Paper

The IRD Project Paper was written with a vague appreciation for the role that local organizations can play in the development process.

> Groups of farmers associated for the purpose of coordinating their plans and sometimes engaging in unified action represent the best alternative to improve the credit, inputs, and marketing services available in the project area. The project presupposes no preconceived "best" structure of group activity, and will attempt to assist and develop groups of farmers organized as cooperatives, associations or societies. (USAID 1977:34)

It was clearly stated that no new organizations will be created. There was a disposition to work with and through branches of the Jamaica Agricultural Society (JAS), primarily because it is the largest farmer organization, was ostensibly multi-purpose, and claimed the largest membership of small farmers in the project area. Among the tasks envisioned for the JAS were to act as a "conduit through which information, advice, and technical assistance may be disseminated; a forum for discussion among farmers, where

local leaders can encourage others to adopt new behavior; a structure wherein coordinated activity will afford local farmers economies of scale in buying and selling; and a vehicle to community and political participation." (USAID 1977:34)

It was anticipated, therefore, that farmers' groups would perform several functions, not only in the "service" area (such as credit and marketing), but also in the implementation of the project and in community development. Yet the Project Paper offered no vision of how these groups would be organized and mobilized, how they would perform their assigned duties or how they would be coordinated with the project itself.

Formation of the Development Committees

In order to formulate recommendations for establishing the local organization component, Arthur Goldsmith and I were asked to conduct research in 1979 on the various farmers' groups and organizations in the IRDP area. In addition to talking to farmers, local leaders, government officials and representatives from numerous institutions, we also conducted a survey of ten percent of IRDP area households to identify patterns of membership and participation in both agricultural and non-agricultural organizations.

Our chief recommendation was that "the project could best meet its goals by working with and through existing JAS branches" (Blustain and Goldsmith 1979:127). This position was based on three arguments. First, the leaders of the JAS are community leaders who are also active in a wide variety of other community organizations (see below). By working with the JAS, therefore, the IRDP would be establishing linkages with leaders who are already in a position to mobilize and influence community opinion and support. Second, a large proportion of IRDP farmers - 55 percent in Two Meetings and 81 percent in Pindars River - are already at least nominal members of the JAS. This would have provided the project with a ready (although not necessarily willing and able) membership to work with. Third, we argued that when the project ended, a separate organization with no other linkages besides the IRDP would be less able to sustain itself as a viable organization. This latter point was particularly important since one of the stated goals of the project was to "revitalize" the local branches of the JAS.

Our proposal to base the local organization component on the existing JAS branches was rejected by the project management for four reasons. First, the Christiana Area Land Authority (CALA), which had been active in the same area from the mid-1950s to the mid-1970s, had organized its own Development Committees

around the JAS, and the result was unsatisfactory. Minutes from CALA meetings made frequent references to the undependability and self-serving actions of JAS officers. The fact that the IRDP director at the time of the decision had been a senior extension officer of CALA probably was enough to kill the "JAS option." Second, some of the local branches of the JAS were seen by both project management and farmers as politically partisan, with the local leaders advancing their own political causes. The IRDP at the time was attempting strenuously to project itself as politically neutral in word and deed, and it was felt that association with an organization perceived to be aligned at the local level with one party or another would inject into project activities an unwanted aura of partisanship. Third, the parish offices of the JAS were indeed seriously lacking in both human and material resources. The JAS itself has no resources of its own to contribute to such an endeavor, so the project would be receiving little to add to its own effort. Also, the JAS itself is undermanned; for example, the parish of Clarendon (in which major parts of both watersheds lie) has two field organizers to service 112 local branches. Fourth, project managers feared that by channeling some of its own resources through the JAS, they would lose control over the allocation and distribution of project benefits.

It was decided, therefore, that the project would establish its own Development Committees (DCs) which would be separate and apart from any existing local organization. These DCs would be involved in project activities and would be responsible to project personnel. As we will see, however, the DCs nevertheless became merged, both institutionally and in the minds of farmers, with the JAS. This effective synthesis resulted from decisions made regarding the boundaries and the membership of the DCs. Both of these issues were discussed and decided upon by project staff and neither of them involved the participation of farmers or their representatives.

Boundaries. One of the first issues that needed to be resolved was what constituency each DC was to serve. As originally envisioned by the project managers, one Committee would encompass an entire subwatershed. These subwatersheds, however, are project-specific administrative units and are demarcated by such handy reference points as roads, streams, and crests of hills. As such, they are not based on socially-recognized communities, or "districts" as they are called in Jamaica. One district may fall into two, three, and in one case, four subwatersheds, and one subwatershed may include parts or all of as many as four or five districts. After prolonged debate, it was agreed that community organizations are best based on

"natural" social communities, where there is a commonality of interest, problems, leadership and a history of previous cooperation.

Thus, it was decided that each DC would represent a district. The group of project staff developing guidelines for the DCs, called at the time the Committee on Development Committees, stated at its May 1979 meeting that the "primary purpose of Development Committees (is) to serve the local area, similar to the local JAS service area, through project activities in the project area." Thus, while the DCs were intended to be de jure separate from the JAS branches, they were in fact, serving the same constituency of farmers as the JAS branches.

Membership. A second problem concerned the membership of the DCs. While the aim was to ensure the participation in the project of as many farmers as possible, it was felt that a small group of farmers' representatives would form a more effective liaison between project staff and farmers than having large meetings open to all.

At the outset, it was proposed by some staff members that the project's staff and field officers be responsible for the selection of the seven local leaders who would serve on the DC. This procedure was rejected, quite rightly, because farmers should be able to choose their own leaders, and besides, project staff did not know communities well enough to decide who the leaders were. It was then decided that of the seven local representatives, there should be two JAS members and "at least one very small farmer." After several committees have been established, it was then agreed that the DCs could be comprised of whoever the farmers elected, provided that that person was a farmer and operated lands falling within the project area. In practice, however, even these last two stipulations have been dropped, and there has been little real concern with who served on the committees.

Not unexpectedly, the faces seen at local DC meetings have been pretty much the same faces seen at JAS, coffee, cocoa, banana, cane and citrus meetings.[1] To a large degree, this has been because of the overlapping leadership at the local level. But it is also due to the way in which the individual Development Committees were established. The procedure was for the Local Organization Officer of the project to attend a regular monthly JAS meeting, announce his intention to set up a DC in that community, and request that another meeting be held in two weeks, at which time the members of the DC would be elected. Even if few farmers turned out for the initial "publicity meeting," a larger attendance was likely at the subsequent one.

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[1]The marketing of these crops is handled through government-sponsored comodity associations that have branches at the local level (Goldsmith and Blustain 1979; Goldsmith 1980: Chapter 6).

At the election meeting, the purpose and guidelines for the DC were announced to all present, after which nominations for the seven positions were opened to the floor. In some cases, fourteen or fifteen farmers were nominated, and it was from among these candidates that the seven members were chosen. In other cases, the first seven people to be nominated were declared to be the committee members. This latter procedure often resulted in snouting matches, with the people having the most vocal supporters becoming members.

The establishment of the DCs through local JAS branches has meant that many of the DCs are constituted by JAS officers. The visibility of these officers in local agricultural affairs made them an obvious choice, and this was reinforced by the fact that they were presiding at the election meeting. This has not always been the case, however, and in one community, the JAS president and secretary (who are activists for one party) were not appointed to the DC when an activist from the opposing party packed the meeting hall with his supporters (he was elected chairman of the DC). In another case, the elections resulted in the JAS chairman not being elected to the committee. When he complained about it, the farmers replied that they had assumed he would have automatically been the chairman. And he was, in fact, summarily installed as the chairman.

Thus, although the project management had intended for the DCs to be distinct from the JAS, there is a great deal of ambiguity in the relationship. From the point of view of farmers, there is no difference at all. The leaders of the local JAS/DC realize that they are wearing two hats, but that distinction is important only to the extent that the two organizations entail different sets of linkages at higher levels. And for the project management, the ambiguity is a source of much confusion. On the one hand, there is still the desire to maintain the control and accountability that comes from nurturing one's own local organizations. On the other hand, and in other situations, the IRDP points with pride to its ability to "revitalize" and sustain dying and defunct JAS branches. With unintended irony, an annual report of the IRDP highlights the ambiguity of the IRDP/JAS/DC relationship: "By design, they (the DCs) are the off-shoots of the JAS branches in the districts where they developed and give an index of the life, vigor and vitality of the branches which gave them birth." (IRDP 1981:23)

Administrative Structure. A further question which needs to be touched on briefly concerns the administrative integration of the Development Committees into project operations. The Project Paper gives the "Farmer Organizations and Services" component responsibility in four areas: farmers' groups and organizations, agricultural

inputs, credit, and marketing. As presently constituted, credit and marketing each have their own officers, staff, advisors, and budget; inputs are handled by the extension component. Project liaison with farmers' organizations in general, and the DCs in particular, is the responsibility of a senior-level Training Officer, who looks after not only the training of staff in Jamaica and abroad (a time-consuming activity), but also such ad hoc exercises as planning the IRDP exhibit at the national agricultural show and supervising the project's Farmer-of-the-Year competition. Thus, the organization, monitoring and evaluation of the DCs is not the full-time occupation of any one person -- and other crises and priorities can relegate DC activities to a back-burner position.

The Local Organization/Training Officer is advised by a Coordinating Committee.[2] Originally called the Committee on Development Committees, it was convened to advise the project director on the establishment of the DCs. Active from March through July 1979, the Committee then hibernated until it was revived that December, when the Local Organization Officer decided to evaluate the progress of the DCs established to that date. Representation was expanded from the four or five senior staff officers that had served on the Committee on Committees to include field officers. Various problems, however, such as other time commitments of committee members, lack of formal legitimacy, and the difficulty of providing transportation for members from the Pindars River watershed, resulted by May 1980 in the gradual withering away of the committee. In August 1980, the committee was renamed the "Coordinating Committee" and was given official blessings by the project director. The purpose of the committee, however, had changed. In response to a felt need to integrate the activities of the project's numerous components, the committee was directed to meet monthly and look into the ways of coordinating the planning and implementation of project activities. Membership, accordingly, was expanded to include representatives from all of the components. One result of this change in the committee's mandate has been to de-emphasize the DCs as a focus of committee concern. By the spring of 1981, issues relating to DC activities were taking up very little of the Coordinating Committee's agendas.

The project field officers -- the extension, soil conservation, and home economics officers -- are supposed to be ex officio members of the Development Committees in their respective areas, but their involvement in this regard has been spotty. Some of the officers are diligent in attending meetings and advising the committees, while

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[2]This account covers IRDP experience through June 1981, when my field studies ended, so there may have been subsequent changes.

others have never attended a meeting. A large part of the problem comes from the difficulty of arranging transport for the officers from their homes to the night-time meeting venue. Also, the project directive to attend these meetings came more than a year after the start of the project, and thus working with the DCs is not seen by some officers as an integral part of their official duties. Not surprisingly, there is a high correlation between the districts in which the project officers have shown the most concern and the districts where the DCs are most active.

In May 1980, the chairmen and secretaries of each of the DCs met for a leadership skills training session. Out of this meeting came a Development Committee Council which was established to provide all DC officers with the opportunity to get together quarterly to discuss common problems, share experiences, and assist the project in setting program priorities. The officers of this Council comprise the Development Committee Executive Committee, a body which is empowered to act for the Council between its meetings. The functions and duties of these two assemblies will be discussed below, although it can be stated here that they are quite limited. As of April 1981, there were reported to be 24 DCs established among the approximately 35 communities scattered throughout the project area.

Functions and Performance

The most important issue to consider is the functions of the Development Committees. What do they do, and how successful are the committee members at meeting the needs of their communities?

Numerous project documents outline guidelines for the DCs' activities and functions. One early list (May 1979) presents a full range of possible activities:

(a) Project Extension personnel should be prepared to speak or provide a timely speaker or activity for each and every committee meeting.

(b) Field days may be offered to the area in various techniques or crop cultures; examples, planting, fertilizing, pruning, cultivating, harvesting, spraying, building terraces, etc.

(c) The committee may collect a labor file of people experienced in various skills such as terrace construction, pruning, etc.

(d) For inaccessible areas the committee may request the utilization of project machines to construct community dry weather access tracks (of less than 10 percent slope) if the track land is available and people agree to grass, protect, and maintain the track.

(e) The committee may participate in recommendations for:
1. Loans made to project participants
2. Selection of sub-centers
3. Utilization of agriculture inputs (fertilizer, in-kind, farm houses and water tanks.

(f) The committee may request project transportation for farmers to local demonstration (if necessary) or to other demonstration plots outside local area.

(g) The committee may survey and recommend locations for market collection depots.

(h) The committee may bring local agricultural problems to project management for their consideration or for carrying to appropriate higher authorities if necessary.

(i) The committee should advise project staff and participate in the dissemination of project information to local farmers.

(j) A committee chairman shall be a member of a project advisory committee and any travel expenses for such service shall be paid for by the Project.

(k) The committee has a service obligation to be active, alive and forthright in speaking up for everyone in their service area. This especially means the poorest farmers in their area.

(l) The committee to take active part to promote social and sporting activities.

(m) The committee to promote cooperative ventures, e.g. buying and selling clubs.

(n) Assist in analyzing facts and background information, as well as identifying resources.

(o) Identify problem areas important to people.

(p) Assist in establishing priorities.

(q) Assist in the development of sound program goals and objectives.

(r) Serve as a sounding board for new ideas and new program directions.

(s) Help evaluate program results.

To this list should be added two more functions that have also been part of the intended duties of the DCs:

> To promote and motivate local "grass roots" leadership in farmer organizations to become the catalyst to stimulate group action which is so necessary for project success.
>
> To develop a sense of purposeful self-reliance to generate the necessary resources and a will to find solutions for problems. (IRDP 1981:23)

Broadly speaking, all of these functions and activities can be placed into four general categories: the provision of services to farmers; a means of promoting farmer participation in decision-making on issues regarding project implementation; a channel for two-way communication between project personnel and their farmer clients; and a vehicle for fostering sustainable, self-reliant local organizations. Each of these will be examined in turn.

Provision of Services. By far the most important function of the DCs has been as a conduit for benefits being furnished to the rural communities. By identifying community needs, the committee members have played a significant role in helping the project apply its resources to the areas where it would have the greatest impact.

The first meeting or two of each DC is usually devoted to getting committee members to identify local needs and problems. Those lists have been remarkably consistent, with roads, water, and electricity heading the priorities.

All of the benefits channeled through the DC are resources which are provided for in the Project Paper. As of April 1981, eight springs had been entombed to provide communities with fresh drinking water, six small marketing depots had been built, and four miles of unpaved farm tracks (roads) had been bulldozed. Other services may be performed at the request of a DC (such as the bulldozing of a playing field), but the usual procedure is for the DC to be provided with a "shopping list" of benefits which the project can supply.

Before any of these projects are undertaken, engineers from the IRDP conduct studies to see if the proposal is technically feasible. As long as project personnel are reasonably satisfied that applying those specific resources at that particular place will result in benefit to a reasonable number of people (and not just to the DC officers)[3], the funding will be approved and the work will proceed.

The preoccupation of the DCs with the provision of benefits is attested to by the activities of the Development Committee Council, the body which consists of representative of the DCs. Rather than discussing project planning or implementation, the Council's time has been taken up with local problems and attempts to stimulate project action. At one meeting (September, 1980), representatives from seven DCs wanted project help on local roads, two had water problems, one committee wanted a

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[3]It is an interesting commentary on the role of patronage in rural Jamaica that, to my knowledge, no local leader requested that project community development funds be used for his or her benefit only. Such an attempt would have been widely condemned and the leader's standing in the district would have been called into question. Leaders benefit from their role in more subtle ways, but the overt diversion of public benefits for private use is not, in this case, one of them.

spring entombed, another requested the project to subsidize fertilizer, still another wanted doors and windows installed on their project-built marketing collection depot, and yet another wanted the IRDP to extend electricity lines and supply crop spraying equipment. There was no attempt to "assist in the development of sound program goals and objectives."

Decision-Making and Policy Programming. Despite the official ideology about the DCs serving as "sounding boards" and "assisting in establishing priorities," the DCs have played no such role. The minutes from one Committee on Committees meeting (June 19, 1979) summarize the IRDP's policy toward the DCs when it was stated that "the I.R.D.P. must define the specific functions of the D.C.s." Even the structure of the farmers' organizations themselves was decided upon by officers from the project. Except for discussions on which project resources should be moved where, or how they could be moved more effectively, the leaders of the DCs have had little impact on project goals, organization, or policy. And in conversations with leaders from many of the committees, there was little to suggest that these other issues were seen as a legitimate concern of theirs.

Perhaps the best indication of the role of the DCs in the area of policy formulation can be seen in the Development Committee Council Constitution, a document drawn up by project staff and presented to the DCs' leaders for ratification. The two-page Constitution deals with the Council's (1) purpose ("bringing about a single voice on behalf of all Development Committees"); (2) objectives ("establish better understanding between farmers and field staff," "serve as a sounding board," "identify problem areas and critical paths in the Project's implementation", etc.); (3) organization (nine members, officers, etc.); (4) meetings (to be held quarterly); (5) dues (consisting of a five dollar affiliation fee to be collected from each DC); and (6) order of business (in which the agenda for each meeting is outlined). Yet nowhere in the document is there any hint of the Council's responsibilities, nor is the Council empowered to do anything by the IRDP.

Information Flow. Experience from other projects has shown that local organizations can provide economies of scale in the flow of information between project personnel and farmers. This flow must move in both directions, and each of these will be discussed in turn.

Regarding "top-down" communication, the DCs have proven to be an effective means of getting information out to the farmers -- when they have been used. Although attending a meeting at night after a long, hard day in the fields can be a burden (particularly where that involves a long walk in the dark), farmers have proven

themselves to be willing to attend if there is a "special program" put on by the JAS, DC, church, or other organization. On those occasions when a DC has had a speaker from the project talk about credit, livestock, or some other topic relevant to farmers' interests, attendance has been generally good. Unfortunately, the IRDP's local organization component has not been effectively tied in with other project activities, and there has been no consistent effort to coordinate the extension program with the DCs. In this sense, the effectiveness of the DCs as a means of educating groups of farmers has been limited.

Where the project has most been successful, however, is in the dissemination of information about the project to local leaders, who then pass it on to their friends and neighbors. As is to be expected from a project as large and complex as the IRDP, all sorts of misunderstandings arise about the aims, procedures and benefits of the IRDP. DC meetings, and especially DC Council meetings, have provided project staff with an excellent forum for clearing up some of the misconceptions and false rumors.

These same DC and DC Council meetings also provide the project with an opportunity to hear what is on the farmers' minds. As indicated earlier, farmers do have substantial input in the allocation of project resources, although not project policy. And complaints and concerns voiced by farmers give project administrators some feedback on the popularity of field officers, the acceptability of the program, areas requiring increased public relations, and possible new activities (such as the need for training sessions in pruning and grafting).

Quest for Self-Reliance. It is hoped that when the project ends in 1983, the DCs will be able to continue serving their communities. This raises questions of sustainability and self-reliance, and it is here that expectations and hopes run smack into the realities of the situation.

The local organization component keeps a record of the number of DCs that are "active" and the number of JAS branches that have been "revitalized." As of April 1981, there were 24 of the former, and 27 of the latter (IRDP 1981:22, 23). While this may appear to be a significant achievement, it is important to note that there are no criteria by which activity or self-sufficiency is measured. When officers of a DC are elected, or when the DC requests project benefits, that committee is then put on the "active" list And when a moribund JAS branch meets for the first time in months (if not years), at the request of IRDP officers, then that branch is considered to be "revitalized." In fact, many of the DCs have stopped functioning, in part through a loss of interest on the part of the committee, in part because of a lack of follow-up by the project, and in part because committee members felt that they had gained whatever

benefits they were going to get from the project. As for the JAS branches, once the meeting is held and the farmers' curiosity is satisfied, the branch will usually slip back into quiescence, waiting for the next "special program" to prod it into action.

A major deterrent to the sustainability of these local organizations is the fact that they have no independent resource base. With the exception of labor and, in the case of the marketing depots, a small plot of land, neither the officers of the DCs nor the farmers are required to contribute anything to the activities of the committees. A good example of this problem of sustainability is the marketing depots. In anticipation of improved marketing services to farmers, the Project Paper provided for the construction of small wood-frame and zinc sheds at various central points around the watersheds. These depots were to be operated by the DCs and to serve as collection points for the farmers' produce. A farmer in the community was expected to donate the land for the depot,[4] while the project paid the material, labor and contracting costs. Originally, these sheds had open windows and no doors. After several had been built, however, there was agitation from several DCs to put windows and doors on the sheds. In one case, a landowner complained that the shed was being used as a hangout for ganja-smokers and lovers; in another case, the landowner (although he would not admit it) felt that lockable doors would provide greater safety for the automobile which he parked inside the shed at night. After lengthy deliberations, the project decided that the DCs could install doors and windows, but it would have to be at the DCs' own expense; average costs for the additions came to about $500-$550. To cover these costs, the officers of the four DCs concerned with the issue tried to raise money from the community. When I left Jamaica in June 1981, only one committee had been able to raise any money, and that was only because each of the seven DC members contributed ten dollars each. Response from the farmers was uniformly lacking.

A further indication of the non-sustainability of the DCs after the completion of the IRDP is the matter of the membership fee that each committee must pay to be affiliated with the DC Council. At first, the IRDP officers had proposed that there be no such fee, but the DC officers had insisted on it so that, according to the minutes of one DC Council meeting (September 24, 1980), the dues "could be used after the life of

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[4]The written agreement between the IRDP and the landowner calls for the donation of the land to the IRDP "for a minimum of five years, free of cost to the IRDP," after which "local community farmers shall be responsible for the operation of the collection stations as can be negotiated with the landowner." Needless to say, this leaves room for much ambiguity, and more than a few people anticipate that the landowner will claim proprietory rights to the shed after the termination of the IRDP.

the project to assist with transporting the members of the committees." Yet even if each of the 24 DCs paid the five dollar fee, the resulting $120 would not support very many future activities.

It is unlikely, therefore, that the DCs will evolve into independent, self-reliant, and on-going local organizations. At present they rely almost totally on resources from the IRDP and, as we shall see shortly, there is not enough community participation to support the continuation of the DCs. As long as the IRDP is there to provide resources, the committees will be able to function. Without the IRDP, however, the DCs will have no resource base, no support, and no one to prod the local leaders into calling meetings.

Participation in the Development Committees

Although each Development Committee has its own personalities and its own problems, there has been a remarkable consistency in the ways in which both farmers and local leaders participate in the activities of the committees.

For the leaders, many of whom are the same people active in other community activities and organizations, the IRDP is one more source of resources and benefits. Accustomed as they are to playing the middleman role between higher-level patrons and their farmer clients, their position on the DCs is not a new experience for them. Quarterly trips to Christiana for Council meetings and the management of marketing sheds may be a new variation, but it must be understood that these are variations on an old theme. For these people, agricultural development programs have come and gone, and some of them are quite adept at "capturing" the available resources and channeling them to their communities.

It is also interesting that in many communities, the DC itself has stopped meeting and, in effect, has disbanded, even though the DC still continues to function. This possibility of having activity without meetings is due to the fact that of the seven members, perhaps only two are required to do the necessary liaising with the project. If all that is necessary to obtain a spring is for someone to contact the project with the request, guide the technical officer to the proposed site so that he can do a feasibility study, get the landowner to sign a permission form, and contract the labor to do the construction, then there is little need for committee meetings. Certainly, there are one or two leaders who are familiar enough with their communities that they do not need to canvass the district in search of an area that needs a domestic water supply. Further, the prestige and leadership abilities of the handful of leaders is enhanced when they can demonstrate to the community that they were responsible for the introduction of the spring (or other resource). To have other people needlessly involved would not

only create additional delay, but it would also dilute the appreciation and repute due to the energetic leader. Thus, it happens that DCs often function without even the participation of some of the local "leaders."

Farmers participate (or do not) in the DCs in much the same extent that they (do not) participate in the JAS. It was originally envisioned by the project staff that each month there would be two meetings in the communities: a meeting of the DC itself, followed by an open meeting at which farmers could hear, and voice their opinions about, the deliberations of the committee. For the most part, these second meetings rarely materialized, although if there was a special event, the farmers would come out in force. On a few occasions, farmers showed up in large numbers to protest certain policies of the IRDP, particularly those regarding the hiring of unskilled laborers from outside the community.

The non-participation of farmers is not unexpected. Under the present arrangement, they are the recipients of all sorts of benefits without having to exert any energy or commit any resources. Their elected representatives do all of the work, and the farmers have only to make sure that their chosen leaders are doing right by the community.

A factor which influences the degree of interest a farmer may hold in the activities of the DC is the political affiliations of himself and the DC leaders. Some DCs are run in a non-partisan manner, either with the leaders not overtly concerned with the political views of farmers, or with the committee itself containing supporters of both parties. In a few cases, the highly partisan orientations of some of the committees have resulted in discontent in some quarters of the community. The chairwoman of one committee, for example, was using her position as a platform for re-election to the Parish Council. This resulted in the alienation of many community members of the opposing political party. On the whole, however, partisan politics has not been a deciding factor on the operation of the DCs.[5]

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[5]Politics is, however, a factor in employment within the project itself. There is considerable pressure on the project management by politicians of both parties to hire their supporters, and this has resulted in much strife within the project. After the 1980 election, when the government changed hands, there was widespread replacement and movement of personnel, a situation that resulted in accusations (many of them true) of victimization (Jamaica Daily News, December 11, 1980; January 21, 1981).

Participation and the Task of Resource Management

At the end of Chapter 4, we noted that both the soil conservation and agricultural production components of the IRDP have suffered from inappropriate technologies and strategies, and that these technologies and strategies were inappropriate, to a large degree, because of the nature of farmer participation or non-participation. Having taken a closer look at the modes and manner of farmer participation, it should be apparent that they have been unsatisfactory for the project's task of resource management.

This inappropriateness has several dimensions:

(1) Many of the project's activities have been based upon the individual participation of farmers when, in fact, a group approach would have been more productive. In the case of soil conservation, getting farmers on one hillside to cooperate in their terracing and ditching would have resulted in cheaper and more effective treatment. Similarly, agricultural extension and a concern for the cumulative effects of individual production decisions might have created a more orderly production schedule.

(2) Changing people's approach to the management of their natural resources is a long-term process, not something to be accomplished through the drafting of a farm plan and one or two visits by extension officers. Thus, longer-term involvement with the farmer would have slowed the disintegration of the terraces and the ditches and might have improved both the farmers' agricultural practices and the mortality rate of the coffee and citrus seedlings.

(3) Rather than just participating in the procurement of benefits, farmers should have been active in the planning and implementation of the project. Particularly in the planning stage, this would have offered technicians the opportunity to design more appropriate soil conservation and agronomic technologies.

(4) It could be argued that getting farmers to contribute their own resources to the various activities would have created a greater commitment to the project and to the achievement of the project's objectives. By being paid to do soil conservation work on their own land, farmers have felt that the terraces they built were the government's terraces; some farmers, in fact, have justified their failure to maintain them by arguing that "the government paid to build them, so the government should pay to maintain them."

(5) More emphasis should have been placed on the development of strong, participatory local organizations (whether JAS branches or DCs). Not only would they

have been able to provide support to the resource management activities of the project (through group education, bulk buying of inputs, cooperative marketing, and the like), but they could have provided a basis for longer-term community development through the mobilization of local resources and talent.

Changing the manner of farmers' participation, in itself, would not have solved all of the project's problems. But to the extent that it would have resulted in a longer-term commitment to the attainment of the program's goals, a more appropriate technical intervention, and a basis for community self-reliance -- to that extent, more appropriate modes of participation would have helped.

The questions which arise, of course, are: If the types of participation were inappropriate for the task, then why did the project officials allow that type of participation to occur? Why didn't the project planners and administrators "structure" the participation of farmers in more effective ways?

The trial-and-error process of project implementation, the inexperience of some of the project administrators, and the ineffectiveness of the technical assistance team are certainly some of the factors that have to be considered. But these are only a partial and a superficial explanation. Rather, an understanding of the patterns of participation that have occurred in the IRDP must be gained from an analysis of the socio-political environment in which the IRDP is operating. Projects do not spring full-blown from the brow of FAO, UNDP, or USAID planners. Instead, they arise from a background of pre-existing linkages between government officials and farmers, bureaucratic procedures, expectations, and understandings about how "the system" works.

In the next chapter, we will examine those socio-political aspects of Jamaican society that bear on the questions of rural development and the relationship between the government and the rural sector. If the manner of participation in the IRDP was not supportive of its resource management objectives, it is perhaps because the achievement of resource management objectives is not the only objective of government programs in the rural areas. Just as technical interventions must consider the socio-cultural and economic environment in which they are to be introduced, so too, must strategies for participation conform to socio-political realities.

Chapter 6
THE POLITICAL DYNAMICS OF AGRICULTURAL DEVELOPMENT IN JAMAICA

Relationships between farmers and the government already exist before a project is designed and implemented. There are mechanisms for policy formulation; there are means by which farmers can lobby the government; there are ways in which the various government agencies service farmers; there are channels of communication; there are bureaucratic procedures; there are institutions; in short, there are already established rules and understandings for the participants within the system. Different categories or groups of farmers (be these categories based on size of holding, crop, location, tenure status or whatever) may have varying relations with different agencies at different times; within any system there is no single set of rules. But there are regularities in behavior and expectations, and the participants must have an understanding of those multi-stranded and complex relationships. With some effort, social scientists and development professionals can gain a similar understanding.

When a new development project is planned and executed, it is unlikely that a whole new set of rules and relationships will be established. New agencies and organizations may be created, and there may even be some conscious efforts to modify the system. Attempts may be made to alter the existing set of relationships linking government with farmer by promoting "participation" and "bureaucratic reorientation." Similarly, expected or unforeseen consequences of the development project or other social forces may cause changes in certain sets of relationships. If, for example, an agricultural program raises the incomes of some farmers, they may gain the political and economic clout to put new pressures on the government.

The argument, therefore, is not that changes in the political system do not take place or cannot be induced. Rather, the point is that there are continuities in the social system, and a new program does not necessarily entail either the creation or the transformation of institutions or behavior. If these continuities are not obvious to practitioners, it is because they have not been trained to analyze social systems; or because they may be too busy hacking their way through the bureaucratic underbrush to see the dimensions of the political forest. And if these continuities are not evident to the expatriate advisors, it may be because they have never bothered to learn about the experience of previous projects or the local political context of development efforts.

The congruence between a project and the existing sets of political relationships is not the same in all cases. However, it is apparent after some examination that in Jamaica the congruence is quite strong, and that the IRDP cannot be understood as

a self-contained exercise in rural development, but rather as a product of the Jamaican political system. While the project involved the creation of a new agency with new goals and new activities, there were strong, systemic continuities in the way in which farmers, politicians and bureaucrats related to and interacted with each other.

To aid in for understanding the problems encountered in the IRDP, therefore, this chapter will focus on the politics of rural development in Jamaica and on the modes of interaction between the government and small farmers. In doing so, it will shed some light on the issues posed at the end of Chapter 5. Specifically, this chapter will follow four lines of analysis. First, there will be a general introduction to the two-party system in Jamaica, for it is the competitiveness of electoral politics that dominates the political landscape. Second, it will be shown that small farmers do not influence government policy in regard to agricultural matters. This does not mean, however, that the farming sector is ignored. Rather, they are a crucial constituency and are the recipients of a great amount of government resources. The third section, therefore, will describe the clientelistic basis of Jamaican politics and analyze the important role of patronage in the development of agricultural programs. Finally, there will be a brief summary of the major characteristics of the Jamaican political system as they illuminate the issues raised in Chapter 5.

The Two-Party System

The Jamaican political system is based on a British parliamentary style of government. The House of Representatives, in which there are sixty seats, is elected by popular vote, with the majority party forming the government. The 21 members of the Senate are appointed by the two political parties represented in the House of Representatives, with the party in power filling 15 of the seats. The Government is also responsible for appointing the various Ministers, Permanent Secretaries (who are civil servants), and other officials.

Local government consists of fourteen parish councils comprised of councillors elected from constituencies, the boundaries of which do not represent locally-meaningful communities. Based on an Elizabethan parochial model (Singh 1972), the parish councils are responsible for important services within their jurisdiction (e.g. water, roads, markets). As we shall see shortly, however, the councils are largely dependent upon the central government for their finances, initiatives, and policies.

A brief overview of recent Jamaican history is important for understanding present political conditions.

The Great Depression of the 1930s not unexpectedly had an adverse effect on conditions in Jamaica.

> A fall on the prices of all raw products, plus competition from the European beet-sugar industry now recovered from the effects of the first world war, had disastrous results on the West Indian sugar trade, at a time too when the Jamaica banana industry had started to decline. Migration opportunities became very limited: in fact, thousands of Jamaicans were being sent back. But the population had greatly increased, wages were low, there was less work for more people, and the government was too poor to help. (Black 1973:140)

The result was social unrest at almost all levels of society, unrest which in 1938 culminated in a prolonged and island-wide series of demonstrations and strikes by sugar workers, dockers, laborers and peasants (Post 1969:377-78; see also Post 1973). Out of this movement emerged both the organized labor unions and the political parties. One of the leaders of the period was Alexander Bustamante, who formed the Bustamante Industrial Trade Union, which was later to be associated with the Jamaica Labor Party (JLP). Bustamante's cousin, Norman Manley, created the more socialist-oriented People's National Party (PNP), which also had its union affiliate, the Trades Union Council, later the National Workers' Union.

In addition to pressing for specific improvements in employment and labor conditions, the political parties also provided much of the impetus for changes in the system of Crown Colony government which had ruled the colony since 1865. In 1944, a new constitution was adopted which provided for universal adult suffrage and limited self-government and which put Jamaica firmly on the road to independence.

In the elections of 1944, Bustamante's Jamaica Labor Party won 23 seats in the 32-member House, with the PNP winning four and independents winning five seats. The JLP won again in 1949, although with a reduced majority. Since then, the two parties have switched their roles of Government and Opposition every two terms. Thus, the JLP held power after the elections of 1944 and 1949, the PNP in 1954 and 1959, the JLP in 1962 and 1967, the PNP in 1972 and 1976, and the JLP in 1980.

In a political landscape dominated by these two parties, there has been little room for third parties or independent candidates. In 1944 independents won five seats, and in 1949 they won two, but in the seven elections since then, "no candidate from outside the two major parties has won a parliamentary seat" (Kuper 1976:112). No representative of a third party has ever won a seat, and in 1972, the last election

contested by a third party, the candidates drew only .01 percent of the votes (Ledgister 1980:13). When discussing electoral politics in Jamaica, therefore, one is talking about the competition between the Jamaica Labor Party and the People's National Party.

Although each election has seen its own pattern of issues, personalities, and alliances (for an analysis of electoral politics in the 1970s, see Stone, 1973, 1974b, 1977, 1980), certain fundamental distinctions can be made between the parties on the basis of ideology, orientation, and class representation. In the late 1930s and the early 1940s, when the parties were being established, the PNP was "a party of the radical middle class . . . calling on all Jamaicans to come together in a common nationalist front, (while) the JLP was the political agent of the unionized, run by Bustamante for the working class first and other classes second" (Munroe 1972:38). These basic differences remain.

> Both parties have always been multiclass alliances rather than unified class parties. The policy and ideological differences between these two parties reflect divergent dominant class interests and tendencies in either party. The P.N.P. has from its inception consistently represented a 'radical reformist' policy tendency while the J.L.P. has consistently represented a more cautious and 'conservative reformist' tendency. (Stone 1980: 111)

> The J.L.P. symbolizes the party of stability and pragmatic commonsense government while the P.N.P. symbolizes the party of change and experimentation. Class pressures for radical change tend to be articulated by the radical reformist (P.N.P.) party during periods of sharp antagonism over class issues. Conservative reactions seek to restore the balance by increasing class support for the party of stability (the J.L.P.), and by defining the radical party as a party of confusion. The radical party is unable to escape the loss of credibility because of its limited ability to restructure the society consistently with the rhetoric of change. The conservative party is itself, however, inevitably trapped by having to alienate large sections of the more dispossessed among the subordinate classes by its alignment with the forces of class reaction. (Stone 1980: 119)

For the decades surrounding independence in 1962, ideology became less of a divisive factor as the parties were faced with the difficult task of running the new nation-state. Over the past decade, however, ideological divisions have again asssumed greater importance, and they were particularly apparent during the 1980 election campaign. With its philosophy of democratic socialism, the P.N.P. sought re-election on its record of "people-oriented policies" -- workers' participation, land reform,

community organizations, adult literacy, public control of public utilities, and the abolition of illegitimacy as a legal status. In terms of foreign policy, the Government sought to lessen its ties of dependence on the West, promote closer ties with Latin American and socialist countries (particularly Cuba) and stimulate action on the New International Economic Order. The J.L.P., on the other hand, saw a P.N.P. victory as the continuation of the "economic 'sacrifices' and 'belt tightening,' the social confrontation and disintegration, and the growing adoption of communist strategies and alliances, all of which have led to economic bankruptcy" (Seaga 1980:6).

The J.L.P., for its part, presented itself as the "party of performance" whose leaders were skilled in management and whose pro-Western stance would re-open credit and product markets that had been increasingly restricted during the Manley years. Promising that "Deliverance is Near," the J.L.P. sought to convince voters that under its leadership, Jamaica could once again become a prosperous and viable country. Yet the pro-business and anti-communist stance of Seaga was portrayed by the P.N.P. as hiding fascist tendencies that would unleash repressive forces at home and hand Jamaican autonomy over to foreign capitalist interests.

In the end, the voters, 60 percent of whom come from the rural areas, decided not to "Stand Firm for a Third Term."

Yet farmers' participation in the political process is not limited to the four or five minutes they spend at the ballot box every four or five years. While they are an important force in determining the party that forms the government, it is also necessary to examine (1) the degree to which farmers can influence the policies of the government, particularly those that relate to agricultural and rural affairs, and (2) the ways in which they derive benefits and resources from the government. These issues will be examined separately in the following two sections.

Farmers and the Formulation of Policy

In this section we will be concerned with the formulation and articulation of agricultural policies and the extent to which farmers pressure (or, to be more precise, do not pressure) the government to adopt policies that enhance their interests. First, there will be a general discussion of the policy formulation in Jamaica. This will be followed by an analysis of the role of the Jamaica Agricultural Society and other associations which have a mandate to look after the small farmers' interests.

Policy Formulation In Jamaica

It is the political directorate of the party in power that is responsible for the planning and implementation of policy. This is not to say, of course, that the party has a free rein in imposing its will on the country; there are various groups which also apply pressure on the directorate in pursuit of their own interests -- trade unions, the mass media, the opposition party, the business lobby, churches, professional bodies, multinational corporations, and other governments (Stone 1980:86). As we will see shortly, farmers also have organizations which make representations to the government on their behalf, but these organizations are generally unable to influence policies. In addition to these "outside" interests, the political leaders also surround themselves with a cadre of advisors and friends who are in the position to affect policy decisions. Civil servants in high ministerial positions (such as Permanent Secretaries) also serve as advisors to the political directorate.

Stone (1980:82-83) identifies three main constraints on the formulation of public policy. First, there are the foreign governmental and corporate interests. Second, there are the local capitalists and business interests. The third constraint is the mass public (including small farmers), a group which exercises its constraining power through the electoral process.

> The mass public is not a major policy constraint in the short run, as effective political management through symbol manipulation can usually neutralize mass pressures, even in policy areas where there is considerable initial opposition or lack of genuine support. In the long run, however, it is a constraining force, but most political leaders think in short-rather than long-run terms (1980:85).

The constraint of public opinion is therefore more "elastic" than the constraints imposed either by international or local business interests. A directive by, say, the International Monetary Fund is of more immediate concern to policy-makers than the grumblings of farmers.

A further distinction concerns the objectives of the varying interests. The overseas and the local business interests "pressure party governments on policy alternatives while the wider mass public is concerned primarily with the distribution of benefits and resources" (Stone 1980:87). Farmers have little input into the decision-making process but they do have an impact on the allocation of public resources.

Small Farmers' Interest Groups

It is important to stress that small farmers represent more of a category than a group. There is no common bond or identity among the small farmers, other than their general recognition that there are thousands of others like themselves with similar problems, technologies, concerns, and constraints. Production is done individually, although the hiring and exchange of labor does provide for the recruitment of persons not directly concerned with the production unit. Even within communities, kinship, partisan loyalties, church membership, and individual reputation are more salient features of identity than affiliation with the small farmer "class."

Small farmers, in other words, do not represent a united constituency within the Jamaican political system. They may share common concerns, common problems, and a common lifestyle, but they constitute neither a pressure group nor a lobby within the political process.

It has often been claimed that the Jamaica Agricultural Society (JAS) is the "voice of the farmer" and represents the farmers' interests in policy formulation. That this claim is made most often by the officers of the JAS is perhaps some indication of its effectiveness as a lobbying group.

The JAS is the oldest and largest organization serving farmers. It was founded in 1895 with a mandate, in the words of a later Governor and observer, "to represent all agricultural classes, and free to criticize the Government, to press agricultural needs and reforms upon its attention, to inquire sympathetically into the grievances and needs of small settlers and to make due representation if these were found reasonable . . ." (Olivier 1936:319). With a membership of 80,000 farmers (Hoyte n.d.; Goldsmith and Blustain, 1980), the JAS represents a potentially potent lobbying vehicle for the farming community. Yet the organization does not have much influence on policy decisions related to small farmers partly because it has few resources, partly because it is dominated by larger farmers, and partly because its finances, guidance and activities are dependent upon the government it is supposed to influence.

Before 1951, the JAS did, in fact, have a major role to play in the development of agriculture. Its field officers provided the first organized extension service, and it was a catalyst in the establishment and growth of the Department of Agriculture. Lord Olivier, governor of Jamaica and head of the JAS at the turn of the century, gives a glowing account of the Society's activities in extension, hurricane relief, farm competitions, and the development of government policy (Olivier 1936:319-326).

In 1951, however, the Society's extension services were absorbed into the government administration, and the establishment of the specialized commodity boards

(e.g. coffee, cocoa) led to decreased JAS control over many major crops. Its farm supply system has been significantly cut back, its annual agricultural show at Denbigh depends on the government subsidy of $30,000 to $40,000 (The Daily Gleaner, July 19, 1980), and in 1980 the JAS received a total government subsidy of $1.3 million (The Daily Gleaner, April 11, 1981).

One indication of the role the JAS plays comes from reports of a 1981 speech given by the Parliamentary Secretary in the Ministry of Agriculture, in which he outlined the functions of the JAS within the Ministry:

> 'In the past the JAS has sought to win in a game in which it did not bet,' declared Mr. Brascoe Lee . . .
>
> In its function as a coordinating force with the Ministry of Agriculture, the JAS was expected to bring new plans for development in agriculture. Indeed, Mr. Lee said, under the program being set up by the Ministry, the Society would become responsible to the Ministry of Agriculture for small farmers.
>
> On this note, Parliamentary Secretary Lee issued a warning to the Society: 'I am giving until the end of October for you to come to the Ministry to say what structure you will be putting in place, and how the Ministry can help you to do so. And I am warning you that the Ministry will not give a listening ear or be sympathetic to the organization if it does not structure itself to perform its coordinating function. We will pay no attention to headlines and releases from the JAS if it fails in this area,' he said.
>
> The JAS had special links with the farmers and their organization, Mr. Lee declared. It knew what their specific needs for services and supplies were. Against this background, the Ministry was setting up a special link with the JAS to make information on all plans, program, etc., available to the Society, so that it can take them to the farmers and in return keep the Ministry informed of what the specific problems of the farmers were. As he saw it, the JAS would become a 'corridor,' or a direct link between the farmer and the Ministry, in developing its role as 'a meaningful representative of small farmers' interests.' (Daily Gleaner, September 5, 1981).

Here, then, was an official from the Ministry of Agriculture dictating to the farmers' organization what its specific role was to be. And given the financial dependence of the Society on the government, there is little independent action that the JAS can take. Without resources, the JAS can do little; and despite periodic announcements of a "bold new program for development" (The Daily Gleaner, July 19, 1980), the proposed activities -- in this case focusing primarily on restructuring the farm supply system, developing the show facilities at Denbigh, and envisaging the "introduction of special

projects within the Society's branches" -- do little to achieve the Society's objectives of speaking for the small farm sector in the formulation of policy. Some of the JAS' activities have little to do with agriculture. A resolution passed by the Society's Board of Management, and which received headlines in the local paper, called for government action to reduce dangerous and reckless driving (The Daily Gleaner, May 15, 1981).

The inability of the JAS to influence the government on behalf of the farmer is most apparent in terms of pricing policy. As was noted in Chapter 4, the change of administration in November 1980 resulted in the importation of vast amounts of food. Between January and August 1981, the amount of food being imported into Jamaica was 75 percent greater than during the similar period of 1980; this compares with an increase over the same period of 34 percent in capital goods, 41 percent in raw materials, and 29 percent in consumer goods other than food (The Jamaican Weekly Gleaner, September 28, 1981). Much of this food was extended to Jamaica by the United States under its Food-for-Peace program; a total of US $17.1 million was made available between February and August 1981 (Sunday Gleaner, August 23, 1981).

The net result of this flood of food on the supermarket shelves was a lowering of prices paid for locally provided commodities. In the winter of 1980/81, a pound of yam cost about J$1.00 in Kingston; a pound of imported rice, which is a more highly valued food and which goes farther in feeding a family, cost a controlled 59 cents (Daily Gleaner, April 3, 1981). For the farmers, therefore, the policy of importing food proved disastrous as prices dropped precipitously. In the winter of 1981, farmers were scrambling to sell their yams for 20 or 25 cents per pound; the year before, they had received 35 or 40 cents per pound.

And all of this was happening, it must be remembered, at the same time that the Second Integrated Rural Development Project was encouraging farmers to grow more food crops.

The failure of the JAS to act as an effective lobbying organization at the national level is mirrored by its failure to mobilize farmers at the local level. Although its 80,000 members are organized into 900 branches scattered throughout rural communities, the branches do not provide a forum for organizing farmers either into self-help groups, lobbying organizations, or vehicles for communication with the Ministry of Agriculture.

The most important function of a branch is its monthly meeting, at which time farmers are supposed to voice their opinions and complaints, or learn the latest news or techniques from their extension officer. In fact, these meetings (at least in the two watersheds studied) seldom occur. Because the JAS has few institutionalized functions,

and even fewer resources, most farmers do not bother to attend these meetings. If there is a special event, such as a film show or a guest speaker, the school room or church may be packed with curious farmers; usually, however, only officers show up for the meetings, and it is not unknown for the monthly meeting day to pass unrecognized by all.

The sale of cocoa and coffee through the relevant commodity board automatically enrolls a farmer in his local JAS branch (through the deduction of a membership cess), yet half of the coffee-producing farmers surveyed in the IRDP area were unaware that they were members of the JAS. In a 1979 study, a similar pattern was found for other commodity organizations (e.g. All-Island Cane Farmers Association, Citrus Growers Association), a condition which led us to conclude that: "The compulsory farmers' organizations have failed to communicate with many members, even to the extent of informing them of their membership" (Goldsmith and Blustain, 1980:66).

"Active members" were defined in our study as those farmers who had attended a meeting of their branch at least once within the past two years. Even with this liberal definition, less than half (41 percent) of those individuals who were aware of their JAS membership participated at this minimal level. The reason for this poor turn-out at meetings has already been noted: with no resources at the organization's disposal, the members have no incentives to go.

In addition to the JAS, there are a number of commodity associations which were created by the government to assist in the provision of credit, extension services, and marketing of various export crops -- the All-Island Cane Farmers' Association (AICFA), the All-Island Banana Growers' Association (AIBGA), the Citrus Growers' Association (CGA), and the cooperative societies established by the Coffee Industry Board and the Cocoa Industry Board. Like the JAS, they do not adequately represent the farmers' interests.

The most important function served by these agencies is the marketing of the crops and in the payment they make to farmers. To a great degree, the prices paid for these crops are outside the control of the government or the associations; export crops are sensitive to the worldwide supply and demand situation. But the commodity association can influence the percentage of the world price received that is paid to the farmers, and in this regard, the associations have not worked in the best interests of the farmers. A 1974 government report stated that:

> In relation to marketing some statutory commodity agencies help to keep down output. Farming is made unprofitable because the Board's margin is too large, e.g. the Banana Board paying the farmer $37 per ton out of an f.o.b. price of $95 per

> ton (1971), or the Citrus Growers' Association paying the farmer $.80 for oranges which becomes $2.50 of concentrated orange juice. (cited in Goldsmith 1982).

In 1979, farmers were paid J$180 per ton for bananas which were fetching J$700 per ton in England (Goldsmith 1982). Coffee farmers have fared even worse, getting as low as 38 percent of the f.o.b. price (Reynolds 1979).

This situation, in which governments appropriate for other purposes a sizeable proportion of the income generated by the sales of export crops, is by no means limited to Jamaica. Bates has found that this practice is the norm for countries throughout tropical Africa.

> In Africa, public agencies are by law sanctioned to serve as sole buyers of major agricultural exports. These agencies, bequeathed to the governments of the independent states by their colonial predecessors, purchase cash crops for export at administratively determined domestic prices, and then sell them at the prevailing world market prices. By using their market power to keep the price paid to the farmer below the price set by the world market, they accumulate funds from the agricultural sector. (1981:12)

In most instances, the producers "obtained less than two-thirds of the potential sales realization, and in many cases they received less than one-half" (p.29).

The same lack of participation that we saw in the JAS exists in the commodity associations. Farmers will generally turn out for meetings at which the current prices for the new crop are announced, but after listening to the speakers and voicing their opinions on various issues, there is little concern with the organization until it is time for the next crop's prices to be announced.

The failure of local organizations to mobilize people and resources at the community level is related to the clientelistic nature of the Jamaican political system, particularly the control of the government over resources; the political imperative to distribute those resources in exchange for electoral support; and the activities of local leaders who provide brokerage services between the farmer clients and the patrons at higher levels.

> The effect of thirty-four years of institutionalizing clientelistic politics in Jamaica has been a weak civic sense of a national interest independent of contending party alliance, and a view of politics and government as the private preserve of political bosses, power brokers, and clients.... Most citizens ... lack well-developed associational or community groups independent of the party power centers to engage in any organized collective action. Totally absent from the political landscape are strong, activist, issue or promotional groups articulating sectional or

> other interests and mobilizing citizen opinions independent of the political parties. The structure of power and control built into the clientelistic patron-broker-client networks are designed to maintain an emasculated and controlled citizenry, bullied, prodded and intimidated into a passivity characteristic of peons and peasants living the hegemony of feudal political overlords. (Stone 1980:107-108)

In the area of policy formulation, therefore, the opportunities for the participation of farmers are extremely limited. Although they have the option of voting the rascals out of office, their ability to influence the leaders during their tenure in office is slight. Yet farmers as a class have an important role in the distribution of public resources, a role which is attributable to their electoral strength and which is manifested in networks of patronage and clientelism.

The Clientelistic Basis of Jamaican Politics

Although the procurement of benefits from the government is not usually what one thinks of when discussing "participation," the involvement of farmers in clientelistic networks is one of the major avenues of interaction between farmers and the government. Our first concern, therefore, will be with a general discussion of patronage in Jamaican society. This will be followed by an examination of government programs and their clientelistic basis.

Patronage in Jamaican Society

The study of patron-client relations increasingly has been the focus of numerous studies in both anthropology and political science. With the growing recognition that not all political behavior can be explained through "the group model of politics" (Lande, 1977:507), political scientists have looked more closely at the traditionally anthropological notion of dyadic, non-formal relationships. Alternatively referred to as patronage, patron-client politics, and clientelism, the concept has become an important part of political analysis.

There are almost as many definitions and concepts of clientelism as there are students of it. In a recent volume on the subject (Schmidt et al., 1977), there is varying stress by different authors on specific aspects of the concept -- the face-to-face nature of such relationships, their dyadic quality, the inequality of status and wealth between patron and client, the unequal reciprocity of such relationships, their flexibility, their informality, their non-corporate nature, their durability over time, and numerous other issues. Some of the authors also try to distinguish patron-client relationships and

political clientelism from class or "categorical groupings" (Scott, 1977:128), political parties (Weingrod, 1977:325), and groups (Lande, 1977:507). It is not my intention here to review the literature or to integrate the disparate concepts of patron-client ties by offering my own definition or typology. I would accept as a basis for our analysis the notion offered by Boissevain that:

> Patronage is founded on the reciprocal relations between patrons and clients. By patron, I mean a person who uses his influence to assist and protect some other person, who then becomes his 'client,' and in return provides certain services for his patron . . . Patronage is thus the complex of relations between those who use their influence, social position or some other attribute to assist and protect others, and those whom they so help and protect. (1966; quoted by Weingrod, 1977:323).

In his recent analysis of the Jamaica political system, Stone has described Jamaica as "the prototype of a clientelistic democratic state" (1980:93), and has concluded that without an understanding of the patron-client relationship existing between the political parties and the mass public, one is hard-pressed to understand how the whole system operates.

> Party politics under clientelism is built around a network of personal allegiances between multiple patrons, brokers, and clients. Patrons control the nerve centers of power and access to material and social rewards, while brokers and intermediaries provide the linkage between the rank-and-file clients or supporters and the powerful patrons or political bosses. (1980:97)

Almost every study of social and political organization in Jamaica stresses the importance of patron-client ties (see, for example, Ambursley, 1981; Foner, 1973, especially Chapters 7 and 8; Lacey, 1977, Chapter 3; Munroe, 1972; and Stone, 1980). Party bosses, or what Stone refers to as "maximum leaders," control the party organization and the distribution of information, money, status, and other forms of resources. These patronistic resources are channeled through second-level party leaders and through key individuals who play the role of brokers or intermediaries for clients at the lower levels of the hierarchy. "All important areas of national life are entwined in these networks through key individuals who become brokers or clients of the political bosses" (Stone 1980:103).

Given the nature of the political system, the party in power controls the resources not only of the party organization itself, but also of the government. Public housing, employment, and other programs are administered through the ministries and agencies, and these, in turn, are run by partisan politicians.

The ability of the party in power to control clientelistic resources is enhanced by the great degree of centralization in the system. Public expenditure increased from 25 percent of GDP in 1972 to 50 percent in 1978; by the end of the 1970s, the public sector's share of GDP, including state-owned enterprises, reached 60 percent (Goldsmith 1981:47).

In addition to controlling the activities of ministries, the central government also exercises considerable authority at the local level. Since 1856, the Island Government has maintained control over local revenues and expenditures (Hall 1959:179); and currently, according to G.E. Mills (1980), chairman of the latest commission on local government reform, the parish councils receive approximately 95 percent of their revenues from central government grants (Sunday Gleaner, January 6, 1980). Between 1977-78 and 1979-80, these grants increased from 97.9 to 120.6 million dollars, but this increase in monetary terms actually represented a decline in terms of percentage of recurrent government expenditure from 11.5 to 9.4 percent (National Planning Agency 1979:2.3).

The effect of this financial dependence was pointedly expressed in an article by Irvin Francis, chairman of the Clarendon Parish Council, in a Daily Gleaner supplement (July 20, 1979) hailing the fiftieth anniversary of the Association of Local Government Authorities (ALGA):

> Perhaps the begging characteristics of citizen's demands must have earned (Parish) Councillors the name "City Fathers" in the true colonial fashion. Son begging father; and the Council, to complete the cycle, begging "grandfather" Central Government. "Father" never got enough from "Grandfather" to give; sons, the citizens, are always left destitute and poorly provided for so "City Fathers" get away with a lot by shirking their responsibilities and eventually blaming it on the Central Government.

In addition to financial dependence, the Parish Councils rely on Kingston for many of their policy initiatives. Mr. Francis again:

> . . . The Councils' policies and programs are mainly predetermined and activated by Central Government via the parliamentary and ministerial route. Council in its executive role is merely an agent of the Local Government Ministry.

From the perspective of the average citizen, the most important intermediaries are the Members of Parliament (MP) and the Parish Councillors, for it is their responsibility to dispense such benefits as unskilled jobs on roads or other public works; construction contracts; food, housing and other poor relief; contract cards which enable

the holder to do farm work in the United States; and other public goods such as money for road repair and water tanks. In a personalized and patronistic system such as Jamaica, the MPs and the Councillors are usually the first people appealed to when individuals or communities need resources or action.

> For the vast majority in Coco Hill, politics is a matter of getting help in the form of material assistance from one of the parties, rather than holding official positions in party branches. Ideological issues are of minimal concern or significance. In turn, the amount of patronage awarded to party supporters in the community is a reflection of the balance of power in the parish and nation.
>
> Both the Parish Councillor and the Member of Parliament spend money with political ends in mind; in general, they reward those areas which have supported them well and "punish" those areas where votes have slipped off in recent years. (Foner 1973:118, 120)

Foner's analysis underscores the fact that patronage is generally distributed along party lines, with the beneficiaries usually being those people who are identified as party supporters. An early PNP document (circa 1959) stated that it is the duty of every good party member to "see that PNP people get work . . . of every ten (jobs available), make it six PNP and four JLP." It was also made clear that as a "general principle . . . PNP hard-core workers should be provided for" (cited by Munroe 1972:93). It is not just the PNP that has used government resources as means of attracting and keeping partisan support; the JLP operates under the same principles.

Stone (1980:96) indicates that of the Jamaican electorate, approximately one-quarter support a particular party because of issues and ideology, another one-quarter are "apathetic and anti-party militants," and one-half support a party because of "clientelistic loyalties." Approximately 80 percent of the rank-and-file party activists consist of the lower class, the small peasantry and the unemployed (Stone 1980:134). Before the 1980 general election, I held numerous conversations with people who stated that although they were aware of and concerned about the various campaign issues (the economy, communism, fascism, etc.), they were planning to vote for the party which they believed would give them the greatest opportunity to earn meagre wages through periodic public employment. Munroe indicates the irony of this when he points out that those people suffering from chronic unemployment are those people most susceptible to partisan appeals, and that "the fiercest political partisanship (comes) precisely from

those who suffered most from the joint failure of both political parties to cope with massive unemployment" (1972:93).

It should not be surprising that a change in the party in power should bring with it charges of "victimization" by those removed from their jobs to make way for supporters of the new government. Although their replacements view this action as a means of "redressing the imbalance" created by the "victimization" imposed by the old party in power, this is of little consolation.

Yet the farmers do not always obtain resources directly from their Member of Parliament or Parish Councillor. Rural Jamaica contains a variety of leadership roles which demand the ability to act as intermediary between farmers at the local level and bureaucrats and politicians at higher levels. Constituency party leaders, for example, serve as a conduit for information and resources between the rank-and-file and the party leaders. The presidents and secretaries of the Jamaica Agricultural Society and the commodity associations organize the marketing of produce from below and the distribution of information, payments and inputs from above. There are other roles as well: Justices of the Peace perform quasi-legal functions; in addition to filling an economic need, merchants may provide the capital for local projects; clergymen attend to the spiritual needs of their flock; some teachers carry the respect which leads them to be called on for advice or the arbitration of disputes; the postmistress, by being one of the most well-informed people in the community, is sought after for advice; large landowners may provide employment and influence public opinion. In short, a multitude of leadership positions exists in a rural community, many of which demand brokerage skills.

Yet it is important to note that these leadership positions should not be viewed as discrete roles; all of them, conceivably, may be filled by one individual. It is not unusual to find (as in one case in the Two Meetings watershed) that the largest landowner in the area is also the leader of the JAS, the chairman of the local Development Committee, the agricultural teacher at the school, and an officer on several of the commodity organizations; he was also very active at mediating disputes between members of his community and the IRDP. Jamaicans refer to these people as "village lawyers," and they exist all over Jamaica. This overlap of leadership is most apparent in the area of agricultural organizations. Our study of local organizations in the IRDP area identified 99 leaders of non-JAS agricultural organizations; of the 99, 60 of them were also officers in their JAS branches (Goldsmith and Blustain 1980:86).

There are several reasons why local leadership is drawn from such a small circle. Of prime importance is the fact that in rural Jamaica there are a limited number of

people who have the education, skills, time, and inclination to dedicate themselves to community service. Although there are both material, social and psychological rewards to be had from such roles, many of the leaders agree that such efforts bring them little remuneration. Another reason why there are relatively few leaders at the community level is because there are also relatively few leaders at a higher level. The overlapping of roles that occurs locally is replicated at the parish levels. The people who run the show at the semi-annual meeting of the parish-wide JAS meeting are the same cast of characters who conduct business at the annual parish-wide coffee, cocoa, banana, or cane meetings.

An afternoon spent at any of these affairs confirms the strong presence of overlapping networks of local leaders who are creating or maintaining their linkages with other local leaders and with politicians and officials from the central and parish levels. The half-yearly meetings of the parish-level Associated Branches provide opportunities for these local leaders to petition for benefits from higher levels. At the 1979 spring meeting of the Clarendon Associated Branches, delegates from numerous branches sent resolutions to the national JAS and the Parish Council calling for gully control, a postal agency, an increase in the delegate fee, government marketing stations, bus service, road improvement, and water supplies.

It is in recognition of their links with potential and actual patrons that farmers cultivate their own linkages with these brokers. Where a local leader has excellent ties with an influential person in Kingston or the parish capital, he may himself (or herself) attract a following of people hoping to reap some of the benefits. But when that leader fails to deliver the goods (as, for example, after a change of government), that following might dissolve, as the clients deliver their loyalty and their expectations to the doorstep of someone who is perceived to have stronger ties with more well-endowed patrons.

Thus far, the argument has been phrased in more or less personalistic terms, in which an individual, a small group or a community establishes a relationship with a political patron with the hope of procuring some benefits or resources. But the government also institutes large-scale programs which have the intention not only of serving the general welfare, but also of demonstrating to the electorate that the party in power can provide for the people. The 1980 election manifestos of both parties proposed significant government spending on social programs. The PNP's "Foundations for the Future" provided for "the basic necessities of food, shelter, jobs, education and health care for all." The JLP, for its part, proposed "Change Without Chaos" by including provision for "the allocation of funds to provide social facilities and

infrastructure improvements such as schools, medical centers, community centers, commercial shops, police, fire protection, movie theaters, as well as improved roads, water supply and electricity." Although much of this can be attributed to the rhetoric and promises that accompany election campaigns, these statements do underscore the popular notion it is the responsibility of the government to provide all these services.

It is no accident, therefore, that between 1959 and 1977, average increases in public spending in election years have been twice as large as the average increases for the entire period. Thus, for that eighteen-year period, the average annual increase was 8.6 percent. For the fourteen non-election years alone, the increase was 5.7 percent. And for the four election years (1962, 1967, 1972 and 1976), the increase was 16.7 percent (Stone 1980:232).

Patronage in the Rural Sector

Clientelistic politics are particularly important in the rural sector. As we saw in the previous section, farmers are generally hurt by many of the policies adopted by the government. Thus, for the farmers, the flow of resources to them is a means of getting money and other resources which offset what they lose through low prices and surplus appropriation. And for the government, the provision of patronage is a way of mending fences with a significant constituency.

The Kingston Metropolitan Area has about one-third of Jamaica's population, but it contains only one-fifth of the seats in the House of Representatives. It should not be surprising, therefore, that over the past four decades there have been a multitude of programs and projects which have been aimed at moving resources to the rural sector.

Since 1945, governments of both parties have launched a series of programs designed to deal with the general problem of agricultural development (see Chapter 2). The Farm Improvement Scheme of 1945-1955 was followed by the Farm Development Scheme (1955-1960), the Agricultural Development Program (1960-1962), the Farmer Production Program (1963-1968), the Farmer Development Program (1969-1972), Operation G.R.O.W. (Growing and Reaping Our Wealth; 1973-1976), the Emergency Production Plan (1977), and the start of the Five-Year Development Plan (which was supposed to run from 1978 to 1982). The present government is currently instituting a Comprehensive Rural Development Program.

What all of these programs have had in common is an integrated approach which attempts to tackle a variety of problems through the transfer of resources to farmers. The Farm Recovery Scheme, for example, established subsidies and grants for soil conservation, land reconditioning, fencing, fertilizers, the establishment of food crops

and permanent crops, farm buildings, and farm water supplies. The Agricultural Production Program allowed for subsidies for dairy improvement, land reclamation, fisheries, minor irrigation, farm buildings, and other aspects of agricultural development (MacFarlane, Singham, and Johnson 1968).

In fact, a scan of the benefits available within these umbrella programs reads like a smorgasbord of development activities -- the Farm Grants Recovery Scheme, the Farm Building Scheme, the Farm Housing Scheme, the Milk Recording Scheme, the Farm Machinery Scheme, the Subsidized Sires Scheme, the Rice Expansion Scheme, the Coffee Rehabilitation Scheme, the Fertilizer Demonstration Scheme, the Minor Irrigation Scheme, the Land Use Incentive Scheme, and countless others.

In addition to these comprehensive programs, governments of both parties have instituted projects with a more specific sectoral or regional focus -- land settlement, Project Land Lease, Pioneer Farms, Sugar Workers' Cooperatives, the First Rural Development Project, the Second Integrated Rural Development Project, and others. In 1981, there were 122 government bodies, agencies, statutory boards, and authorities which were involved in the agricultural sector (Israel Drori, personal communication).

The point to be made here about these schemes is that they have relied heavily on the use of grants and subsidies. The Farm Building Scheme, for example, involved subsidies totaling J$1.8 million; the Farm Housing Scheme, J$2.4 million; the Farm Water Supply Scheme, J$2.2 million; the Food Crops Subsidy Scheme, J$2.3 million; and the Hill Farming Scheme, J$900,000 (Williams 1976:168-9).

Estimates on the total amount of money expended under these schemes vary. One Ministry of Agriculture report stated that between 1955 and 1972, subsidies to farmers totaled almost J$25 million and loans amounted to almost J$24 million (Williams 1976:167). Another Ministry document estimates that between 1963 and 1968, J$15.5 million was spent on the Farmers' Production Program (Williams 1976:170). MacFarlane, Singham and Johnson (1968) claim that of 18.4 million pounds (approximately J$36.8 million) allocated under various programs by the Ministry of Agriculture between 1945 and 1968, 7.8 million pounds (about J$15.6 million, or 42 percent) were for subsidies and grants. Stone estimates that from 1946 through 1968, a total of J$56.4 were allocated to farmers in the form of credits and subsidies (1974a:167).

The Food and Agriculture Organization of the United Nations has estimated that between 1955 and 1975, J$36 million was disbursed in direct subsidies to farmers. These subsidies did not include grants and low interest loans to the commodity boards, subsidized losses of the Agricultural Marketing Corporation and the interest rate

subsidies on loans issued by the Agricultural Credit Board, animal feed subsidies, or fertilizer subsidies. During the 1975/1976 fiscal year alone, J$21 million in subsidies were available to farmers under various schemes (FAO 1977:279).

Not all of these estimates and figures are consistent, but this should not be of great concern to us here. What is important is the manner in which these grants, subsidies, and low-interest loans have been distributed. It would be simplistic to assert that these schemes -- and the benefits that invariably accompany them -- are designed solely to respond to partisan pressures. Planners and administrators believe that they are fulfilling development objectives although, as we shall see shortly, the record of accomplishment of these schemes does not merit their constant repetition. But even if these programs are not created only for clientelistic purposes, their principles of implementation complement very well the underlying logic of political patronage. Three points demonstrate the compatibility of the schemes and the importance of clientelism.

(1) Even though, as indicated earlier, these programs are directed toward the rural masses, they are structured in such a way that individual farmers benefit directly from the resources. We have already seen that this pattern has been replicated in the IRDP.

During the regime of Michael Manley there were attempts at forming agricultural collectives, but many of these, such as the Pioneer Farms and the Food Farms, fell short of expectations (Goldsmith 1981:183-184). One scheme, Project OASIS, seems to be achieving some measure of success, but there has had to be significant accommodation to individual interest and motivations (Drori 1982). Even under these programs, however, clientelistic concerns seem to have been a paramount concern of the administrators (Ambursley 1981:84).

Where resources have been provided to communities and groups, as in the case of water tanks and roads, there has been no requirement that individuals behave collectively or contribute their own resources. Rather (and this was shown in Chapter 5 to be particularly true in the IRDP), these resources are provided by the government as a public good. Many of these benefits, in addition to improving the welfare of rural communities, are geared toward improving the standing of the ruling party in the eyes of the electorate.

(2) Another factor which reinforces the view that these agricultural development programs are political in nature is the eligibility of farmers. Unlike some countries, where the push has been toward involving the more progressive or influential farmers, most of the Jamaican schemes (including the IRDP), have tried to involve all farmers,

regardless of their true interest or of their ability to maintain the improvements to their farm.

It is instructive to look at the process by which one project, the Farm Development Scheme (FDS) between 1955 and 1960 became open to more and more farmers. Originally, the program was to have been started in a number of selected areas -- called "bridgehead" or pilot areas -- within each parish. These areas were later expanded and doubled in number. Later on, when farmers outside of the bridgeheads started agitating for inclusion in the scheme, the approach was altered, and by 1958, "any farmer, regardless of the location of his holding, could apply for assistance under the Scheme" (Kruijer and Nuis 1960:4).

At the same time, the FDS was opened up and expanded in another way that allowed more farmers to derive benefits.

> Originally, the official position could be summed up in the term "full development". The farm plan should take into account all factors influencing development, the farmer was to adhere faithfully to its recommendations, and the subsidies necessary to complete it were committed to the farmer in advance . . . The principle of planning for the farm as a whole was never abandoned but gradually it was applied less rigidly. 'Special incentive' assistance was introduced for farmers who were already developing on their own account, but who needed help for one or two particular items. (Kruijer and Nuis 1960:5)

The very next scheme, the Agricultural Development Program (1960-65) tried to include even more farmers. The Ministry's announcement of the program stated that:

> The experience gained through operation of the (Farm Development) Scheme has also made it clear that there is a need to widen somewhat the basis on which farmers can qualify for financial aid and that there is an urgent need to improve the services available to farmers in the fields of credit, marketing, education and research. (Ministry of Agriculture and Lands 1960:1)

So as one might expect with a series of programs that have a hidden political agenda, the clientelistic net has been cast progressively wider. From the idea of small pilot areas, the scheme was eventually (and rather quickly) widened to include all farmers. And instead of working only with those farmers interested in total farm development, benefits were to be extended to all farmers desiring a little shed, pigpen, or diversion ditch. And the cornucopia of schemes and benefits has ensured that most farmers can get something from the program.

(3) A third reason to believe that these development programs have a political basis lies in the fact that although time and time again they have been shown to fail,

they are consistently duplicated. Just as the 1941 Wakefield Report has defined the agricultural issues for the past forty years, so, too, has the system of subsidies and grants structured the way in which those issues have been addressed. The administrative procedures used in the Farm Development Scheme from 1955 to 1960 are uncannily similar to procedures adopted by the IRDP: farmers are visited by an extension officer; together they draw up a farm plan, specifying the work to be done; the grants and subsidies due to the farmer are calculated; and the grants are paid out after the work has been checked by the extension officer (Kruijer and Nuis 1960:2-3).

There has been no dearth of evidence that this prevailing approach has not yielded the desired results. A 1972 report issued by the Agricultural Planning Committee stated that:

> In spite, however, of the considerable investment in terms of loans and subsidies, there is no evidence that these programmes have had a significant impact on production or on reducing the widening gap between urban and rural incomes.... The present level of subsidy bears little relevance to the cost of production of subsidized crops. This resulted in the efficient producers ignoring the subsidy and the welfare seekers receiving the benefits, thus making the subsidy ineffective. (cited in Williams 1976:169, 170)

A 1967 Ministry of Agriculture Paper (No. 38) points out that between 1963 and 1968, approximately J$15.5 million was spent on loans and subsidies, yet during the same period, the contribution of agriculture to the Gross Domestic Product rose by only J$7.6 million (Williams 1976:170).

In addition to the evidence of failure, there have also been numerous analyses of why the programs have not achieved their objectives. As far back as 1960, and certainly after that, questions have been raised about the efficacy of subsidies, the desireability of encouraging participation by all farmers, the individual (rather than group) approach to farm development, and the suitability for such comprehensive schemes for the diversity of farm types found in Jamaica (Kruijer and Nuis 1960; Central Planning Unit 1961; MacFarlane, Singham and Johnson 1968). Part of the problem can be explained through institutional amnesia, a condition characterized by the commissioning of reports, the filing of reports, the forgetting of reports, and the commissioning of reports on the same subject as those which have been filed and forgotten. But the facts regarding program failures have been raised too often, and are too visible, for the blame to be attributed solely to bureaucratic inertia. Rather, the constant reliance on the same system of grants and subsidies, all within the same "scheme" format, must be seen within the larger political context. For governments

which must maintain electoral support through the movement of resources out to the rural areas, these phoenix-like programs are an ideal vehicle for the attainment of those political ends.

Implications for Agricultural Development and Resource Management Programs

Throughout Chapter 5, it was noted that the manner in which farmers were participating in the IRDP was counterproductive to the achievement of the program's resource management objectives. By viewing these issues here within the overall social and political context, this apparently "irrational" behavior becomes quite understandable. Although the IRDP is a resource management project, it has more than just resource management objectives. Because the project involves interaction between farmers and the government, and given the usual nature of that interaction, it is to be expected that the project should have a political agenda as well.

All five of the characteristics of participation noted in Chapter 5 -- lack of farmer participation in project design, the individual and the short-term nature of participation, the lack of financial or resource commitment by farmers to the program, and the lack of effective organizations at the local level -- all of these characteristics are generalized throughout, and are a product of, the Jamaican political system.

Just as farmers have little input into decision-making at the national level, so too, they have had little to say about the design of the project's soil conservation and agricultural production technology. Small farmers are not represented either at the Ministry of Agriculture or at the government research farms, and thus there have been few opportunities for farmers to contribute to the design of these technologies. There is no reason, of course, why small farmers could not play a greater role in the agricultural research process. To incorporate "real" farmers into the operation of farms such as Smithfield or Allsides would not disrupt the smooth functioning of the government, nor would it place undue demands upon politicians. It would entail a new approach by the responsible officials at the research stations and by farmers, but this would be the necessary cost of making agricultural research and project design relevant to the needs of small farmers (Whyte 1981).

The other four characteristics of participation should be grouped together because they arise from the same clientelistic principles. Where electoral support is dependent upon the provision of benefits and resources to the mass public, it should not be surprising that the resources made available are provided to individuals, are immediate

and tangible, and require no reciprocal resource commitment from the beneficiaries. In addition, given the prevalence of clientelism and the fact that local agricultural leaders play an intermediary role, it is not unexpected that local organizations are not more self-reliant and autonomous. Although the Development Committees, with their total dependence on project support, are an extreme case, they exemplify the lack of sustainability of most local organizations.

The IRDP, therefore, with its subsidies and grants, is but a continuation of programs that have been extended to farmers over forty years and through nine national elections. The basic "rules" of this system, as well as the public's expectation that "the government will provide," are well entrenched.

If, as we have seen, these modes of participation are both counterproductive to resource management efforts and deeply rooted in the Jamaican political process, then is the situation hopeless? Can effective conservation programs be implemented, or are they doomed to failure by the immutability of the existing system? Is a change in the political framework a necessary precondition for constructive agricultural development and resource management efforts? If so, how, and by whom, could those changes be initiated? It is to these issues that we now turn our attention.

Chapter 7
THE PROSPECTS FOR EFFECTIVE PARTICIPATORY PROGRAMS IN JAMAICA

Three central questions should concern anyone interested in formulating and implementing more effective agricultural development and resource management programs in developing countries like Jamaica. First, what are the prospects for change in the Jamaican social system? If present orientations, institutions and behavior are not conducive to the successful implementation of effective resource management programs, then what are the possibilities of a social transformation? Second, what beneficial changes could be instituted within the present social system? And finally, what lessons emerge from this study? Before addressing these questions, however, we should summarize the arguments presented thus far.

The Second Integrated Rural Development Project has been concerned with changing the ways in which Jamaican hillside farmers manage their resources. The objectives of the project are to encourage farmers (1) to conserve the soil through changes in land use patterns and through the construction and maintenance of bench terraces, hillside ditches and other forms of treatment, and (2) to increase productivity per acre through the intensification of physical inputs and labor. We have seen, by various sets of criteria, that the project is having mixed success in meeting these goals. Some of the steeper and more marginal lands are being taken out of food crop production as forest plantations and permanent tree crops are established. At the same time, however, the soil conservation treatments are generally not being maintained, and farmers are not adopting the recommended agricultural practices. On balance, it does not appear that the IRDP will significantly stem the deterioration of the area's natural resource base.

The reasons for the project's nonfulfillment are numerous and varied. Many of the explanations, as we saw in Chapters 3 and 4, have to do with the project designers' assumptions about the rural areas: the availability of labor and inputs, the ability of the farmer to invest in treatment maintenance, the presumed advantages of continuous mounds in yam cultivation, and other aspects of agrarian life.

Yet there was another set of explanations which concerned the ways in which farmers participate in the project, i.e. the patterns of interaction between project staff and farmers and the acceptance by farmers of their new resource management responsibilities. Chapter 5 analyzed how present modes of farmer participation were inappropriate and counterproductive for the achievement of the program's objectives:

farmers did not participate effectively in the design of the technologies; farmers participated as individuals, when some activities would have been conducted more profitably by groups of farmers; instead of having a long-term commitment to the project's goals, farmers sought primarily short-term benefits; and instead of committing themselves and their resources to the project's goals, the farmers, again, participated primarily for the resources they could derive from the government. Participation in local organizations, to the extent there was any, was also characterized by the pursuit of resources and benefits. Local leaders sought amenities for their communities, but there was no attempt to create on-going and sustainable organizations that would mobilize local resources.

These characteristics of participation, as we noted in the last chapter, are not unique to the IRDP, but are generalized throughout the Jamaican political system, where the farmer-as-client is a well-established role. Other projects have operated under the same principles and understandings, and after forty years and numerous programs, these principles and understandings are fairly well entrenched. One thus cannot understand the IRDP and its limitations without understanding its political context.

So from a concern with soil conservation and agricultural production in two watersheds, we have been led necessarily to a consideration of national political systems and social processes. By incorporating this new focus into our analysis, the task of implementing an agricultural development and resource management project such as the IRDP becomes more complex.

In addition to the task of finding the proper administrative structures, bureaucratic procedures and program objectives at the project level, we are also confronted with the problems presented by larger, more deeply-rooted institutions. If so much of the behavior and attitudes of the farmers, administrators and field staff are derived from "The System," and if that system militates against effective resource management programs, we must ask whether projects in Jamaica such as the IRDP are doomed to failure. Are Jamaicans trapped by the web of their own sociopolitical relationships? Can a successful project be designed and implemented within the constraints of the existing political environment, or must that environment first be altered? Can one make small changes without affecting the structural characteristics of the whole system, i.e., is tinkering possible and would it help?

The Prospects for Change

That some change is needed in the structure of relationships between farmers and the government should be obvious by now. When farmers have to be paid to institute improvements on their own farms, when laborers have to be paid to construct depots or springs which benefit their own communities, when local organizations depend upon the government for all of their resources, when DCs stop functioning because they have exhausted the benefits provided by the IRDP -- when, in short, almost all organized development activities at the community and farm levels are dependent upon the central government for ideas, mobilization, funding and implementation, then there is a tremendous waste of unutilized or poorly utilized resources at the local level. Rather than contributing to growth, rural development as practiced in Jamaica constitutes a drag on the economy.

Positive change in this situation would entail a movement toward greater mobilization of resources and commitment at the local level, a decrease in the flow of what are essentially welfare payments to farmers, greater participation by farmers in decision making and policy formulation, and the development of more appropriate technologies for small hillside farms. Of course, not all social change that does occur will necessarily be in the desired direction. And while our focus is specifically on changes in the area of rural development, such changes would have implications for almost all other areas of social life. Still, assuming that such changes are necessary, the obvious question then becomes: how can such a transformation be induced? Three general possibilities will be discussed. First, change could be initiated through the action of one or more groups within the society who have decided that such a change would be in their own interests. Second, society could be transformed by a crisis which results in the collapse of the entire system. And third, changes could be dictated by a more authoritarian regime. Each of these will be discussed in turn.

Change Through Self-Interest

It could be argued that the move toward a more self-reliant, productive, and participatory rural sector would be in everybody's interests. Yet what is desirable change for the system as a whole is, in the Jamaican case, very different from what is desirable for respective actors within the system. In whose interests would such a change be, and from whom could the impetus for change come? The farmers? The government? The JAS? The IRDP? Local leaders?

For the <u>farmers</u>, the system as it operates now works rather well -- it provides benefits with relatively little effort on their part. As we have seen, the IRDP gives

them money to make improvements on their own farms and provides free some of their farm inputs. On the community level, the government entombs springs, builds marketing depots, cuts farm tracks, and levels playgrounds. In these activities, not only does the farmer not have to contribute anything, but even the legwork is done by a handful of community-minded leaders. All the farmer has to do is make his needs known to those leaders. Farmers may not get all that they desire, but with the right noises, enough time, and a sympathetic and responsive MP or Parish Councillor, there is a reasonable chance that some action will be taken. And should the farmers decide that they are not receiving enough from the existing government, the inclination is not to change the system, but through their electoral franchise, to change the government. Farmers, therefore, are unlikely to support, much less initiate, moves toward a system which requires any significant resource input from them.

The government in power is also unlikely to support changes that require more resource commitment from the farmers themselves. Certainly, having farmers match funds for agricultural or community projects would decrease the amount of government funding required for any particular project and would free money for other endeavors. Yet in a country where the performance of the government is to a great extent evaluated by its ability to provide jobs, amenities, services and money, a decision by the government to reduce the flow of resources, or to attach strings to that aid, could cost the government popular support. Squeezed between farmers who have expectations of benefits and an opposition party ready to exploit the "non-performance" of the government, ministers would have second thoughts about insisting on recipients' inputs as a condition for benefits. Given the competitiveness of the electoral system in Jamaica, advocacy of more farmer cost-sharing would be viewed by many politicians as suicidal. Neither party can risk the potential loss of votes that would accompany a reduction in the flow of resources to the rural areas.

What about the JAS? As we have seen, for all of the rhetoric about being the "voice of the farmer," the JAS has few resources and little power. At the national level, the JAS is dependent upon the government for much of its financial support and activities. It is unlikely that the government would countenance the emergence of a strong and independent farm lobby. At the local branch level, the Society's officers face a tremendous task just getting the farmers to show up for monthly meetings.

Projects such as the IRDP would perhaps be the logical place to begin efforts to reform the system. After all, it is the project which has the responsibility for implementing these programs, and thus the project administrators should be in a good position to require more appropriate farmer participation. Yet here, too, there is a

problem. Project policy is subject to review by, if not decided by, politicians and bureaucrats in Kingston, and as we have seen, they are unlikely to approve such changes. Accountable to both farmers and politicians, the administrators' continued position is dependent upon the goodwill of both. It is ironic that the charge to establish participatory and self-reliant community-based organizations was given to the project by its planners; the project administrators were given the responsibility, but they do not have the power.

Neither are the local leaders in a position to effect changes. Although many of them are able to mobilize local support and influence public opinion, their practiced role is in acting as a conduit between the farmers and sources of benefits. Mobilizing community resources requires different leadership skills, and it is questionable whether many of them have those talents. Further, their informal position as leaders depends upon their ability to channel public resources to their community; should they attempt to extract resources from the farmers, they may find their leadership status eroded as farmers seek more traditional, and less demanding, intermediaries.

Thus, although a more self-reliant and less demanding rural sector would benefit the society as a whole, the transition to such a system either would be not in the best interests of, or would be beyond the capabilities of, the actors in the system. If we cannot expect change to come from the raised consciousness and devoted efforts of any of the interested sectors of the society, then how (if at all) could such a transition occur? There are at least two other possibilities: either through a crisis that transforms social relationships, or through a turn toward authoritarianism.

Change Through Crisis

Just as the Great Depression ushered in the New Deal, and outrageous inflation contributed to demise of the Weimar Republic and the rise of fascist Germany, so too, it might be argued, a major economic or political crisis would transform Jamaican clientelistic institutions and a well-established class structure into something different, perhaps into a system that is more self-reliant and less dependent upon government welfare. This is possible, but unlikely. For the past decade, Jamaica has gone through a crisis, and indications are that the clientelistic and class basis of the society has not changed.

The crisis has occurred on at least two fronts. First, the contribution of agriculture to the national economy has been steadily declining for the past several decades. And second, the 1970s saw a serious deterioration of the national economy. The past several decades have seen relative stagnation of the agricultural sector. In

1973 agriculture's contribution to the Gross Domestic Product had fallen to 8.9 percent (down from 13.4 percent in 1962); in the same period, the agricultural sector grew at an average annual rate of 3.2 percent, compared with overall GDP growth of 5.3 percent a year. Export agriculture from 1962 to 1971 rose at an annual rate of only 0.3 percent (FAO 1975:21). More recently, data for 1980 indicate that there were decreases in the output of both domestic and export crops, as well as a 10.8 percent decline in the dollar value of export crops from 1979 to 1980 (National Planning Agency 1980:6.1). And a comparison of figures for first six months of 1980 and 1981 shows a further decrease in the value of export crops of 17.5 percent (National Planning Agency 1981:8.3). The production of domestic food crops during the first six months of 1981 increased by 5.7 percent over the corresponding period of 1980 (National Planning Agency 1981:8.5).

In addition to the uneven performance of agriculture, the overall economic picture became desperate in the 1970s. Real GDP per capita declined every year from 1972 to 1980, with a cumulative decline of about 15 percent between 1974 and 1978. The mining sector, one of Jamaica's major foreign exchange earners, declined by 40 percent from 1974 to 1976. The unemployment rate grew from 21 percent in 1974 to 26 percent in 1978. The Central Government's current account registered a deficit of over 19 percent of GDP in 1976/1977. The deficit on the current account in the balance of payments was 4.2 percent of GDP in 1978, an improvement over the deficit of 11.1 percent in 1976 (World Bank 1980:i). In sum, the Jamaican economy went through a severe crisis in the 1970s, a crisis that contributed to the ouster of the Manley government in 1980.

Associated with, and partly as a result of, the economic crunch, the past decade also saw an increasing level of tension and violence in the society. Mass demonstrations and protests have always been a part of the Jamaican political scene, but the election of 1980 witnessed an unprecedented number of politically-inspired murders. Even the rural areas, hitherto relatively quiet during election time, experienced bombings, shootings, and other acts of violence.

It may still be too early to tell, but there are few indications of significant social or political reforms in the making. Farmers, rather than engaging in more self-reliant activities, are still concerned with the procurement of resources from the government. The Seaga government's Comprehensive Rural Development Program has not been implemented as yet, but preliminary evidence indicates that it will not deviate from its clientelistic predecessors. There is no reason to believe that farmers will have any more of a say in policy formulation, and as we saw in Chapter 6, the JAS is still being kept "under heavy manners" by the Ministry of Agriculture.

In short, there is little to indicate that the crisis of the past decade has affected fundamental social and political relationships in Jamaica. "Crisis" is a relative term, however, and it may well be that Jamaica's problems have not been severe enough to alter the system. Failure by the JLP government to carry out its campaign promise of "Deliverance" may spark the necessary reforms. Alternatively, failure to achieve success could prompt the government to take more authoritarian measures.

Change Through Authoritarianism

Even though the crisis of the 1970s has not resulted in significant social changes, it is possible that a continuation of the crisis could foster moves toward greater authoritarianism. A stronger and electorally less accountable government could, by fiat, demand more resources and discipline from the citizenry.

An instructive example in this regard is Singapore. A Commonwealth government like Jamaica, Singapore was granted independence in the 1960s after a period of internal self-rule. Before and after Independence, the society experienced a number of problems which, although cast in local terms, were not unique to Singapore alone: ethnic problems between the Chinese-educated Chinese, English-educated Chinese, Indians and Malays; labor unrest; corruption; partisan factionalism; and wide divisions between the ideological programs of the various political parties.

Out of the complex political scene (Leifer 1964; Bedlington 1978) emerged the People's Action Party (PAP), under the leadership of Lee Kuan-Yew. First elected to power in 1959, the PAP government embarked on a program of anti-colonialism and "democratic socialism," vowing to tackle the problems of slum housing, low foreign investment, poor road and sanitation facilities, dilapidated harbor facilities, low salaries, and especially high unemployment. The government was hampered in its efforts to overcome unemployment and attract industrial investment, however, by lack of confidence within the business community, which feared what it saw as the communist bent of the government. To restore the confidence of businessmen, the government deregistered 106 labor unions, detained dissidents and opposition leaders, and gave management wide powers over employment practices (Gamer 1972:28). At the same time, and in an effort to broaden its popular support, the government embarked on extensive social programs: the construction of new housing, the continued unrestricted importation of consumer goods, the foundation of community centers, and increased educational opportunities (Gamer 1972:35).

In the 1968 elections, the PAP gained total control of the parliament, thus clearing the way for a vigorous campaign to improve conditions in the country.

Under the PAP's firm guidance, Singapore has achieved remarkable economic growth. Between 1959 and 1969, the Gross Domestic Product had increased two and one-half times, giving a compound growth rate of 9.4 percent per year. Between 1970 and 1974, the country maintained an annual growth rate of 14 percent (Chan Heng Chee 1976:24). The economic base also shifted from a dependence on entrepot trading to a greater reliance on manufacturing and industry.

> Hundreds of millions of dollars have been attracted in foreign investment, and by any economic indicators the republic enjoys the second highest (next to Japan) standard of living in Asia. Over one-third of the population live in what are, on the surface, clean and bright public housing estates. The state bureaucracy is one of the least corruptible in the world and is staffed by dedicated officials. The system of education is of excellent quality, and generally speaking, is available to all who wish to use it. (Bedlington 1978:252-253)

This remarkable progress, however, has not been without its costs. Although other political parties are allowed to exist, they are ineffectual, and "none of . . . (them) can pose a real electoral threat to the PAP. Many are simply defunct or paper political organizations" (Chan Heng Chee 1976:9). The government also exercises control over the communications media: publications must be approved by the Registrar of Societies, and some have been banned; gatherings of ten or more persons must be approved; radio and television are under government control; newspapers are under supervision, and some have been sued (Gamer 1972:33). Detention for long periods without trial is "implemented frequently" (Bedlington 1978:253). In the area of labor relations, public statutes have "placed limits on the workers' right to strike and (have given) management the sole jurisdiction over recruitment, retrenchment, transfers, and promotion" (Chan Heng Chee 1976:27). In sum, "Lee Kuan-Yew's ever-increasing arrogance of power, the erosion of civil liberties guaranteed by the Constitution, the rapid and often savage crackdown on any form of dissent are inimical to the set of values the PAP theoretically is committed to construct" (Bedlington 1978:253).

A comparison of the Singapore experience with Jamaica, while striking, must of course, be made with great care. Most importantly, there is currently little to suggest that the Seaga government is moving in a similarly authoritarian direction. But the case of Singapore does raise interesting and pertinent questions regarding the compatibility of "democracy" and "development." Achieving social and economic progress requires a disciplined and committed citizenry. After the elections of 1980, there were many reports in the Jamaican press about the need for more order in Jamaican society. In a speech condemning indiscipline, Prime Minister Seaga told his

audience that "if we are to restore Jamaica to a pathway of growth, then we first must restore the underlying conditions which are hospitable to growth" (The Daily Gleaner, March 29, 1980). The Governor-General called undiscipline "the greatest curse confronting Jamaica today" (The Daily Gleaner, March 30, 1980). And a past president of the Jamaica Chamber of Commerce stated that economic recovery can only occur if "we cultivate a hard-working and disciplined attitude" (The Daily Gleaner, March 30, 1980).

It may well be that economic and social development in Jamaica will require a greater dosage of what Jamaicans refer to as "heavy manners." This is an issue for the Jamaican public to decide. Unfortunately, however, experience has shown that once an authoritarian regime has been imposed, it is very difficult for citizens to change their minds.

What Can Be Done?

The three avenues for change just outlined are scenarios, not predictions. Their purpose was to indicate that hopes for a "cultural revolution" in Jamaica either are premature or might entail a move toward a more authoritarian form of government. A more self-reliant, a more productive, and a less clientelistic approach to rural development is unlikely to emerge from the present system, or if it does, it would be a painful process.

Yet, planners and administrators are presently faced with the challenge of implementing rural development and resource management programs within the current political and social context and constraints. The obvious question is: What can be done? We are particularly concerned with problems of participation that occur at the project level. Policies concerning food imports and the expropriation of export crop surpluses are certainly important, but they are often beyond the control of administrators at the project level (not to mention the farmer), and thus will not be discussed here.

The focus on issues of participation, rather than on the technical issues discussed in Chapters 3 and 4, is justified because so many of the technical problems are the direct result of inappropriate or nonproductive participation. A number of specific recommendations concerning the finer points of IRDP operation were presented in an earlier report (Blustain 1981b). Here, we will address the five issues analyzed in Chapter 5, and consider practical measures for overcoming some of the problems that arise from them.

(1) Although the soil conservation and agricultural production technologies were designed for farmers, they were not designed with or by farmers.

(2) Farmers participate in the IRDP on an individual basis, yet many of the project's activities are best addressed by farmers working in groups.

(3) Soil conservation and increased agricultural production are long-term processes, yet farmers participate in the IRDP on a short-term basis only.

(4) Farmers commit no resources of their own to the project, and this has led to a general lack of commitment to the success of the project.

(5) Local organizations are fully dependent upon resources and direction provided by the project.

Solving the problems of participation will not solve all of the IRDP's other problems. But it will provide the basis for the more beneficial management of natural resources by farmers.

Problem #1: Lack of Farmer Participation in Technology Development

A 1979 report on agricultural research, extension and education in Jamaica noted that all of the research carried out by the Crops and Soils Department of the Ministry of Agriculture was directed at observation trials, variety trials, and the establishment of plant museums. "No research is being carried out by this unit on cropping systems, irrigation and water management, or the economics of crop production" (University of Kentucky 1979:88). Among the recommendations of the team was the need for more "on-farm" trails under farm conditions" (p.204).

As noted at several points in this study, both the soil conservation and agricultural production technologies of the IRDP were developed on government research farms independent of real farm conditions. The result, in both cases, was the extension of inappropriate technologies to small hillside farmers -- cropping systems that require more labor than the farmer can recruit, soil conservation treatments that are not maintained, etc.

Yet just because farmers have not participated in the development of these technologies in the past does not mean that they cannot do so in the future. The government operates a number of research stations, and officials at the ones with which I am familiar are involved with local farmers, even if only on a friendly basis. Although it would require training, practice, and a good deal of "bureaucratic reorientation" (Korten and Uphoff 1981), there is no reason why these farmers could not be brought into the research and development process (Whyte 1981). In this sense, this problem is not as "structural" as the others. What is needed most is a shift in these researchers' orientations.

Similarly, the IRDP has established 50 "subcenters" which are supposed to be mini-demonstration plots. With the proper training of both farmers and project field officers, there is no reason why these selected farmers could not also be the focus of research activities.

Such research need not be of the complex "farming systems" variety (Gilbert, Norman and Winch 1980). Rather, farmers could test the appropriateness of individual cultural practices. For example, yam farmers could conduct trials on the relative advantages of yam cultivation on individual hills and on continuous mounds. Or, preliminary evidence from one of the government's research farms indicates that agronomic forms of soil conservation treatment are as effective as hillside ditches (Wahab, Dehaney, and Woo 1981). "Real" farmers could test the relative effectiveness of these various treatments, with an emphasis on the economics of maintenance. The particular input or agricultural practice to be tested would depend on the farmers' interests and cropping patterns. But the use of the subcenters for such a purpose would facilitate the flow of information from the field back to the researcher and the extension agent.

Problem #2: Individual, Not Group, Participation

It was noted in Chapter 5 that although the extension of advice and resources to individual farmers is appropriate in that production activities are performed by individual farmers, there are some activities that are better performed by groups of farmers. Soil conservation and production planning were the two examples discussed.

It is very difficult to get a farmer to join a group, particularly when the farmer has the option of evading the program altogether should the burdens of cooperation seem too onerous.

In the case of organizing farmers for the establishment of soil conservation treatments on an entire hillside, project administrators have to decide whether the benefits of greater localization of soil conservation activities is worth the potential cost of farmer non-participation. Certainly, steps can be taken to ensure that the runoff from one set of ditches does not end up on the next field down the hill. And field officers should make every effort to coordinate the activities of all farmers in an area whose treatments are to be constructed by tractors. On the whole, however, I do not think, given the farmers' value of independence, that rigorous efforts to impose this type of cooperation would be worth the probable alienation of farmers.

The need to coordinate the production activities of the farmers offers the same trade-off -- individualized production and farmer satisfaction versus coordinated

production and farmer disaffection. And again, it is unlikely that the project could succeed even if it tried. Even if a cooperative were formed, farmers would use the organization as a marketing outlet for their produce. A model in this regard is the Ginger Cooperative in the Two Meetings watershed. The cooperative locates markets for both green and dried ginger, but it does not perform any function in terms of production activities. Yet in this area, the project has some control over future production through its control over planting material and other resources. For example, project administrators could anticipate future demand for pork and then issue loans or subsidies for a limited amount of pigpens. Similarly, if transportation of citrus fruits out of Lucky Valley is a problem, then field officers should be careful about the number of citrus seedlings made available to farmers in that area. To the extent that it can, the project should regulate future production in the area through an analysis of projected supply and demand.

Problem #3: Short-Term Participation

Changing farmers' resource management strategies is a long-term process, yet farmers in the IRDP participate primarily on a short-term basis. Once they get their soil conservation subsidy and planting materials, many of them are left (or leave themselves) to their own devices, without further extension or follow-through visits.

This problem is particularly serious within the soil conservation component, where the treatments are not being maintained. Under the present system, farmers construct their terraces and ditches and receive their subsidy. There is neither monitoring nor enforcement of the farmer's maintenance activities.

By extending the subsidy payments over time, the project could have some control over maintenance. Under such a scheme, the farmers, rather than getting his subsidy in one lump sum, could receive a portion (say, one-third) upon construction, with the remainder being paid at intervals over the next few years and dependent upon adequate maintenance. In effect, the farmer's subsequent maintenance costs would be subsidized by the government. Although farmers would probably grumble about the deferment of their payments, they could be reassured that they would not, in the long run, be losing any money -- provided they maintain their treatments. It is unlikely that such subsidies would have to be extended beyond two years after construction, because after two years the soils are more "settled" and require less maintenance (USAID 1977:K 11). What this issue basically involves is the fact that the government has invested large sums of money in the construction of these treatments. It has both the right and the duty to ensure that they continue to reduce soil erosion.

In addition to extending subsidy payments over a longer period, field officers should be required to issue periodic (say, semi-annual) reports on the progress of their farmers. Some farmers say that they do not see an officer after their farm plan is listed as "complete." Periodic reports would give extension officers an opportunity to follow up on the activities of farmers and to give advice where needed. These reports could include standardized information on cropping, expected production, farmers' problems, and attitudes, thereby giving the administrators valuable data on the status and progress of the farmers and the project. This would be useful in both implementation and evaluation.

These two proposals would have an additional benefit as well. Although they would not in themselves get farmers thinking in terms of long-term resource management objectives, they would let them know that the government is interested in more than just short-term payments. And to the extent that this extends the time horizons of farmers, field officers and administrators, it will be of benefit.

Problem #4: Lack of Farmer Commitment to the Project's Objectives

To a great extent, the farmers' lack of commitment to the project's objectives -- as evidence by their short-term involvement -- can be traced to their own lack of financial commitment to the development activities on their own farm. Currently, farmers are not required to provide any resources toward the construction of the soil conservation treatments; in fact, farmers can earn money through their participation. Similarly, farmers receive free planting materials.

This situation is a direct outgrowth of the clientelistic nature of farmer-government relationships. Over the past several decades, and in an attempt to win popular and electoral support in the rural areas, the government has instituted a series of rural development projects which involve the transfer of large amounts of grants and subsidies to farmers. It is unlikely that this flow of patronage will be diminished, despite the present Minister of Agriculture's warnings that "the give-away thing done" (The Daily Gleaner, April 11, 1981). Of all five problems, this will probably be the most difficult to overcome.

Still, there are measures that can be taken. First, the deferment of soil conservation subsidies could at least make the payments dependent upon the proper maintenance of the treatments. This would force the farmer to commit his labor, if nothing else. Second, even though planting materials are heavily subsidized, the decision that farmers should pay for the seedlings should be enforced. And finally, resources provided through the Development Committees should require some input

from the local farmers. As the case of the marketing depots demonstrated, farmers are unwilling to commit their resources to such activities, but there is certainly no reason why local people should be paid by the project to entomb a spring or erect a shed.

Problem #5: Dependent Local Organizations

The problems encountered here are similar to those of problem #4. Clientelistic relations have fostered local organizations which act as conduits for resources flowing from above, rather than as foci of community mobilization and self-reliance. And here again, there is probably little that the project can do to change the functions of the DCs. Insistence that the Committees mobilize local resources as a condition for the procurement of benefits from the project would probably serve to alienate the project from the local leaders, and the local leaders from the farmers.

Instead of valiantly (and vainly) trying to foster self-reliance among the DCs, project administrators should focus on strengthening the activities in which the DCs have proven their capabilities. In the area of information flow, for example, the DCs have only partially realized their potential. First, the extension of information to farmers through the DCs has been haphazard and uncoordinated. With the help of the field officers and the local leaders, central-office technicians should plan a schedule of farmers' meetings in which they talk to farmers on their areas of expertise. Specific topics could be timed to coincide with production activities.

Second, the quarterly meetings of the Development Committee Council should be expanded beyond a forum in which the Committee officers make their requests for benefits. These chairmen and secretaries should be encouraged, as it is proposed in their constitution, to "assist in the development of sound programs, goals and objectives." As in the case of farmer involvement in research activities, this would require a reorientation on the part of the project's administrators and the local leaders. But the payoff would be greater farmer input into decision-making at the project level.

Lessons

The premise with which this study began appears all the sounder after this examination of IRDP experience. It is the people out in the rural areas who use soil, water and other resources on a daily basis who are the key to success in agricultural development and resource management. They are the ones who decide what to plant, where to fish, how many cattle to keep, and so on. In any attempt to change the ways in which those resources are managed, therefore, those people must be participating in the process of change. Farmers are the final judges and agents of project success.

The issue, however, is not just one of getting people to participate. Even those people who refuse to cooperate have participated in a sense by opting out. The issue is encouraging the kind of participation that is supportive of the program's objectives. There is no question, for example, that the farmers in the two Jamaican watersheds are participating in the IRDP. Many of them have farm plans, and the hillsides are dotted with terraces and ditches. What is questionable, however, is whether soil erosion is being controlled and productivity is increasing -- in short, whether the project's goals are being met. As I have noted consistently, a crucial set of the IRDP's problems come from inappropriate forms of participation.

The following eight lessons in addition to summarizing the findings of this study, are intended to stimulate thought and action on appropriate and productive participation in rural development. Not all of them require extended analysis, but each of them is important in the logical construction of the argument.

(1) Agricultural development and resource management programs must necessarily be concerned with changing the ways in which people manage their economic and social, as well as natural, resources.

(2) Planners and practitioners must be sure that the new resource management strategies they are urging farmers to adopt are appropriate for local conditions.

(3) Planners and practitioners must be sure that the process by which those new strategies are presented to, and adopted by, farmers is appropriate for local conditions and for the productive attainment of the program objectives; in other words, <u>how</u> people participate in the program is important.

(4) Participation is not something that administrators get farmers to do. It is a process involving interactive relationships between and among farmers <u>and</u> administrators.

(5) Devising a program that provides for appropriate and productive people's participation requires an understanding of the social, and especially political, context of the development effort.

(6) Implementing an appropriate and productive participatory program entails costs.

(7) Simply collecting information is not enough; rather relevant and useful information must be collected and analyzed through appropriate means.

(8) Knowledge of previous experiences is invaluable.

Each of these propositions will be discussed in more detail with references made to IRDP experience and their broader implications.

1. Agricultural development and resource management projects must necessarily be concerned with changing the ways in which people manage their economic and social, as well as natural, resources.

The objectives of many projects, including the IRDP, are phrased in terms of raising yields, income, employment, or productivity, and reducing erosion or migration. What is not always recognized, however, is that the attainment of these goals is dependent upon a more fundamental process in which farmers change the ways they manage their local natural resources. The types of resource being managed, and the ways they are managed, will of course, vary. But unless that process takes place, none of the other objectives can be achieved.

In the case of the Jamaican IRDP, reduced soil loss and increased productivity would entail comprehensive changes in farm management practices. Farmers would not only have to build terraces and ditches, but they would have to allocate time, money, and labor to their maintenance. They would have to increase their use of fertilizer and spray materials, an increase which demands not only cash, but also transportation and information on market availability. Traditional practices of yam cultivation would have to be abandoned in favor of new ones. Areas of land now cultivated would have to be retired into fallow or planted in trees. Many of these changes would require a significant shift in the allocation of household labor, cash, and other resources. They might also necessitate changes in off-farm and leisure activities.

Unless farmers (or herders, or fishermen) feel that the proposed changes are to their advantage and benefit, they will be inclined to reject them. As the IRDP Project Paper correctly states, "Ultimately, success will be determined by the farmers themselves -- by their willingness to participate in a program that can substantially change their farming practices" (USAID 1977:22). The fact that many of the IRDP farmers have not been willing to change their practices leads to the next two lessons: that the proposed changes are inappropriate to local conditions and that the manner of farmer participation has been inappropriate.

2. Planners and practitioners must be sure that the new resource management strategies they are urging farmers to adopt are appropriate for local conditions.

The elevation of "appropriate technology" to buzzword status should not deter us from appreciating its central wisdom: that technologies must be suitable for local social, cultural, and physical conditions. The same principle -- usually conceived in terms of solar dryers, steel plows, and cowdung stoves -- is equally applicable to all forms of rural development, including resource management projects. If, as postulated,

farmers are the final arbiters of project success, then the proposed changes in management strategies have to be suitable for the farmers involved.

The IRDP has had variable success with its recommendations, and this can be traced directly to its appropriateness for Jamaican farmers. In the case of planting forest, coffee, citrus, and other trees, farmers saw the advantages of taking steeper lands out of production. In addition, these changes were well within their management capabilities, especially since the project provided the planting materials.

In other instances, however, the proposed changes have been proven to be unsuitable. The project's approach to soil conservation, for example, is not appropriate because it would require farmers to spend an inordinate proportion of their cash and labor resources on maintenance. Similarly, the capital-intensive technology cannot be applied to insecurely-tenanted lands. In the case of the agricultural production model, farmers are being encouraged to increase significantly their input of labor, even though the recruitment of labor presents a problem for many farmers, particularly at a time when project activities are raising the price of labor. Also, farmers do not see the logic of producing more food crops at a time when increasing food imports are undercutting the market for their own produce.

What is appropriate for local conditions will depend, of course, on local conditions, as well as on government policies and practices that affect the economics of production. It is the responsibility of the planners and administrators to understand and program for those conditions. The IRDP demonstrates once again the fundamental fact that when technologies or projects are inappropriate for the farmers, they will ignore, evade, or undermine them.

3. Planners and practitioners must be sure that the process by which these new practices are presented to, and adopted by, farmers is appropriate for local conditions and for the productive attainment of the program's objectives; in other words, how people participate in the program is important.

Changing the ways in which farmers manage their resources is not something that occurs overnight. It is a process. So in addition to ensuring that the "product" being "sold" is suitable, it is necessary to ensure that the process by which that product is extended and adopted is suitable as well. And this is where the concept of people's participation becomes so very important.

There are three aspects of participation that are especially relevant here.

First, the expected participation must be appropriate, i.e., the ways in which farmers are to participate in the project must be reasonably agreeable with, or at least not grossly violate, existing forms of interaction between the government and the

farmers. For example, expecting IRDP farmers to donate money for Development Committee activities would not constitute a program for appropriate participation. This is not to say, of course, that existing constraints are immutable. With proper training and reorientation, both farmers and administrators can learn to interact in new ways; the proposal to bring farmers into the agricultural research process is one example. New institutions and patterns of behavior may be encouraged and tried, but as long as farmers have the option of not participating, there must be an attempt to keep the modes of participation within the limits of farmer tolerance. Certainly, no one can fault the IRDP for instituting inappropriate forms of participation. Project operations are very much in keeping with the clientelistic nature of Jamaican society -- which leads to the second necessary aspect of participation.

Second, the intended participation must also be productive. The activities that farmers undertake should contribute toward meeting the goals of the project. We have seen repeatedly in this study that even though farmers are participating in the IRDP, they are not doing so in ways that are conducive to meeting the project's resource management objectives: they are participating on a short-term basis, as individuals, etc. If soil erosion is to be reduced, then farmers must participate in soil conservation activities in a manner that over time will achieve that goal.

Finally, the participation must be sustainable. This is perhaps the greatest challenge of all, as it requires a process of institutionalization, creating channels for participation that are stable and rewarding, and entrenching expectations, values and behavior which are supportive of long-term contributions of effort and ideas. These aspects of participation are all important. Lack of appropriate participation could result in farmers (or even bureaucrats) opting out of the project. Failure to achieve productive participation would not create movement toward proper resource management. Inattention to the time dimension of participation and to the investments and conditions for sustaining it will lead to flurries of activity which have no lasting impact.

4. Participation is not something that administrators get farmers to do. It is a process involving interactive relationships between and among farmers and administrators.

The adoption of new strategies is not just the responsibility of farmers. Project implementors, through their administrative mechanisms and procedures, influence heavily the ways in which farmers will react to the program. All four of the problem areas outlined in Chapter 5 can be seen as stemming from the actions and orientations of government officials.

First, while it is true farmers did not participate in development of the technology, this occurred because their participation was not sought by the program designers from the government or FAO technicians, who should have developed and tested the technologies with real farmers under real conditions.

Second, resources were directed at individual farmers because of the project's own administrative procedures, which established the farm plan as the principal instrument of farm development.

Third, farmers have sought short-term benefits from the project, but this was in keeping with a project structure which evaluated field officers by the number of farm plans they implement, not by effective and long-term involvement with farmers.

Fourth, the farmers' lack of resource commitment to the project was consistent with administrators' general aversion to requiring farmers to contribute any of their own resources to the development process. Development Committees, like individual farmers, can receive resources and benefits without any matching commitment from the community.

What is needed is a certain amount of "bureaucratic reorientation," since as Korten and Uphoff (1981:5) note: "the poor cannot be expected to change their behaviors and attitudes in response to government programs unless and until government staff change their activities and attitudes vis-a-vis the poor."

It would be unfair to blame administrators, either individually or as a group, for these inappropriate patterns of participation. As we saw in Chapter 6, and as we shall note again now, the patterns of interaction between and among farmers and administrators are framed within the context of existing sets of social relationships.

5. Devising a program that provides for appropriate and productive participation requires an understanding of the social, and especially political, context of the development effort.

Development projects are not planned and implemented in a vacuum. They occur within a context of pre-existing relationships between and among farmers and administrators. Before designing any rural development program, and before devising measures for people's participation, the planner must have a clear understanding of the principles upon which those relationships are based. Failure to do so could result in modes of participation which are inappropriate for, and unacceptable to, the parties involved, and which do not support the program's objectives.

In the case of the Jamaican IRDP, we saw in Chapter 6 that clientelism and lack of farmer participation in policy-making are principles generalized throughout the sys-

tem. These have had a profound effect on the operation of the IRDP, especially in terms of the manner of farmer participation in project activities. That the modes of interaction between farmers and administrators in the IRDP are consistent with social norms and practices is incontestable. The kind of participation that is occurring is thus appropriate for the political context. At the same time, however, those same modes of participation are not supportive of the project's resource management goals. Indeed, it is largely because of these patterns of participation that the project is experiencing difficulties.

We are thus faced with a trade-off between patterns of participation that are appropriate for existing farmer-administrator relationships and patterns of participation that are appropriate for the attainment of the project's goals.

The resolution of this dilemma is difficult, but there are three general options. First, project administrators could try to impose conditions that would ensure the kind of participation appropriate for the meeting of the goals. They could, for example, demand that farmers pay for the improvements to their land. Given the administrators' dependence upon the goodwill of politicians, it is unlikely that they would have the authority to make such demands. It is also unlikely that farmers would participate at all under those conditions. Implementing such extensive changes at the project level, without accompanying changes in the overall political context, might well be futile.

Second, one could hope for a significant and positive change in the political system as a whole. As indicated earlier in this chapter, however, such a political transformation either is unlikely in Jamaica, or would entail significant democratic costs.

Third, planners can try to in te productive participation within the existing socio-political constraints. This need not mean a total capitulation to the status quo. Rather, incremental changes can yield positive results without rendering the entire program impractical and unacceptable. Some possible courses of action were suggested earlier in this chapter.

The desirability and feasibility of each of these three options will vary from situation to situation. There may, in fact, be countries -- China, Cuba, and Singapore, for example -- in which major structural changes can be implemented. Or perhaps there are places in which relations between farmers and the government are not so routinized as to preclude creative attempts at fostering productive forms of participation.

Whichever of these options is chosen, however, it is clear that their conceptualization and implementation will depend upon a serious understanding of the

principles and dynamics of the political context. Failure to consider the context may well result in the failure of the project.

6. Implementing an appropriate and productive participatory program has costs.

Fostering changes in the resource management strategies of farmers involves more than just the adoption of the new practices. It also means the abandonment of the old ones. A farmer who plants yams on continuous mounds cannot also plant the same yam heads on individual hills. And a farmer who spends twice as much time in his fields cannot spend as much time in leisure or off-farm activities.

This principle of trade-off applies not just to agricultural practices, but also to patterns of participation within projects. The old top-down paradigm of development operated under the assumption that authority and benefits flow in one direction -- from urban areas to rural areas, from center to periphery, from leaders to the led, and from top to bottom. The concept of people's participation, however, signifies a change in this relationship. As in the earlier approach, the concept of linkage between farmer and bureaucrat is fundamental. What has changed, however, is the ideal nature of that linkage: cooperative instead of coercive, mutually respectful instead of suspicious, dialogical instead of directive, conciliatory instead of hostile.

While this sounds comparatively advantageous to all parties (and it might be, in the long run), it must be remembered that any change in the relationship would necessitate the relinquishment of old patterns and practices. And this might lead to resistance.

That much of the opposition to people's participation has come from those at the top should not be surprising. First, politicians and bureaucrats perceive, usually correctly, that they have the most to lose. Status, privilege, prerogatives, income, power -- all of these can be threatened by the direct involvement of rural people in the decision-making process. Second, participation makes things less predictable. A centrally-planned project, with fixed schedules of outputs and events, is expected to offer fewer surprises than one in which rural people are entitled to make demands and suggest alternatives. One can imagine that IRDP administrators would have had a difficult time if each of the 22 Development Committees had insisted on setting its own agenda of activities. Boat-rocking is anathema to politicians and bureaucrats alike, and too many peasants splashing about in the water are bound to make waves. Third, bureaucrats may not embrace people's participation because it is easier for them not to do so.

Besides the physical inconvenience of traveling around the countryside, involving local people in planning and decision-making opens up a veritable Pandora's box of

demands, counterdemands, contradictory information, expectations, and other hobgoblins which plague the lives of officials. In sum, adopting a participatory approach entails, for the officials, a threat to their ability to perform in an acceptable professional way, or to carry out their instructions, and thus a potential loss of some of their power and privilege.

For farmers, on the other hand, participation could be expected to offer advantages, chief of which is some control over programs that affect their lives. In many cases, this would be so. But not always. In Jamaica, an IRDP in which there was productive participation would entail losses to them as well. Currently, farmers participating in the program receive benefits without any substantial input on their part. Should they be required to make some sort of financial commitment to the project (i.e. to the development of their own farms), then they would lose some of the free resources they are getting now. Similarly, if for the benefit of production planning or soil conservation implementation, they were obligated to cooperate more actively with other farmers, they would lose some of their treasured autonomy.

Thus, once again we are led to a distinction between advantages accruing to the system as a whole (more productive land resources, more food for the people, etc.) and advantages accruing to individuals or groups within the system. While there may be gains to everyone through a more participatory approach, there could also be losses as well, especially in the short run. Unless this is adequately considered and programmed for, a project could run into much resistance.

7. Simply collecting information is not enough; rather relevant and useful information must be collected and analyzed through appropriate means.

Everyone agrees that the planning, implementation and evaluation of development projects require information. What people disagree on, however, are the kinds of data needed, how data are to be collected, and who should collect the data. The current methodology most favored in development work is the sample survey, a "quick-and-dirty" (but usually long, complicated, and expensive) means for gathering lots of data from lots of people on lots of issues. While providing some possibly useful data, the sample survey, when used as the primary data-gathering device, has some drastic flaws.

First, much of the data will be inaccurate. In an interesting evaluation of sample survey methodology in Nepal, Campbell, Shrestha and Stone (1979) took portions of survey questionnaires actually used by agencies in Nepal and administered them through trained Nepali assistants in villages where they, two anthropologists and a linguist, had themselves done intensive research previously. They found that "non-sampling" errors

in surveys are considerably larger and more distorting than sampling errors. With regard to information on land-holding size and amount of labor invested in crop production, for example, the authors found discrepancies from 50 to 200 percent between what was reported in the survey and what was subsequently established to be correct. In the areas of loans and yearly expenses, the authors found evidence which rendered "all of the data for all of the households highly suspect." Similar discrepancies were found regarding health and family planning. Reasons for the inaccuracies include the sensitivity of certain topics, the fear of negative consequences, the desire to project the right public image, interviewer error, recall problems, and the conceptual or linguistic unintelligibility of the questions.

In addition to the problems regarding accuracy, surveys can create problems of interpretation. What are the relations among all of these variables studied? There is usually an awareness that the various institutions somehow "hang together," but the relationships are difficult to establish. One assumes that family size, the tenure of one's land, and market prices might affect a farmer's cropping choices, but the direction and strength of the effect is usually difficult to determine from survey data alone. For the IRDP, the baseline data were derived from a one-shot survey, the data from which were then published in the form of 205 cross-tabulations with no analysis (Ministry of Agriculture 1977). One is hard-pressed, for example, to interpret tables such as Table 152: "Number of Farmers by Number of Dependents and Opinions on Improving the Quality of Life of the Small Farmer." In addition, the responses from the two watersheds were aggregated, thus preventing a clearer analysis of conditions in two very different watersheds.

But perhaps the major problems with surveys alone is that they cannot supply the types of information which this study has shown to be essential for project success: information regarding the appropriateness of new resource management strategies and participatory approaches for local conditions, as well as an understanding of political institutions and processes. Survey data can supply numbers, but those numbers must be interpreted within an analytic framework that places the development effort within a broader context. What are needed are more in-depth, relevant, and culturally-attuned research strategies. Anthropologists, sociologists, political scientists and economists have their own means of gathering and analyzing information, and they all have something to contribute to project design, implementation and evaluation. Which of their methodologies are chosen, however, should be a direct function of the issue or problem that needs to be resolved.

8. Knowledge of previous experiences is invaluable.

Fifteen miles up the road from IRDP headquarters is the government-operated Allsides research and demonstration farm. For the past several years, the Inter-American Institute of Agricultural Sciences (IICA), an affiliate of the Organization of American States, has been developing a Pilot Hillside Agricultural Project (Philagrip). In 1980, IICA issued a five-volume project paper (1980b) which outlined an approach to the development of small hillside farming in central Jamaica. Reading these volumes is like reading an expanded version of the IRD Project Paper. The same rationale are offered, the same soil conservation and agronomic technologies are proposed, and the same erroneous assumptions about rural society are presented. On a trip to Allsides in early 1981, I found that the technicians at the station were extending the technology to farmers in the vicinity. Not only was the technology being offered to the farmers identical to that of the IRDP, but so were the problems being encountered -- lack of maintenance, non-adoption of continuous mounds, no increased labor input, and lack of input intensification. Although the two projects are concerned with identical problems, no one on the Allsides project had bothered to drive the half hour to learn about the IRDP's experiences.

Similarly, it is somewhat depressing to read old reports which discuss many of the same problems presented here. In a 1957 manual for agricultural extension workers, Smith and Kruijer discuss the incompatibilities between objectives in a comprehensive program (1957:205); the problem that individual farm planning poses for balanced development (p. 208); the relationship between subsidies given and actual labor costs (p. 210); the electoral implications of grants and subsidies (p. 211); and the advisability of encouraging the cultivation of yams on continuous mounds (p. 223). These issues were raised, it must be noted, twenty years befor the IRDP was implemented.

One would hope that development is a cumulative process, not only in terms of increases in people's standards of living, but also in terms of an understanding of the process itself. Planners and practitioners who fail to appreciate the lessons of previous experiences run the risk of reinventing the wheel, and a faulty one at that. If this study proves to be valuable, it will be because some of the lessons gleaned here will be applied in other development efforts.

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