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EXPANDED PRODUCTION OF FOODCROPS --
GUYANA AGRICULTURAL SECTOR PLANNING PROJECT

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LIST OF ACRONYMS AND SPECIALIZED TERMS

AÇDI	- Agricultural Cooperative Development International (Washington, D.C. consulting firm)
AEES	- Agricultural Education and Extension Service
AFA	- Agricultural Field Assistant
Amerindian	- Person of indigenous American Indian descent, as opposed to East Indian descent.
AO	- Agricultural Officer (Extension Agent)
BBP	- Black Bush Polder Area
Coren.	- Corentyne
C.P.	- Canals Polder Area
D and I Board	- Drainage and Irrigation Board (of the Hydraulics Department of MOA)
DPB	- Dried peas and beans, e.g., blackeye, mung, urid.
Drugs	- Agricultural chemicals except fertilizer, i.e., herbicides, pesticides, fungicides.
FAO	- Food and Agriculture Organization (of the United Nations)
FSR	- Farming Systems Research
GAIBANK	- Guyana Agricultural Investment Bank
GMC	- Guyana Marketing Corporation
GNS	- Guyana National Stores
GNTC	- Guyana National Trading Corporation
GPC	- Guyana Pharmaceutical Corporation
GRB	- Guyana Rice Board
Ground provisions	- Staple food crops such as cassava, sweet potato, yam, eddoe, tania, plantain.

GUYSUCO	- Guyana Sugar Corporation
HD	- Hydraulics Division of Ministry of Agriculture
HYMAC	- Front loader for earth moving
Koker	- Water control gate for irrigation and drainage
LA	- Local Authority
MOA	- Ministry of Agriculture
MMN	- Mahaica-Mahaicony-Nootenzuil area
NWRI	- Northwest Region I
Pom.	- Pomeroon
PRC	- People's Republic of China
REO	- Regional Extension Officer
RFHIS	- Rural Farm Household Income Study
TA	- Technical assistance
TSP	- Triple superphosphate
W.B.I.	- West Bank I (Essequibo sub-area)
W.C.	- Water Conservancy (Essequibo sub-area)
WFP	- World Food Program (of the United Nations)

SUMMARY AND PRINCIPAL POLICY RECOMMENDATIONS

CHAPTER I. INTRODUCTION

This report has been prepared in accordance with the Scope of Work for the Tropical Foodcrops Specialist, Agricultural Sector Planning Project, Checchi and Company, Ministry of Agriculture, Georgetown.

The general task was to generate policy recommendations for the expanded production of foodcrops. These were to be integrable into the 1982-86 Agricultural Development Plan.

The report contains a summary and four chapters. Chapter I is the introduction. Chapter II outlines principal policy issues facing Guyanese food crop agriculture. Chapter III presents results from the interview of 57 individual farmers and four state or parastatal farms. That Chapter contains the most important data and analyses, and is the principal source of our recommendations. Chapter IV presents results from the interview of four foodcrop-sector support institutions. Analysis and policy recommendations are made for these institutions.

Philosophically, the author listens closely to farmers, and believes they best understand their own circumstances, needs, and problems. Farmers -- not technicians, bureaucrats, advisors, or the like -- will expand or not the production of foodcrops. We leave to them the task of telling us how this can best be done, that is, the task of generally directing policy.

CHAPTER II. POLICY ISSUES

Policy issues are treated in three areas: (1) general questions arising from Guyanese agrarian structure, and questions of resource allocation; (2) policy regarding factor supply; and (3) policy regarding the delivery of services.

The more significant policy questions relating to agrarian structure and resource allocation include: Are scarce resources best allocated to the development of new agricultural projects, or to competing uses in the maintenance and improvement of existing schemes and farms already in production? Can the control over some administrative and organizational functions, and the delivery of some production factors and services be better left to the private sector -- indeed to farmers -- or should the State continue its control? Is it economically desirable to allocate scarce production factors and services to state and parastatal farms, on a priority basis, or do small, private farmers make better use of them?

The more significant policy questions relating to factor supply include: Is the use of fertilizer, purchased seed, agricultural chemicals, and machinery appropriate for foodcrops -- given the attendant foreign exchange cost implications? Is it realistic to push labor intensive foodcrop agriculture, the current defacto policy? What investments are needed to bring back into production the large amounts of unused land in already developed coastal and riverine areas? Can land be used intensively to boost foodcrop output? What uses do farmers want to make of credit? Are current institutional arrangements appropriate for the annual delivery of thousands of small agricultural loans?

The more significant policy questions relating to the delivery of services include: Who can best administer and maintain installed drainage and flood control systems, users or the State? Presently, these functions are centrally directed: is there a better way? Can the public or the private sector most efficiently deliver marketing services, or is there a role for both? What is the proper use of the Extension Service's very scarce field resources? Is applied research best conducted or tested on farms or at Mon Repos? Are farmers, field agents, and research linked in a two-way information and advising process, or do the lab workers and office chiefs talk, while everyone else listens? What consequences has regionalization had on the Extension Service and the Hydraulics Division? Do cooperatives have a realistic future in promoting foodcrop development?

CHAPTER III. FARMER INTERVIEWS

A. Policy Directives: What Did the Farmers Say?

The term 'access' which appears prominently throughout Chapter III, has two dimensions: quantity and ease of acquisition. In other words, lack of access means both, that there is not enough in quantity, and that what is available is difficult to get and is received by the farmer too late.

The country now faces an absolutely critical situation. Farmer access to crucial inputs and services is greatly reduced. These have become expensive and scarce. When available, their delivery is often awkward or delayed. Farmers often travel far and repeatedly, and spend large amounts of time, to get small quantities of drugs*, spares, credit, or other factors or services.

The current water control situation, particularly administration and maintenance in schemes -- the 37-odd registered areas -- is characterized by its distance from users, centralization, alien control and management, lack of user participation, and non-responsiveness.

* Local terminology for farm chemicals other than fertilizer.

Most foodcrop farmers who wish to increase their production lack the finance to do so.

Farmers can still get labourers, but they are becoming increasingly scarce and expensive. The current Government policies of denying farmers access to inputs requisite to farms, and of allowing established schemes to deteriorate through non-maintenance, have the de facto effect of pushing a labour-intensive foodcrop agriculture. Yet, we are already seeing the early manifestation of major limits to a labour-intensive Guyanese food-crop agriculture: rapidly increasing wage rates, and increasing complaints of labour non-availability.

In general, at the time of our interviews, the attitude of the majority of our interviewees can be characterized as follows: pride in their hard work and ability to produce; love of agriculture; hostility toward those failing to deliver crucial inputs and services; alienation; and a lack of comprehension of the current agricultural situation, especially the input access and water control problems.

The Five Most Important Policy Recommendations

The five central, highest priority recommendations are:

1. Food crop farmer access to direct production inputs must increase. In order of importance, these inputs are agricultural chemicals, spare parts, small tools, and fertilizer. This will involve increased private sector participation in the importation, distribution, and sale of these same inputs. (Please see recommendations in Section III-A-2.)
2. Government must invest in water control, at budgeted amounts, and, in the face of retrenchment, these amounts must annually increase. (Sections III-A-4 and III-A-5.)
3. Large parts of the operation, maintenance, and administration of installed water control systems must pass to system users. (Sections III-A-5 and IV-D.)
4. GAIBANK must greatly increase its small farmer agricultural lending. To do so will require the Bank to internally revise its application, release, and supervision procedures for small loans. (Sections III-A-9 and IV-C.)
5. Agricultural labour must be made more productive by adopting the first four recommendations.

B. Interviews with Individual Farmers

Almost all interviewed farmers grew ground provisions, and these are presently the most important Guyanese foodcrops. Rather than slogans, exhortations, and campaigns, the expansion of foodcrop production requires support in terms of vital production inputs and services. Ninety-one percent of interviewed farmers already want to produce more foodcrops, but require such support to do so.

Fertilizer

Of the 113 foodcrops cultivated by the interviewed farmers, 86 were produced without the aid of chemical fertilizers. Chief reasons for this were, first, that the access to fertilizer was highly restricted for foodcrops, and second, that foodcrops are often produced on new land, which is inherently fertile and does not require fertilizer. When fertilizer was used, it usually arrived late and in insufficient quantity, often having been 'thieved' from rice or sugar. It was concluded that the present policy, which restricts access to fertilizer for foodcrops, is economically irrational: Fertilizer is available for crops which are uneconomic to produce -- rice and sugar -- and not available for foodcrops, which are profitable to produce.

Agricultural Chemicals (referred to locally as 'drugs')

Drugs are more important than fertilizers to foodcrops. Seventy-one foodcrops were produced with the aid of drugs, while 42 were produced without them. Like fertilizer, drugs were often unavailable in sufficient quantity or on a timely basis. Farmers frequently had to travel far to find them, and pay very high prices. This resulted in crop losses.

Purchased Seed

Very few farmers used selected, treated seed, purchased from a shop, or given by the AFA. It is unlikely that this situation will change. Therefore, on-farm seed selection, treatment, and preservation is a logical area for intensified activity.

Recommendations

Principal recommendations regarding chemical fertilizers, drugs, and purchased seeds are:

1. Food crop farmers must have access to these inputs.
2. The private sector should be allowed to deal in agricultural chemicals and fertilizers, to compete with the State. Import restrictions should be removed.

3. Subsidies on these inputs should end, the market should determine their allocation.
4. The Extension Service should concentrate on teaching on-farm techniques for seed selection and preservation.

Tractor Machinery and Small Tools

Tractor machinery was used for foodcrops by about one-third of the farmers interviewed. While foodcrops are less dependent on machinery than other crops, machinery is important in more settled, built-up areas. The main use of tractors on foodcrops is land preparation: plowing, digging, bedding, and the construction of dams.

Small tools -- chain saws, boat engines, small pumps, and spray cans -- are of both regional and national importance. These tools serve to greatly increase the productivity of labour.

Access and delay are the main problems in the use of machinery and tools: few ones are very scarce (purchase delayed), spares are unavailable and very expensive (repairs delayed), those to be hired are busy elsewhere. This is reflected in delayed fieldwork and, consequently, reduced crop yields or a loss of markets.

About two-thirds of the interviewees said they can produce more foodcrops without the use of machinery. However, expansion will always involve less area and take more time than with machinery. More labour will have to be hired. In any event, either an increase in cultivated area, or the intensified use of land already in production will require the use of more machinery and small tools.

Recommendations

Principal recommendations regarding tractor machinery and small tools are:

1. Spare parts, small tools, and tractor machinery must be made available to foodcrop farmers.
2. A policy to expand foodcrop production must be supported by a policy to deliver to farmers greater quantities of tools, spares, and machinery.
3. A portion of the supply of these inputs should be put back into the private sector, as the public sector has failed to deliver them adequately.

Labour

Hired labour is of fundamental importance in Guyanese foodcrop production. It is vital on all foodcrops and used in all field operations -- though its use is more important in land clearing and preparation, trenching, and weeding. The importance of hired labour can be expected to increase as foodcrop production increases, and it is very likely that production can increase only via the increased use of hired labour.

A majority of the respondents experienced some problem in labour hire. Usually, the problem was either delay (labourers busy elsewhere) or cost. In fact, hired labour was available to those willing to pay the price. Fieldwork indicated that the cost of hired labour is increasing rapidly.

Large numbers -- perhaps as many as half -- of agricultural labourers have left the farm and are employed elsewhere. It is very unlikely that these persons can be drawn back to on-farm employment.

The conclusion is that agricultural labour must be made more productive. This can be done by making available more spare parts, small tools, drugs, and the other vital services needed for production. This is the principal policy recommendation on agricultural labour.

Land

There was unused cropland on 70 percent of respondents' farms. Often, this land was in coastal and riverine areas where hundreds, even thousands of dollars of infrastructure was in place. Choked trenches, silted canals, unharvested crops, unplowed lands, and extensive cattle-grazing inside of benefited areas were common field sights.

The holding of land in fallow, the slow development of new land, flood water, the lack of finance, labour scarcity, and the lack of inputs were the main reasons why land went unused. To put unused land into production, 60 percent of our respondents needed only to clear it and plant -- but were prevented from doing so by a lack of capital or labour -- while 33 percent needed to make (usually minor) drainage improvements. About two-thirds of the respondents said they did not need more land to increase foodcrop production.

It was concluded that it is economically irrational to expend huge quantities of capital on the development of new projects, while adjacent areas, that already benefit from infrastructure similar to that being developed, deteriorate from lack of maintenance.

Land is the productive resource in greatest supply in Guyana. This suggests a concentration on land as a production factor, and an emphasis on land-intensive foodcrops.

Recommendations

1. Capital expenditures intended for land improvement should be concentrated on already developed areas.
2. Land should be used intensively to raise production
3. Agricultural labour should be made more productive, enabling more land to be used.

Flood Water

Flood water caused problems on four of five respondent farms. The source of the problem was varied, regional, and often institutional. Lack of drainage, attributable to blocked, overgrown, silted-in canals, or to the absence of canals, was the most frequent problem. Often, this was attributable to the non-performance of a State authority. Flood water intrusion was the next most serious problem. Flood water came in at the back of farms, kokers were broken, and spring tides in conjunction with heavy rains overtopped dams.

Farmers continued to cultivate areas affected by or prone to flooding, even though they were aware of the risk. This caused the loss of many acres of planted, growing crops, and suggests that, nationally, many thousands of acres of standing crops are lost in this way each year. In 1981-82, flood water caused crop loss to 86 percent of the farmers interviewed who indicated that they expected to continue the cultivation of flood-prone areas, even though yields would suffer, or an outright crop loss would occur.

The non-maintenance of schemes is attributable to inefficient direction and maintenance of the same. Farmers do not participate in the administration or management of these schemes, whereas, farmer-users should actually control these functions. Otherwise, farmers lack access to the finance and materials requisite to small, on-farm water control improvements, such as small kokers, trenches, and canals.

Recommendations

Principal recommendations regarding water control are:

1. The operation, administration, and maintenance of foodcrop water control schemes should be handed over to user-farmers, who will then control these functions.
2. Individual farmers must have access to the finance and materials needed for small, on-farm investments in water control.

Markets

Farmers were asked a limited series of questions about marketing. These were designed to assess views on foodcrop marketing arrangements, their adequacy, and any marketing problems. An attempt was made to contrast the performance of public and private foodcrop purchasing institutions.

Many farmers sold to a combination of markets, or at a variety of locations. Almost always, prices were higher and payment more rapid in free markets. However, when asked their preferences as to buyers, farmers chose the GMC almost as frequently as private buyers. Their reasons showed clearly that they perceived the value of the Guyana Marketing Corporation's (GMC) traditional market role. At the present time, foodcrop farmers do not feel that markets will be a problem if foodcrop output is expanded. This is attributable to the current high prices and scarcity of foodcrops.

Past delay in GMC payments to farmers is a sore point with many. Farmers preferences as to where to sell are a function of quantities sold. In our interview areas, length of haul appeared to have little influence in sales decisions. The need was seen to keep GMC in the market, for a limited number of crops at least.

Our recommendations on foodcrop markets are found in Chapter IV-A.

Agricultural Extension

About half of our interviewees either had never seen an Extension Agent, or had to travel to the Agent's office to see him. When there had been farmer-Agent contact, about two-thirds of the time the farmer received no useful advice. But, when the farmer received useful advice, it worked about three-fourths of the time. The useful advice received usually involved a prescription for agricultural chemicals.

When no useful advice was received, either (1) the Agent visited when the farmer was out, e.g., no prior communication, or (2) the Agent was doing non-technical work. Examples of non-technical work included: conducting a tour, promoting a non-technical program, transferring inputs, or attending to another department's administrative problems. This caused confusion in the mind of the farmer as to the Agent's proper function and compromised the Agent in the farmer's eyes.

Still, respondents were positive towards the Agents and, in general, want more technical advice.

Our recommendations on the Extension Service appear in Chapter IV.

Cooperatives

Only 25 percent of the farmers interviewed had ever been members of a foodcrop-associated cooperative or organized producers group. The most common co-op-associated benefits perceived by members were either 'none,' or the gain of access to otherwise scarce production factors and services -- fertilizer, land, credit, technical assistance, and the like -- has been used to coerce membership. Co-ops have been highly politicized. Co-ops have not been allowed to sell themselves to farmers by providing useful services to their members, nor were co-ops regarded as organized to serve member needs.

Recommendations

Chief policy recommendations regarding co-ops are:

1. To de-emphasize them as a vehicle to promote expanded foodcrop production.
2. To discontinue the delivery of scarce and vital production factors through co-ops.

Credit

About 40 percent of our respondents had some personal past experience with credit. The chief uses of credit -- whether in the past or desired in the future -- were to extend the presently cultivated area, to hire labour, to improve the land (clearing and water control), and to purchase production inputs. The granting of foodcrop credit has the immediate effects of generating agricultural employment and increasing the area under foodcrops. Both will increase foodcrop supply.

Of the farmers interviewed, 36 percent said they could not expand foodcrop production without credit, and 56 percent said that expansion without credit would take much longer and involve less land area than if credit were received. The desire for and the perception of the beneficial uses of credit is great.

Of farmers receiving past loans, 65 percent experienced problems, and this had a definite impact on those who had not taken loans. Questions designed to assess farmer attitudes toward the accessibility of credit, the application process, the release of credit funds, and the supervision of loans generated negative responses about 80 percent of the time. From the foodcrop farmer viewpoint, credit is accessible only with (often great) difficulty. Application, release, and supervision procedures are not usually adapted to foodcrop farmer needs. The lenders evidenced the attitude that they know the correct procedures, but farmers usually disagreed.

Our recommendations on foodcrop farmer credit appear in Chapter IV.

C. Interviews at State and Parastatal Farms

Four estates -- state or parastatal farms -- were interviewed. They ranged in size from about 500 to upwards of 10,000 acres. Twelve foodcrops were cultivated on a total of about 1,300 acres. All estates planned to significantly expand foodcrop production.

Estate interviews covered essentially the same subject areas as the small farmer interviews. The estates commanded scarce and vital production factors and services to a vastly greater degree than small farmers. Estates have priority call on spare parts, small tools, machinery, drugs, and fertilizer. They are imported, capital-intense production techniques as a rule. They use resident manual labour. They sell in protected markets. They have resident or readily available technical assistance. They have ready access to finance, yet are not required to operate at a profit. Yet, estate efficiency relative to that of small farmers is unknown.

It is recommended that the Planning Department study the relative efficiency of the two sectors. Subsequently, the study should be used to make development policy for the allocation of production factors and services.

CHAPTER IV. INSTITUTIONAL INTERVIEWS

The GMC's^{1/} Director was interviewed with the objective of discussing the Corporation's recently completed internal review, and to contrast its proposed future directions with the information provided by our foodcrop farmer interviewees.

The GMC proposes a very changed future for itself as an institution. In brief, the Corporation proposes to shift away from its historic functions as the buyer of last resort and the foodcrop price supporting agency. It proposes to eliminate both fixed and support prices. Instead, the GMC proposed to concentrate on market development, processing, and export. It proposes that constituent farmers, with GMC cooperation and assistance, take over jobbing, wholesaling, distributing, and retailing.

Principal features of GMC's proposals are endorsed. The exception concerns support -- not fixed -- prices. It is proposed that support prices be retained for limited, scheduled foodcrops. Support is to be provided only to crops meeting defined criteria. Support price levels are to be based on careful cost-of-production studies, so as to stimulate the adoption of efficient technology.

^{1/} The Guyana Marketing Corporation.

The Director General of the Agricultural Extension and Extension Service, and several AO's and AFA's, were interviewed. The objectives were to review fieldwork findings (Section II-A-7), and to discuss policy ideas resulting therefrom.

The Service currently suffers from several serious deficiencies. These include the effects of regionalization, the lack of linkage between farmers and the research and extension establishments, and a shortage of Service field staff currently amounting to 40 percent of permanent positions. Yet, foodcrop farmers like technical assistance -- when they get it -- and would like to get more.

Regionalization (i.e., decentralization) has had the effect of diverting the Service's field resources -- staff, budget, and equipment -- away from technical assistance. There is no institutionalized linkage between farmers, the Service, and the research establishment, particularly as regards listening to and taking directions from the farmers.

Five recommendations are made:

1. De-regionalize the Service immediately.
2. Fully staff the Service.
3. Divorce Agents altogether from input supply, the promotion of special campaigns and programs, the handling of land title and lease questions, and from other non-technical activity.
4. Let the Agents concentrate on technical assistance to farmers.
5. Link research, extension, and farmers in a two-way process. Methods to achieve this are outlined in Section IV-B.

GAIBANK's top management was interviewed to contrast Bank operations with the credit needs expressed by our interviewees. A dramatic divergence emerged.

Bank staff gave the impression of care in management, professionalism, long experience, and familiarity with the field. Rigorous, standard, exhaustive, and thorough procedures were employed in the application for, and review, approval, release, and supervision of loans. At the same time, the Bank evidenced a willingness to evolve and to innovate in these procedures, and demonstrated creative thinking as to its future policies.

However, what was admirable from a Banker's view caused antipathy, hostility, and misunderstanding among farmers who were intimidated by and distrustful of credit. The result was that the credit needs of small food-crop farmers were not being met. It was also clear that cost, staff, resource, and other Bank limitations would prevent the extension of present procedures to thousands of small foodcrop loans.

Two recommendations are made: (1) that the Bank form a committee of small farmers to advise it on small loan application, approval, release, and supervision procedures; and (2) that the Bank internally investigate how it can revise its small loan procedures, so as to find a cost-effective, decentralized, and rapid procedure for loan applications, release, supervision, and recovery. With respect to the second recommendation, a highly successful Bolivian small farmer credit project is recommended for study.

The Assistant Chief Hydraulics Officer for Operations and Maintenance and Acting Deputy Chief Hydraulics Officer, Hydraulics Division, MOA, were interviewed. The objectives were to request comment, and to discuss the recommendations in Section III-A-5.

The HD faces a series of acute problems. Registered-area users routinely underpay or fail to pay water fees. Fees are now collected by Local Authorities (LA's), who are statutorily protected from releasing them to the Division. Resultant deficits were previously made by the Treasury, but current economic conditions have made this impossible. In addition, regionalization has caused HD field resources -- staff, budget, and equipment -- to pass to regional control. As a result, the HD no longer controls its field operations. Like the Extension Service, the Hydraulics Division is now a head without a body.

By Guyanese tradition, the administration, operation, and maintenance of completed schemes has been reserved to the HD, which has operated from Georgetown. Farmers have not been involved in these functions. This, we believe, is the source of the crisis situation now characteristic of Guyana's water control schemes.

User participation, amounting to control on at least a trial basis, is recommended for the operation, administration, and maintenance of completed schemes. Precedent in three countries was cited for this recommendation. It appears that the present is a propitious moment for the trial of this idea. The HD may be receptive to it, once it is studied and adapted to local conditions.

Chapter 1

INTRODUCTION

This report is prepared in accordance with the Scope of Work for the Tropical Foodcrops Specialist, USAID Grant No. 504-0077, "Agricultural Sector Planning Project," between Checchi and Company, Washington, D.C. and the Ministry of Agriculture, Georgetown. That Scope of Work (s.o.w.) is attached as Appendix I. In general, the task was to generate alternative policy recommendations to stimulate the expanded production of foodcrops. The recommendations were to address issues constraining foodcrop output, and to be integrable into the forthcoming 1982-86 agricultural development plan. In accord with the s.o.w., policy outline has emerged mainly from a series of interviews with farmers of all sizes. These interviews were conducted throughout Guyana, wherever foodcrops are commercially important. To a lesser degree of emphasis, state and parastatal farms and relevant state institutions were consulted. Finally, selected past research reports were reviewed. The farmer interviews were greatest in number, and have been most heavily emphasized.

Foodcrops are listed in Table I-1. Twenty-nine crops are shown. In practice, the following received the greatest emphasis: all provisions (cassava, potato, yam, eddoe, and plantain); dry peas and beans; citrus fruits and pineapples; corn and peanuts; and cash crops (vegetables). In the analysis, provisions, dry peas and beans, fruits, and cash crops are grouped and treated as single commodities.

Policy alternatives are ranked by urgency. We indicate the most important required measures separately.

Following the scope of work, both farmer and institutional interviews were conducted, using structured interview guides.^{1/} Given the available manpower, and the length of time available for the fieldwork, random sampling was impossible. Interviews were conducted with farmers who themselves grew and sold foodcrops. At times the interviews took place on farms. More frequently, the interview took place in a marketplace (Regina, Coriverton) or at a stelling (Ebini Landing), and the crops were not actually seen. Frequently, farmers were selected by the "drive-by-and-stop" method. About as often, the field assistant or AO directed us to the farmer, who the AO may have known before the interview. Thus, neither sampling nor measurement error are known. It is likely that the farmers interviewed were more market oriented, had greater contact with the Extension Service, had more involvement with cooperatives, and had greater access to scarce production factors (credit, fertilizer, small tools) than the norm.

^{1/} These are shown in Appendices II and III, respectively.

Table 1-1
FOOD CROPS (EXCLUDING RICE AND SUGAR)

<u>Category</u>	<u>Crop</u>	
Any provision	Cassava Sweet Potato Yam	Eddoe Tannia Plantain
Dry Peas and Beans	Black-eye Mung	Urid Others
Corn	Corn	
Peanuts	Peanut	
Coffee	Coffee	
Fruits	All citrus Bananas Pears	Pineapple Mango Others
Cash Crops	Bora Tomato Onions Bou langer Melon Eschallots Pumpkin	Ochro Cucumber Lettuce Cabbage Calaloo Others

The methodology relies on the word of the farmer, as well as his accurate recall. Given this, the best use of the information is to note consistent, uniform patterns and strong relationships, as well as to weigh heavily the farmers' subjective opinions and feelings.

It is appropriate to note the author's philosophical orientation in planning studies of this type. It is to listen to, rely on, and follow the farmers' own words. Farmers, like the rest of us, best understand and perceive their own needs, situations, and problems. They are very intelligent and make accurate production and resource allocation decisions. No one is in a better position to recommend agricultural policy, to orient planning, to direct research, or to allocate resources. Farmers -- not politicians, technicians, bureaucrats, advisors, or central planners -- are the persons who will actually expand or not the production of foodcrops. We leave to them the task of telling us how this can best be done, that is, the task of directing policy. We follow the farmer's lead:

"It is not the amount of land you have,
but what you can get out of it."

Mibicuri Farmer
June 10, 1982

The report contains four chapters, plus a summary. The Summary, which contains the report's principal policy recommendations, preceded this Introduction. Chapter II outlines the principal policy issues facing Guyanese foodcrop agriculture. Chapter III presents the results of the farmer interviews. That Chapter contains the report's most important analytical material. Our recommendations flow directly from it. Chapter IV presents the results of the institutional interviews. The principal focus of Chapter IV is to recommend foodcrop policy directions for these institutions, concentrating on their own ideas, as well as those of their farmer-constituents. Most of the important foodcrop-supporting institutions -- GMC, Directorate of Extension, GAIBANK, GNTC, and the Hydraulics Division -- have been repeatedly analyzed, both internally and by expatriates. We concentrate on future directions, or policy, rather than describe them yet again.

Chapter 11

AN OUTLINE OF SIGNIFICANT POLICY QUESTIONS FACING GUYANESE FOODCROP AGRICULTURE

This Chapter outlines a number of policy issues facing the future development of Guyanese foodcrops. Policy is treated in three areas: (1) general questions arising from Guyanese agrarian structure and questions of resource allocation; (2) policy regarding factor supply; and (3) policy regarding the delivery of services. Field research -- the interviews -- was structured to illuminate these questions. It attempted to learn from farmers what problems most constrained their foodcrop production, and how these could be alleviated. Farmer ideas then oriented our choice of significant policy recommendations.

There is a common belief that Guyanese agriculture is regional, that its problems are therefore regional, and that policy must therefore also be regional. Our fieldwork has confirmed this belief, to an extent. Certain issues are national in scope, while others are very much regional. Policy must be both national and regional, to fully address agricultural sector needs.

A. General Policy Questions Arising from Guyanese Agrarian Structure, and Questions of Resource Allocation

Fieldwork has shown that farmers are very keen, at this historical moment, to increase foodcrop production (see Chapter III). At the same time, the State is mounting campaigns exhorting farmers to do the same. The policy question is, should the State continue to expend its scarce resources on such campaigns and exhortations, or can these same resources be better spent to eliminate the serious constraints that impede the farmers from carrying out the intentions they already have?

The Rural Farm Household Income Study (RFHIS, Reference 3) indicated that as much as 27 percent of all land on farms was unused (Table 4-16). This is confirmed by our fieldwork, which also indicates a very low level of support in existing land development projects, and severe underperformance in the delivery of some State-controlled production factors and services. Examples are the maintenance of water control structures, the delivery of fertilizer, small tools, spare parts, and other direct production factors, and the availability of credit. At the same time, large and costly new land development projects are being planned and executed. These projects compete for the same scarce resources required to maintain existing schemes, or to deliver other factors and services more adequately. The policy question is, should these very scarce and vital resources be allocated to the development of new schemes, or will returns to them be higher if they are allocated to support existing schemes, and farms already in production?

A question related to the State's monopoly and failure to deliver many vital production-supporting factors and services is this: Should these monopolies continue? Or, are some administrative and organizational matters, and the delivery of some services and production factors, better left to the private sector, or to the farmers themselves?

Historically, Guyanese foodcrops have been produced by many thousands of small farmers. Today, GUYSUCCO, the GRB, the GNS, State-backed estates, and other State entities are moving into foodcrop production. Fieldwork has shown that these State enterprises are able to command scarce and vital production factors and services to a far greater extent than small, individual farmers. The allocation of such factors as fertilizer, tools, and credit, and such services as technical assistance, protected markets, and canal maintenance is an economic question which has been politically settled in Guyana. The economic question is: where are returns to these resources the highest? De facto, the political decision has been taken to allocate these resources to State use on a priority basis. The policy question is, is this desirable; i.e., is it an efficient use of these vital and scarce resources? Fieldwork has shown that both capital and labour are scarce in agriculture. The question is, can the State adopt an agricultural development policy for fieldcrops which either emphasizes highly productive divisions of these factors, or which indeed emphasizes relatively more abundant production factors, such as land?

B. Policy Regarding Factor Supply

Herein, factors are arbitrarily defined as: fertilizer, seed, and drugs (agricultural chemicals); tractor-powered machinery; small tools, such as spray cans, boat engines, chain saws, and rototillers; hand tools, such as cutlasses, forks, hoes, and shovels; agricultural labour; land; and finance, including credit, used for either production or investment. Services are defined in Section C.

The determination of where the returns -- either physical (yield), or monetary (profit) -- to these factors are the highest is beyond the scope of this report. However, from a policy viewpoint, our bias is that scarce production factors should be allocated to those uses where returns to them are the highest. The question then becomes, which are those uses?

According to the RFHIS, 50 percent of all farm income comes from non-agricultural sources, and 65 percent from off-farm sources (pages 3-1 and 3-6; Tables 3-3 to 3-5). Farming "yielded relatively small returns to the factors of production" when returns were compared to those from off-farm factor employment (pages 3-6 and 1-4). However, 16 percent of all farm income, and fully one-half of all on-farm generated income, came from foodcrops. Nor did foodcrops emphasize, or heavily employ, capital-intensive production techniques, dependent on imported inputs.

These findings indicate the desirability, from the Government's view, of support to the foodcrop sector, and they help explain our interview findings: farmers want to expand the production of foodcrops. The delivery of resources -- production factors and services -- and not campaigns, slogans, and exhortations, is required.

1. Fertilizer, Purchased Seed, Drugs, Tractor-Powered Machinery, and Small Tools.

In Guyana, is the use of these factor-inputs appropriate at all, given that almost all of them are imported, at heavy foreign exchange cost? If their use is appropriate, is it so in foodcrops?

Fieldwork has shown that the use of these inputs varies depending on crop, region, soil condition, and other factors. When used on foodcrops, their prices are high and farmers may get them via clandestine means. At the same time, non-foodcrop farmers (rice, sugar), and State-sponsored enterprises, have more ready, often subsidized access to them.

Farming Systems Research (FSR) in all parts of the world has shown that, left to themselves, farmers make highly accurate resource allocation decisions. For example, we would expect research to demonstrate that it is economically rational to purchase a bag of fertilizer at double its subsidized price, for use on another crop.

This generates a variety of policy questions: Why should the State monopolize the access to these inputs, and restrict their use by fiat? Has the State been able to match the performance of the private sector in the distribution of these factors? And why should large, State sponsored enterprises have more ready access to these inputs than small, private farmers?

2. Labour

Fieldwork has shown conclusively that agricultural labour is becoming scarcer and increasingly more expensive. Our fieldwork and the RFHIS found that as much as half of the available rural labour supply may be employed off-farm. Given the desire to increase foodcrop production, these crops' relative dependence on manual labour, and the acute shortage of foreign exchange-dependent, capital-intensive, labour-saving means, what implications does the labour situation have for policy? How, indeed, can the production of these crops be increased when labour is scarce and expensive, yet their production depends on it?

Somehow, a means of promoting these labour-intensive crops, in the face of the labour shortage, must be found, and translated to policy.

3. Land

It has already been noted that there are large amounts of unused land on already-developed farms. Our fieldwork suggests that the amount of unused land may be increasing, and we refer to coastal and riverine lands, with access to transport and markets, and with sophisticated, high cost infrastructure already in place. What investment should be encouraged, to bring this land back into production? Is State use of fiat to require the planting of specified crops in specified areas economically justifiable, or does this aggravate resource misallocation? If both capital and labour are scarce, can land be used intensively to boost foodcrop output?

4. Finance, Including Credit

Should credit be given for general use, depending on farmer discretion, or should it be made available for specific purposes? Fieldwork has shown that finance, or its lack, may be the number one problem and the number one felt need of farmers. What uses do the farmers want to make of credit? Are current institutional arrangements appropriate for the annual delivery of thousands of small agricultural loans? Have any useful innovations been found, such as decentralized, streamlined application, approval, and disbursal procedures? GIABANK believes credit should be used to promote intensified production practices, meaning greater output per acre and more intense use of cash inputs. Given Guyana's current financial and foreign exchange situation, is this appropriate? Given the Bank's exhaustive application, review, and supervision procedures, will it be able to promote credit, and stimulate its greater use, or will it merely be able to slowly respond to unsolicited applications, as at present?

C. Policy Regarding the Delivery of Services

Herein, services are arbitrarily defined as: drainage and water control; marketing; agricultural extension and technical assistance; and cooperatives. Our bias with respect to these is the same as that for factors: they should be allocated to those sectors where the returns to them are the highest.

1. Drainage and Water Control

The RFHIS found drainage and other water control problems to be "the dominant factor associated with the well-being of Guyanese rural households" (page 4-17, Table 4-12). We have found it to be one of four critical constraints to increased foodcrop production. It is regional in nature. Fieldwork conclusively demonstrated that many thousands of foodcrop acres are destroyed annually by flood.

In Guyana, the State has control over drainage and flood control, and the function is centrally administered. Therein lies the nexus of all water policy issues: has the State demonstrated its ability to deliver this function, or is there a better way to deliver this absolutely essential service? Once installed, who can best administer and maintain drainage and flood control systems: users or the State? Need these indispensable services depend on the use of heavy, imported machinery?

2. Marketing

In Guyana, foodcrop marketing is largely in private hands. The Guyana Marketing Corporation (GMC) operates, but has usually functioned as a buyer of last resort, and handled large volumes of foodcrops only in times of glut. In the past, the GMC has faced conflicting policy directives: purchase all offered at a fair price, sell below the market, and operate at a profit. Fieldwork has shown that farmers like the GMC, even though they usually sell their foodcrops in the private sector.

The nature of foodcrops and the modus operandi of GMC usually permit the free market to determine foodcrop prices. Essentially, the GMC sets a floor or support price for each commodity, but the free market determines the market-clearing price level. There has been substantial criticism of the method used to set these floor prices.

Regarding foodcrop marketing policy, the central question is: can the public or the private sector most efficiently deliver marketing services, or is there perhaps a role for both? Here, we are particularly interested in price determination, payment practices, transport and assembly, loss, and margins. As regards prices, should the present price-determining mechanism continue? Should there be support prices at all, and, if so, how should these be fixed?

3. Agricultural Extension

Guyana's agricultural research and extension establishments are presently confronting policy issues of the severest importance, including:

- (a) Shall field agents concentrate on providing technical knowledge to farmers, or must they also fulfill the roles of salesmen for Ministry projects, and for inputs? Are the two roles in conflict, when viewed by their farmer-constituents?
- (b) Why confine research to Mon-Repos? Why not test the efficacy of recommendations under on-farm conditions, before trying to extend them throughout the country?

- (c) Why is farmer advice to the research establishment missing? Aren't farmers in the best position to indicate priority subject-areas for research?
- (d) In its isolation, has the research establishment incorporated the desirable, useful features of traditional farming practices? Are its recommendations realistic, when measured against available on-farm resources? Under field conditions, have its recommendations been superior to traditional practices? Has it recognized the often brilliant adaptation of local, traditional systems to local realities of soil, climate, finance, labour supply, input availability, and so on?
- (e) Is there any real institutionalized link between farmers, the Service, and the research establishment?
- (f) To date, what have been the consequences of placing the Service's field agents, equipment, and budget under the control of the Regional Chairmen?

4. Cooperatives

In light of their dismal history, and of present negative farmer attitudes toward them, policy issues regarding agricultural cooperatives are straightforward: do co-ops have a realistic future in promoting the development of foodcrops? Why should they be favored in the allocation of scarce and essential inputs and services, such as fertilizer, small tools, and credit? Are they too politicized to have a future in food-crop agriculture?

Chapter III

RESULTS OF FARMER INTERVIEWS

This chapter reports the results of a series of individual farmer interviews conducted throughout Guyana's more important foodcrop areas. Additional interviews took place at State and parastatal farms and estates. Farmers and areas interviewed are shown in Table III-1. Fifty-seven individual interviews took place over a five-week period, in six areas. There were four estate interviews, covering three areas, and a total of about 1,300 acres of foodcrops.

The interviews followed a structured guide, shown in Appendix II. One farmer was interviewed at a time. Individual or estate interviews followed the same guide, but, at estates, several issues not shown on the guide were important. These are discussed in Section III-B below.

Here, it is well to restate our philosophical viewpoint, previously noted in Chapter I. We view the farmer as the most important link in the production chain. We believe that he occupies the best vantage point for the directing of policy. We believe in the use of the farmers' own ideas, problems, and recommendations, as stated by him. We believe in decentralized, locally adapted planning, wherein the farmer indicates policy directions, adapted to his local situation, and the Government follows.

A. Interviews with Individual Farmers

Table III-2 shows the total number of interviewed farmers by foodcrop grown, farmer feelings about increasing the production of these crops, and regional preferences as to which crops to expand. The table shows that, altogether, 45 provision farmers, 10 dry pea and bean farmers, 13 corn, 11 peanut, 6 coffee, 23 fruit, and 25 cash crop farmers, were interviewed, nationwide. Almost all interviewed farmers grew provisions, and these are probably the most important foodcrops at this moment in Guyanese agriculture.

Farmers need no stimulus to expand, to produce more foodcrops. About 93 percent, or 53 of 57 interviewed, already want to grow more of these crops. Of those who do not care to grow more foodcrops, half were too old or sick to do so. The rest cited uncertainty, risk, and lack of support. Clearly, support, in terms of vital inputs and services, and not slogans and campaigns, is called for. Farmers already have the desire to produce more.

Table III-1
INDIVIDUAL FARMERS, ESTATES, AND AREAS INTERVIEWED

<u>Date</u>	<u>Areas and Regions</u>	<u>No. of Interviews</u>
<u>A. Individual Farmers: 57 Interviews</u>		
May 29	Cane Grove - IV	2
May 29	Nootenzuil - IV	1
June 24	Mahaicony Creek (Washclothes) - IV	2
June 2	Pomeroon River - II	7
June 3	Aurora-Supenaam - II	5
June 3	Tapakuma - II	2
June 4	Red Lock - Mainstay - II	7
June 9	Corentyne River and J-M area - VI	5
June 9	Crabu Creek, New Empolder S. - VI	6
June 10	Black Bush Polders I, II, III. - VI	7
June 17	Upper Berbice R. (Ebini Stelling area) - VIII	5
June 29	Acquero-Mabaruma - I	3
July 8	Canals Polder - III	5
<u>B. Estates, State, Parastatal Farms: 4 Interviews</u>		
June 15	Hope Estate - IV	1
June 17	Kimbia, GNS - VIII	1
June 23	Belbaag - IV	1
July 2	Blairmont, OCD - V	1

Table III-2

FOODCROPS: MAIN CROPS CULTIVATED, FEELINGS AS TO INCREASING PRODUCTION, AND REGIONAL PREFERENCES AS TO EXPANSION

1. Could you tell me the main foodcrops that you cultivate?

Total No. Interviews	Any Provision ^{1/}	Dpb ^{2/}	Corn	Peanuts	Coffee	Any Fruit ^{3/}	Cash Crops ^{4/}
57	45	10	13	11	6	23	25

2. Would you like to grow more of these crops?

Yes 53
No 4

Reasons for answering no:

- In present crisis, too much uncertainty, expansion too risky (1)
- Government has forgotten us, support and vital services now too uncertain to expand (1)
- Now too old or sick (2)

3. Which ones would you really like to expand?

Crop	MMN ⁵⁾	Pom.	Essequibo		Corentyne	BBP ⁶⁾	E. River ⁷⁾	NWR ⁸⁾	C.P. ⁹⁾
			W.C	W.B.I.					
Any Provision ¹⁾	3	5	5	8	1	2	5	1	5
Dpb ²⁾	-	2	-	2	1	1	2	-	1
Corn	-	-	-	2	1	4	3	-	-
Peanuts	-	2	1	-	-	-	4	2	-
Coffee	-	-	-	-	-	-	-	-	-
Fruits ³⁾	-	1	-	8	1	-	1	-	3
Cash Crops ⁴⁾	1	1	3	2	4	-	-	-	-

^{1/} Any provision: Cassava, Sweet potato, yam, eddoe, tannia, plantain, etc. (see Tabel 1-1).

^{2/} Dpb: dried peas or beans, eg. blackeye, mung, urid, etc.

^{3/} Any fruit: any citrus fruit, banana, pineapple.

^{4/} Cash crops: vegetables, pumpkins (see Table 1-1).

^{5/} Mahaica, Mahaicony, Nootenzull.

^{6/} Black Bush Polder, including Les Beholen, Mibicuri, Yakusari.

^{7/} The Upper Berbice River, in the vicinity of Ebini Stelling.

^{8/} Northwest Region I.

^{9/} Canals Polder..

Of the eight categories of foodcrops, provisions are the first choice for expansion by the greatest number of interviewed farmers. Of 57 interviewees, 35 wanted to expand these crops. After provisions, the most popular candidates for increased production were (in order of preference): fruits, cash crops, corn, dry peas or beans, and peanuts.

It is likely that the record high prices currently prevailing in the market have influenced farmer thinking on these questions. Nevertheless, the present is a very favorable moment for Government foodcrop initiatives, particularly if these result in greater farmer access to the vital production factors and services required to support expanded production.

1. Fertilizer, Drugs, and Purchased Seed

During the past year, the 57 farmers interviewed grew a total of 133 foodcrops.^{1/} Of these, 33 were produced with the aid of fertilizer, while 100 were produced without it. Of the crops receiving fertilizer, 42 percent were cash crops, and these were the only crops where a majority of producers used fertilizer (see Table III-3).

Farmers were asked why they did not use fertilizer. Twenty-two respondents said fertilizer was just too hard to get, too expensive, or only available for rice -- in other words, access to it was restricted. Twenty said the land was fertile enough already, fertilizer was not necessary, or would even harm the crops. Mostly, these respondents were farming new land in areas like the Pomeroon, Upper Corentyne, or Upper Berbice. They would patiently explain about vigorous and excessive vegetative growth, wind or water logging, and plant burn. Finally, four respondents said they had no tradition of fertilizer use, or did not know how to use it.

Farmers using fertilizer were asked where they got it, whether they got all they wanted, and whether its arrival was timely. The Table shows that virtually all fertilizer used on foodcrops was intended for rice or sugar.^{2/} Farmers usually did not get the fertilizer at the right time during the crop cycle, and this delay was because the source of the fertilizer was clandestine. Similarly, just two of 23 respondents got all the fertilizer they wanted. The other 21 had to make do with less than they would have liked. Again, lack of access resulted in untimely, sub-optimum use.

^{1/} Here, as elsewhere in the report, provisions, dry peas or beans, fruits and cash crops are treated as if they were single commodities. The 133 is the total number of our seven crops or crop groups produced by the 57 interviewed farmers. For example, if a farmer grew cassava, eddoe, black-eye, bananas, and oranges, he grew three foodcrops: a provision crop, a dry pea and bean crop, and a fruit crop.

^{2/} On Table III-3, private means the farmer got it from a rice or sugar farmer, who in turn got it from GRB or GUYSUCO.

Table III-3

THE USE OF FERTILIZER

1. Did you use fertilizer on these foodcrops last year?

<u>Crop</u>	<u>Total Growing</u>	<u>Yes</u>	<u>No</u>
Any Provision	45	8	37
Dpb	10	2	8
Corn	13	0	13
Peanuts	11	3	8
Coffee	6	1	5
Fruits	23	5	18
Cash Crops	25	14	11

2. Why did you not use fertilizer?

No. of Answers ^{1/}

a. Fertilizer just too hard to get, or too expensive. Fertilizer is available only from rice or sugar farmers, from the GRB, or from GUYSUCO.	22
b. The land is so fertile, fertilizer will harm the crops, fertilizer is not necessary.	20
c. No tradition of using fertilizer, don't know how.	4

3. Where did you get the fertilizer? Did you get all you wanted? Did it arrive on time?

<u>Source</u>	<u>Total No. of Answers</u>	<u>On-time</u> ^{1/}		<u>Enough?</u> ^{1/}	
		<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
Private	8	1	6	0	7
State					
- Ag. Field A.	2	1	1	0	2
- GRB or GUYS.	13	3	9	2	11
- GNTC	0	0	0	0	0

^{1/} A farmer may have given more than one answer, so that the total number of answers may add up to more than the total number of farmers.

In fact, almost all the fertilizer used on foodcrops came from either rice farmers or the GRB. The foodcrop farmer either bought fertilizer from a rice farmer, or 'thieved' his own fertilizer away from that supplied for his rice. In some cases, farmers were supplied fertilizer as part of the promotion of another crop, but used it instead for foodcrops.

When purchase took place, it was usually the case of a foodcrop farmer paying \$100 to \$115 per bag to a rice farmer, for a bag the latter had purchased from the GRB at the subsidized price of \$40 to \$45 per bag. Foodcrop farmers frequently complained bitterly about the unfair advantage this gave to rice farmers.

"Government is selling fertilizer to rice farmers cheap, they selling to us dear."

Mibicuri cash crop farmer
June 1982.

These results confirm the findings of the RFHIS: foodcrop production is less dependent than rice or sugar on this cash, imported, direct production input. Clearly, foodcrops will become more dependent on fertilizer as more land is put into them, or if present land use patterns are intensified. Further, we argue that the 'thieving' of fertilizer from its intended use on rice, even at double the price, and its subsequent use on foodcrops is an economically rational use of this resource: according to farmers, rice does not presently pay, whereas foodcrops do.

The conclusion is that the present policy regarding access to fertilizer is not economically rational: fertilizer is allocated to crops that are presently uneconomic to produce -- rice and sugar -- and withheld from foodcrops, which are profitable to produce.

Drugs (Agricultural Chemicals)

During the past year, the 57 farmers interviewed used drugs on 80 of their foodcrops (Table III-4). Drugs were not used in 53 of the 133 total instances. Drugs were used on about 50 percent or more of all seven crops, while 84 percent of the cash crops benefited from the use of drugs. Again, cash crops used an imported input more intensively than any other type of foodcrop. Clearly, drug use is much more prevalent than fertilizer use on foodcrops, and drugs are more important than fertilizer to foodcrop farmers.

Three factors were important in the non-use of drugs. These were: (1) drugs were too expensive or too hard to find; (2) farmers had no tradition of drug use or did not know how to use drugs; or (3) no problem requiring their use had occurred.

Table III-4
THE USE OF DRUGS ^{1/}

1. Did you use drugs on these foodcrops last year?

<u>Crop</u>	<u>Total Growing</u>	<u>Yes</u>	<u>No</u>
Any Provision	45	24	21
Dpb	10	8	2
Corn	13	6	7
Peanuts	11	6	5
Coffee	6	3	3
Fruits	23	12	11
Cash Crops	25	21	4

2. Why did you not use drugs

No. of Answers

a. Too expensive, too hard to find.	7
b. No tradition of drug use, don't know how.	4
c. No problem, no need for drugs.	6
d. (No reason given for not using)	4

3. Where did you get the drugs? Did you get all you wanted?
Did they arrive on time?

<u>Source</u>	<u>Total No. of Answers</u>	<u>On-time?</u>		<u>Enough?</u>	
		<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
Private	24	8	16	7	17
State					
- AFA	11	6	5	5	5
- GRB or GUYS.	5	2	2	3	1
- GNTC	3	0	2	0	3

^{1/} Agricultural chemicals, including: herbicides, such as Gramoxone; insecticides, such as Rogor, Sevin, or Aldrin; and fungicides, such as Dithane.

Unlike fertilizers, the source of drugs was more evenly split between the public and private sectors. Twenty-four respondents got their drugs from private dealers, whereas 19 got them from the field assistant, the GRB, or the GNTC. While drugs were more accessible than fertilizers, drug supply was often insufficient in quantity and untimely, regardless of source, and access and cost were major problems. In fact, interviewees frequently complained that they had to go far searching for drugs. When found, prices were very high. A number of Pomeroy and Corentyne farmers went right up to Georgetown in search of needed chemicals. Too, farmers complained that not getting the drugs when they were needed resulted in lost crops: a drug was not there, and by the time it arrived, the damage had been done.

The AFA is frequently seen by the farmer as a source of fertilizer or drugs. Thus, perceptions of his role are split: he functions as a bond, or store, as well as a purveyor of technical assistance. This is a major drawback for the AFA's, we believe, because it creates conflict between the farmers and them, and because it distorts the farmer's view of the AFA. We will return to this point in Section III-A-7.

Seed

Very few foodcrop farmers use selected or treated seed, purchased from a shop, given by the AFA, or otherwise not saved back or purchased from a neighbor who saves his back (Table III-5). The use of purchased seed is common only on cash crops. To a lesser extent, citrus farmers obtain sapling trees from the AFA.

This practice -- saving back sticks, suckers, seeds, etc. -- is nearly universal. It suggests that it would be well to recognize it as a given -- farmers are not going to buy sticks, suckers, or treated seeds -- and ask, what can be done, given the practice?

This is a logical area for extension activity. Farmers recognize that not just any stick or sucker will serve as planting material:

"You choice out the best for plant it back again."

Wanaina Hill provision corn,
and nut farmer, June 29, 1982.

The Extension Service would do well to develop a short course covering on-farm techniques for stick, sucker, and seed selection. Topics in such a course might include genetic traits, cleanliness, storage techniques, selection of disease free planting material, and so on. This is an area where a little technical help can have a big impact. It implies little demand for either cash or imported inputs.

Table III-5
THE USE OF PURCHASED SEED ^{1/}

1. Did you purchase seed (sticks, suckers, etc.) for these foodcrops last year?

<u>Crop</u>	<u>Total Growing</u>	<u>Yes</u>	<u>No</u>
Any Provision	45	0	45
Dpb	10	4	6
Corn	13	3	10
Peanuts	11	0	11
Coffee	6	0	6
Fruits	23	6	17
Cash Crops	25	11	14

2. Why did you not purchase seed for them? No. of Answers
- a. Kept own back, or got from neighbour. 49

^{1/} This means selected or treated seed, purchased from a store, given by the *...*, etc.

Policy Recommendations

- (1) Foodcrop farmers require agricultural chemicals and, to a lesser extent, chemical fertilizers. As the area in foodcrops expands, and production intensifies, the need for fertilizers and drugs will intensify. Therefore, foodcrop farmers must have access to these inputs.
- (2) The State has monopolized the access to fertilizer and used fiat to restrict its use, often to uneconomic enterprises. State restrictions have made fertilizer and drugs hard to get, both at the right time and in the necessary amount.

"Presently in this polder you can't get nothing when you want it."

Les Beholden
June 10, 1982.

Therefore, it is recommended that the private sector be allowed to deal in both fertilizer and agricultural chemicals. The State should allow their importation. Subsidies on them should end. And the market, with State and private sectors competing, will determine their allocation.

- (3) It is recommended that the Extension Service develop techniques for the on-farm selection of clean, healthy seeds, and teach farmers how to treat and store them -- using essentially costless means -- to preserve their quality.

2. Machinery and Small Tools

In this section, machinery means tractor-powered machinery or combines, while small tools refers to chain saws, boat engines, small pumps, and spray cans.

In general, tractor machinery is not of great importance in foodcrop production, with some exceptions (Table III-6). About 39 percent -- 22 of 57 interviewees -- used machinery at all for foodcrops. By far the greatest use was for all types of land preparation, including water control: plowing (digging), bedding, and the making of dams. Tractors are more important in established, settled areas, and less important in new areas. Indeed, they often cannot be used at all on newly cleared lands. Cash crops, followed by fruits, were the most dependent on the use of tractor machinery. Machinery was virtually unused on corn.

Table III-6

THE USE OF TRACTOR MACHINERY AND SMALL TOOLS

1. Did you use tractor machinery last year for foodcrops?

	<u>Nos.</u>
Total number of respondents	57
Yes	22
No	35
Used a chain saw to clear the land	5

2. (see next page)

3. (see next page)

4. When you hired the machinery, were you satisfied with the quality of the job?

	<u>Nos.</u>
Total responding	13
Yes	11
No	2

Why were you unsatisfied?

	<u>No. of Answers</u>
a. The quality was spotty, the field left cloddy and uneven	2

5. Can you produce more foodcrops without the use of machinery?

<u>Crop</u>	<u>Yes</u>	<u>No</u>
Any Provision	29	13
Dpb	3	4
Corn	10	3
Peanuts	6	5
Coffee	2	-
Fruits	16	3
Cash Crops	10	11

2. Which crops was the machinery used for, and what did it do?

<u>Crop</u>	<u>Did Not Use at All</u>	<u>Total</u>	<u>Did Use</u>				
			<u>To Clear The Land</u>	<u>To Plow Dig, Bed Dam</u>	<u>To Scrape</u>	<u>To Fetch</u>	<u>Use Not Recorded</u>
Any Provision	29	12	1	9	-	1	4
Dpb	3	3	-	3	-	-	4
Corn	11	-	-	-	-	-	2
Peanuts	7	3	1	2	-	-	1
Coffee	3	3	-	3	-	-	-
Fruits	13	9	1	6	-	-	1
Cash crops	10	10	-	6	1	-	5

3. Did you own or hire the machinery that you used? What problems did you have?

<u>Problem</u>	<u>Tractor Machinery - Total Responding: 21</u>			<u>Boat Engine, Small Pump Spary Can, Chain Saw - Total Responding: 14</u>	
	<u>Own It</u>	<u>Hire It</u>		<u>Own It</u>	<u>Hire It</u>
		<u>Pvt.</u>	<u>State</u>		
a. No problem last year.	-	6	3	5	-
b. Delay or untimely: machinery engaged in rice, cane work.	-	5	-	-	-
c. Delay: breakdown, no available spares, spares very expensive.	7	-	-	10	-
d. Delay: not enough fuel.	-	-	-	2	-
e. Delay: Many want it, you must wait.	-	3	1	-	-

Again, RFHIS findings are confirmed: foodcrop production is less dependent than other crops on this cash, imported, direct production input.

All seven tractor owners interviewed indicated a single problem: delay occasioned by breakdown and the availability and extreme cost of spare parts. Those hiring tractors fared better: half experienced no problems last year. This probably meant that tractors were only hired out when they were in good condition. Delay occurred in tractor hire when the machinery was engaged elsewhere (in rice or sugar work).

Small Tools

The importance of small tools was regional, to an extent. Chain saws were of great benefit in new land areas, boat engines in river areas. Small pumps are of importance on cash crops everywhere in the country. And, spray cans are important to all farmers. In general, small tools functioned to greatly increase the productivity of manual labor.

About one-third of small tool-owning respondents experienced no problems in the last year. Otherwise, small tool owners experienced delay due to breakdown and non-availability of spares or fuel.

In summary, access is again a problem: access to tractors for hire, access to spare parts, and access to fuel. This problem is perceived as serious by many tractor and small tool-using farmers, especially in cash crops. These farmers are aware of early market opportunities. Delay (e.g., in fieldwork) causes them to miss these. Farmers also realize that delay is often reflected in reduced yields, later in the crop cycle.

Bulldozers and HYMAC's

The use of bulldozers for land clearing is unpopular with many farmers: many commented that this practice "pushed out" the topsoil. Its use was therefore not desirable. The same was true for the use of HYMAC's in the making of dams. The HYMAC throws clay subsoil to the top of the dam, and buries the topsoil. This was undesirable, according to the farmers, and many preferred to clear and trench by hand.

Foodcrop Expansion and Machinery

Farmers were asked the question, "Can you produce more foodcrops without the use of machinery?" Of 115 responses, 76, or 66 percent, said they could produce more foodcrops without machinery, while 39, or 34 percent, said they could not. Comparing these responses to the question, "Did you use tractor machinery last year?" We see -- as with fertilizer -- that the expansion of acreage or the intensification of production will be associated with an increased requirement for machinery. What is more, this information must be considered together with

similar questions asked about labour and credit. When a farmer said yes, he could produce more without machinery, he usually also said that only a little more could be produced. Production expansion would take much longer without machinery, and would always require labour hire. Therefore, finance would also be required. In other words, production expansion will require either more machinery or more hired labor, or both, and in either case, it will require finance.

Policy Recommendations

- (1) Spare parts, small tools, and, to a lesser extent, tractor machinery are required for foodcrop production. Therefore, these must be accessible to foodcrop farmers..
- (2) The expansion of foodcrop production implies an increased requirement for spares, tools, and machinery.

Therefore, a policy to expand foodcrop production must be supported by a policy to deliver to farmers greater quantities of tools, spares, and machinery.

- (3) As the public monopoly has failed to make these available, at least a portion of their supply should be placed back into the private sector.

3. Labour

Labour hire is of fundamental importance in Guyanese foodcrop production. Respondents were asked the question, "Did you hire labourers to work on foodcrops last year?" Respondents had produced a total of 120 foodcrops during the last year. Labour was hired on 80 of these, and not hired on 40 of them. Labour hire was of importance on all crops (Table III-7).

Labour sharing arrangements are important among Amerindians, on the Upper Berbice, and probably in other areas. In these cases, labour is exchanged, not hired for wages. Considering this, the use of non-family labourers is of even greater importance than the Table indicates.

The most urgent tasks requiring labour hire are land clearing, land preparation (digging, forking, chipping, bedding), trench and drain work, and weeding (scraping). However, hired labour was commonly used on all phases of field crop cultivation.

Of the 38 total responses to the question, "Did you have any problems of finding labourers to hire?", 20 farmers said "yes." They listed a total of 25 problems. In general, the labourers sought were either working their own farms, working elsewhere, or considered so expensive

Table III-7

LABOUR

1. Besides family members, did you hire labourers to work on foodcrops last year?

<u>Crop</u>	<u>Total No. Responding</u>	<u>Yes</u>	<u>No</u>
Any Provision	42	28	14
Dpb	7	5	2
Corn	12	9	3
Peanuts	10	5	5
Coffee	5	4	1
Fruits	21	12	9
Cash Crops	23	17	6
Other ^{1/}	6	-	-

2. (see next page).

3. Did you have any problems finding labourers to hire?

	<u>Nos</u>
a. Total number of respondents	<u>38</u>
No	18
Yes	20
Other ^{1/}	6

- b. What problem? What were those labourers actually doing?

1. They were simply unwilling to work, lazy. (3)
2. They were busy working on their own farms. (13)
3. They were working elsewhere: chasing parrots, macaws; working in goldfields; cutting timber; cutting cane; busy fishing. (3)
4. The problems is, wages are too high! (6)
5. We didn't actually hire labour but instead participate in a labour exchange group (Matrimen, Amerindians). (6)

4. To expand foodcrop production, will more non-family labour have to be hired?

<u>Crop</u>	<u>Yes</u>	<u>No</u>
Any Provision	38	4
Dpb	7	0
Corn	13	0
Peanuts	10	1
Coffee	4	2
Fruits	21	0
Cash Crops	17	1

^{1/} These respondents did not actually hire labour. Rather, they participated in a communal labour sharing system. (Matrimen, Amerindian groups).

-2. What did the hired labourers actually do?

<u>Crop</u>	<u>Total No. Responding</u>	<u>Clear, Dig, Fork, Bed</u>	<u>Trench, Drain</u>	<u>Plant</u>	<u>Scrape, Weed</u>	<u>Reap</u>	<u>Fetch Out</u>	<u>Other</u>
Any Provision	28	16	16	13	18	14	4	1
Dpb	5	3	2	3	5	2	0	0
Corn	9	9	4	2	4	5	0	0
Peanuts	5	5	1	2	3	3	0	0
Coffee	4	3	2	0	4	3	0	0
Fruits	12	3	7	2	12	5	1	1
Cash Crops	17	8	8	7	12	7	1	1

as to be uneconomic to hire. The communal labour sharing arrangements were considered unsatisfactory by most participants. Labour sharing was hard to organize -- resulting in delays -- and not as productive as cash labour.

In fact, labour is usually available at a price, and sometimes after a delay. The real problems were, either the employer was unwilling to pay the rate asked, or had to wait until the man he wanted was able to take time away from his own farming. When a respondent said he had no problem finding labourers to hire, he usually added: "You can get them if you are willing to pay the price."

Agricultural labour is expensive in fact, and farmer comments indicate that it is becoming more so. Frequently, farmers indicated that wage rates had risen by 20 - 25 percent during the preceding 12 months (Table III-8).

Seasonality is important in labour hire, and is regional in nature. Rice planting or harvest, cane harvest, parrot and macaw season, logging, gold mining, and other seasonal occupations affect the availability of hired labour.

Expanded foodcrop production will require the increased use of hired labour. Almost all respondents said they will need to hire more non-family labour to expand foodcrop production. There were only eight negative answers to this question (Question 4, Table III-7). Furthermore, this information must be considered together with the findings on machinery, small tools, wage rates, and labour supply from off-farm sources (developed below). If foodcrops are to be expanded without tractor machinery, much more labour must be hired. Wage rates are already high, and headed upwards. It is unlikely that significant amounts of labour can be drawn back into farming from current off-farm employment. The conclusion is, agricultural labour must be made more productive. This can be done by making spares and small tools available, and by giving producers more access to the other inputs and services needed for production, as discussed in other report sections.

The Off-Farm Employment of Agricultural Labour

The RFHIS found that as much as half of the rural labour supply may be employed off-farm. Our fieldwork confirms this. Of 55 respondents, 30 families had one or more members employed off the farm last year (Table III-9). The owner or manager and the wife or son were employed off the farm in about equal numbers. When persons were employed off the farm, they usually contributed only marginally to the available labour supply: e.g., they were available seasonally, on weekends, or during holidays. These persons cannot be considered as available for any significant foodcrop production expansion.

Table III-8

WAGE RATES, JUNE, 1982

1. Dollars per day, no food: number of responses by region.

<u>\$G</u>	<u>MMN</u>	<u>Pom.</u>	<u>Essequibo</u>		<u>Cor.</u>	<u>BBP.</u>	<u>ER.</u>	<u>NWRI.</u>	<u>CP</u>
			<u>W.C.</u>	<u>W.B.I.</u>					
Below 14	-	-	1	-	1	2	2	3	-
14-16	-	2	-	4	3	1	-	-	3
16-18	3	-	1	-	2	-	-	-	-
18 +	1	2	-	-	-	-	-	-	-

2. Piece rates (See also Appendix IV.).

a. Land clearing in Pomeroun River
 - \$150 per acre, two respondents
 - \$250 per acre, one respondent

b. Weeding (Pomeroun)
 - \$80 per acre, one respondent

c. Digging a 2x2 trench, per rod
 - \$14.40, one respondent
 - \$ 6.00, one respondent

Table III-9

THE OFF-FARM EMPLOYMENT OF AGRICULTURAL LABOUR

1. Did any household or family member work elsewhere last year?

a. Respondents	<u>Nos.</u>
Total number	55
Yes	30
No	25

b. Who?	<u>Nos.</u>
1. Owner-manager	14
2. Son, wife, other	17

c. About how much of the year was that person away?

1. On some weekdays. (3)
2. On all weekdays. (14)
3. About three months in the year. (4)
4. More than six months in the year. (10)

d. If you expand foodcrop production, would that person be willing to leave his off-farm employment to work on it?

	<u>Nos.</u>
Total number of respondents	31
No	22
Yes	9

2. In your absence, is a woman ever in charge of the farm?

<u>Answer</u>	<u>Nos.</u>
a. Head of farm not absent.	29
b. When head is absent, another person (brother, son) is in charge.	4
c. Head of farm is a woman.	3
d. Yes.	15
- On some weekdays (6)	
- On all weekdays (5)	
- About 3 months in a year (2)	
- More than six months in a year (2)	

The question was asked "If you expand foodcrop production, would the (elsewhere employed) person be willing to leave his off-farm employment to work on it?" Only 29 percent of the respondents answered "yes" to this question. In fact, we believe that retrenchment is the only policy that will draw off-farm labour back from employment elsewhere. Once a person has left the farm to practice a trade or work in town, he is unwilling to return, according to our respondents.

Women were either the head of the farm or in charge at least some of the time on about 35 percent of respondent farms. The consequences of this were not further explored, but it should be noted that female farm managers have been shown to be of great importance to rural development policies and programs in many parts of the world.

Policy Recommendation

The expansion of foodcrop production, whether by the intensified use of presently cultivated areas or by the opening of new lands, will require more agricultural labour. A policy of foodcrop expansion must be accompanied by a policy to increase the productivity of the increasingly scarce and expensive agricultural labour supply. Labour productivity can be increased by (1) making spare parts available, (2) increasing the quantity of small tools in use, (3) increasing the use of machinery, and (4) increasing the access to other vital services, e.g., technical assistance and credit.

Therefore, it is recommended that steps (1) to (4), just above, be taken.

4. Land

Fifty-six respondents answered the question, "Last year, did you cultivate all of the land you lease or own?" Fifteen said "yes," while 41 said "no" (Table III-10). This supports the RFHIS finding that 22 percent of all land on farms is unused (page 4-20). Much unused land was in the Pomeroy, Supenaam Creek, the Corentyne, and other new areas. Much was also in developed areas, where sometimes hundreds, even thousands, of dollars per acre of sunk infrastructure was in place. Choked trenches, silted canals, unharvested crops, unplowed lands, and unimproved cattle pastures within schemes were common sights.

Farmers were asked why they did not cultivate all their land. The most important group of reasons -- 24 of 72 responses -- related to the land itself. Usually, either it was in fallow, or it was new land and being put into production slowly, a bit each year. Flood water was the next major problem (17 responses). Trenches were silted or blocked, dams were too low, new trenches were needed, and kokers were broken. Finance (12 responses) was another major problem; farmers did not have enough money to cultivate all of their land. Other significant problems included labour scarcity and lack of access to inputs.

Table III-10

LAND

1. Last year, did you cultivate all of the land you lease or own?

a. Respondents	<u>Nos.</u>
Total number	56
Yes	15
No	41

b. Why not? What was the reason or problem that held you back?

1. Land problem. 24
 - Own or lease too much land to productively farm (3)
 - That land is resting, fallow. (7)
 - That is new land, it can't all be put into production at once. (13)
 - That land is part of another person's land, he does not use it, and he won't let us use it either. (1)
2. Labour problem. 8
 - Own labour used up, not enough available to hire, can't afford to hire more. (7)
 - Labour is available, but can't afford to hire it. (1)
3. Finance: don't have enough money to farm that land. 13
4. Access to inputs. 4
 - To expand, we need fertilizer, and can't get it. ^{1/} (1)
 - To expand, we will need machinery, and non is available in this area (isolated). (2)
 - That land is far away, and not transport to it is available (Acquero). (1)
5. Flood Water. 17
 - Spring tides overtop dam, flood water comes in (riverine). (3)
 - Koker broken: river, sea comes in. (2)
 - When heavy rains, flood water comes in at the back (no backtrench, coastal areas). (2)
 - Trenches silted, blocked; drainage is too slow, rain water rises and floods. (8)
 - When heavy rains, river rises, low-lying land can't drain properly (river levee, inland areas). (2)

^{1/} The respondent used the slash and burn system. To use all his land, he would have to abandon that system. Consequently, fertilizer would be necessary. But, fertilizer was not available. Hence, all the land could not be used.

Table III-10

LAND (continued)

6. Now too old or sick to cultivate all the land.	<u>3</u>
7. That land is infested with moko, b. wilt, etc., and must rest now.	<u>1</u>
8. Neighbours' cows break the fence and eat the crops planted there.	<u>2</u>
c. To Farm that unused land, what improvement is required?	
1. None: just clear it and plan (but, capital or labour is lacking).	<u>26</u>
2. Water Control.	<u>18</u>
- dam must be higher, impolder more. (2)	
- new koker needed. (5)	
- widen, deepen, clear, dig new trench or drain. (11)	
3. Land is too low-lying, problem is without solution.	<u>1</u>
2. To grow more foodcrops, will you have to lease or buy more land than you now control?	
Total number of respondents:	47
Yes	15
No	32

Farmers were next asked what improvement their unused land required before it could be put into production. There were 45 responses to this question. In 26 instances -- about 60 percent -- no improvement was required. It was only necessary to clear or plant the land. This usually required capital or labour that was lacking. In 18 instances -- another 40 percent -- a water control measure was needed. These included the construction, clearing, widening, or deepening of trenches or drains (11 cases); the instillation of a new koker (five cases); or adding height to a dam (two cases).

Finally, respondents were asked directly whether they would need to lease or buy more land to increase foodcrop production. Of 47 respondents, 32, or about two-thirds, said no.

Analysis

As early as 1974, it was suggested that emphasis be placed on making developed lands productive, as opposed to spending thousands of dollars per acre to develop new projects or to open the hinterlands.^{1/} In 1979, the RFHIS raised this question again, as we do now. It is simply economically irrational to expend huge quantities of capital on the development of new projects while adjacent areas, that already benefit from similar infrastructure, deteriorate.

Land is the productive resource in greatest supply in Guyana. It should be emphasized in foodcrop development. The country enjoys preferential trading agreements with many Caribbean nations where population is dense, incomes are relatively high, and land-intensive crops are in deficit production. This suggests a concentration on land as a production factor, and an emphasis on land-intense foodcrops, such as dry peas and beans, corn, peanuts, and coffee.

Policy Recommendations

(1) It is recommended that capital expenditures intended for land improvement be concentrated on already developed areas, where infrastructure (roads, canals, kokers) is already in place, but is deteriorating due to lack of maintenance.

(2) In Guyana, land should be used intensively as a production factor, that is, lots of it should be used. This can be done by concentrating on land-intense foodcrops, where Guyana's trading partners are at a disadvantage.

^{1/} Robert R. Nathan, Guyana's Foodcrop Systems, 1974.

5. Flood Water

Water control is one of the four most critical constraints to increased Guyanese foodcrop production, and the subject of two of the report's five principal recommendations.

There were 57 responses to the question, "Last year, did you have any water-related problem on your farm?" Forty-five respondents said yes, while 12 said no. Water caused problems on nearly 80 percent of respondents' foodcrop farms! (Table III-11)

The source of the problem was highly varied, regional in nature, and attributable to institutional causes in many cases. Lack of drainage -- 35 of 58 responses -- was the largest single problem. About 80 percent of the time this problem stems from silted, overgrown, choked, or blocked trenches. Very often, these trenches are in areas where either MOA-Hydraulics or local authorities are charged with maintenance, for which the farmers pay rates. It is noted that farmers do not participate in scheme maintenance or administration in these areas.

Flood water intrusion was the next largest problem (16 responses). Flood water came in at the back -- usually in the absence of a back-trench; the koker was broken, and either let in or could not let out the water; or heavy spring tides and rainfall, together, caused rivers to rise and overstop too-low dams.

Farmers with flood water problems were asked whether they continued to cultivate areas affected by flood. Ninety-three percent did so. Of these, 16 (44 percent) lost about one acre or less, and 19 (53 percent) lost between one and ten acres. Just six had no losses. Lack of flood water control is costing the country thousands of acres of planted, growing crops every year!

Finally, respondents with flood water problems were asked whether their problem would prevent future foodcrop production, or seriously reduce yields. Thirty-two respondents answered yes to this question, while ten said no. The correct interpretation of these answers is that the flood water will not usually keep farmers from planting, but it can be expected to reduce yields, or cause outright loss of standing crops.

Analysis

The following incident, related by two farmers, occurred in one of the Government-operated schemes visited. The operator of a main coastal koker was a Hydraulics Division employee. He had not been paid his salary, and so refused to operate the koker. A heavy rain came, the koker remained closed, water filled the trenches, and the land was flooded. Both farmers lost several acres of crops. A second incident, nearly identical to the first, was related by two other farmers, in a different Government-operated scheme in a different part of the country.

Table III-11

FLOOD WATER

1. Last year, did you have any water-related problem on your farm?

	<u>Nos.</u>
Total respondents	57
Yes	45
No	12

2. What was the problem?

	<u>No. of Responses</u>
a. Land could not drain.	<u>35</u>
- drain, trench silted, overgrown, blocked, not clean, slopes wrong way, or non at all. (29)	
- when rain is heavy, river rises, koker can't take out the water, crop spoils. (4)	
- land power pump drained, extended blackout caused flood. (2)	
b. Flood eater came in.	<u>16</u>
- Koker broken. (4)	
- Dam overtopped in springs. (3)	
- No backtrench, heavy rains cause flood from the back. (9)	
c. Other rainwater.	<u>3</u>
- continuous rains caused water to stand many days on the land; roots, plants rotted.	
d. Other.	<u>4</u>
- MOA-Hydraulics employee locked koker when he was not paid (2). Employee refused to go out in rain (2). Trenches filled and flooded the land.	

3. Did you cultivate the affected area anyway?

	<u>Nos</u>
Total respondents	42
Yes	39
No	3

4. Was any crop lost (when the affected area was cultivated)?

- a. No 6 responses
- Yes : 36 responses
 - about 1 acre or less (16)
 - between 1 and 10 acres (19)
 - more than 10 acres (1)

Table III-11

FLOOD WATER (continued)

5. Will this problem keep you from growing more foodcrops in the future, or will it seriously reduce yields?

	<u>Nos.</u>
Total respondents	42
Yes	32
No	10

The two incidents crystalize the chief problem affecting the operation of schemes: they are operated, administered, and maintained by a central authority, divorced from their users. That authority, in turn, fails to function.

"The government has ceased caring for the canals. They no longer have interest in the area."

Mibicuri cash crop farmer,
June 10, 1982.

Farmer-users have no participation in the operation or maintenance of the schemes, whereas, farmers should actually control -- not merely participate in -- these functions and do the maintenance work themselves.

The author is acquainted in three countries with water control projects that are operated, administered, and maintained by their users. These are highly successful projects, with these functions controlled by their user-farmers. Here, farmers allocate water, communally maintain dams and canals, and democratically elect administrators and water judges. Responsibility is local, and most labour is communally performed. Once the scheme is constructed, the relevant Government agency confines its role to purely technical questions, such as the repair or construction of kokers and gates, or the maintenance of electric motors. This approach should be tried in Guyana.

After the administrative aspect of the problem, it is seen that small investments on individual farms are required in many cases. Examples are small gates and kokers, and the digging of trenches, canals, and dams by manual labour. However, farmers lack finance or access to the materials needed for these investments.

Policy Recommendations

(1) The operation, administration, and maintenance of foodcrop water control schemes, once installed, should be handed over to user-farmers. We mean, handed to resident farmers who will then control the scheme.

(2) As a development measure, it is recommended that individual farmers be given access to finance (credit) and materials (cement, steel, tools) needed for small, on-farm water control investments.

6. Markets

Marketing is the subject of a separate policy report. Foodcrop farmers were asked a limited series of questions about marketing. These were designed to determine: (1) how and where foodcrops are sold; (2) farmers' views on the adequacy of current foodcrop marketing arrangements;

(3) whether farmers perceive marketing as a problem; and particularly
(4) to contrast the performance of the public and private sectors in marketing, e.g., the performance of the GMC vs. private intermediaries, or hucksters.

A total of 56 respondents answered the question, "Last year, where did you sell your foodcrops?" Twenty-four had sold to the GMC, while 46 had sold to private wholesale buyers, i.e., hucksters (Table III-12). In 20 cases -- corresponding to Coriverton, Black Bush, Nootenzuil, and Mahaicony Creek -- the GMC did not operate in the area. Ten respondents sold produce directly to retail. Three sold no fresh produce, Of these, two baked and sold cassava bread, and one saved back his crop (peanuts) for seed.

Many farmers sold to a combination of markets: the GMC and hucksters, or hucksters and retail were common combinations. Wholesale took place at farm gate, at intermediate markets, or at such terminal markets as Charity, New Amsterdam, and Georgetown. Retail sales took place from home, or from nearby intermediate markets.

When farmers had sold, or had the opportunity to sell, to both private intermediaries and the GMC, they were asked "How long did you have to wait for payment?" and "Who paid or pays the highest prices?" Almost always, hucksters paid the highest prices, and paid cash on the spot. The GMC's price was slightly lower, and the farmers had to wait for payment, at times more than one month. Many farmers complained bitterly about both circumstances.

Prices paid by private intermediaries were only slightly higher than the GMC's, e.g., five or ten cents a pound. This was indicated by two respondents, but was in fact true almost everywhere. In one area, farmers sold coffee to an intermediary for \$2.75 per pound. The intermediary resold the coffee for \$3.00 per pound to a GMC mill about two miles away. According to the farmers, the GMC would not purchase their coffee directly, and was in collusion with that particular intermediary.

Farmers who had the opportunity to sell to either private intermediaries or the GMC were asked "Who do you prefer to sell to, and why?" Preference was for hucksters about half of the time, always because of spot payment and higher prices. About half of the time, preference was for the GMC, despite lower prices and delayed payment. Reasons why farmers liked selling to the GMC included: The GMC is always in the market, its prices are reasonable, and without them we are at the hucksters mercy (13 responses); the GMC supplied us with bags or an experimental seed variety, so we must sell to them (2 responses); "The State helps us, we must help them" (2 responses); easier transport (1 response); and "I like traveling to the market and GMC is there: (1 response). Two farmers said they had no preference between the two markets.

Table III-12

MARKETING

1. Last year, where did you sell your foodcrops?

	<u>Nos.</u>
Total number of respondents	56 $\frac{1}{2}$
- To the GMC.	24
- To a private wholesale buyer (huckster).	46 $\frac{1}{2}$
- To retail, directly.	10
- I didn't actually sell any fresh produce.	3
- (GMC does not operate in this area - 20)	

2. How long did you have to wait for payment?

<u>Wait</u>	<u>Huckster</u> (no. of responses)	<u>GMC</u>
Spot	32	1
Up to one week	-	2
Up to one month	-	14
More than one month	-	8

3. Who paid or pays the highest prices?

	<u>Total No. Responses</u>
Private buyers, hicksters.	24
GMC.	-
Prices are about the same.	2
GMC pays more, but not to us.	3

4. Who do you prefer to sell your foodcrops to? Why?

<u>Why?</u>	<u>Who</u>	
	<u>Pvt.</u> (No. responses)	<u>GMC</u>
a. Higher price.	13	-
b. Spot payment.	7	-
c. GMC always there, prices reasonable; without them, we are at the hucksters' mercy.	-	13
d. GMC sometimes supplies bags, experimental seeds, etc., so we must sell to them.	-	2
e. State helps us, we should help them.	-	2
f. Other.	-	2
g. (I don't really have a preference. (2)		

Table III-12

MARKETING (continued)

5. If you grow more foodcrops, will you be able to find a market for them?

	<u>Nos.</u>
Total number of respondents	45
Yes	37
No	-
Not sure	8

6. Transportation

- a. How far do you have to transport your foodcrops to sell them?

<u>Point of Sale</u>	<u>Sold by Self or to Hucksters</u>	<u>Sold to GMC</u>
Farm gate	12	1
Up to one mile	9	7
One to ten miles ^{2/} ₂₇	13 (5)	12
Ten-plus miles <u>27</u>	15 (7)	4

- b. Did the length of travel influence your decision as to where to sell?

<u>Answer</u>	<u>Nos.</u>
Yes	4
No	37 (20)

^{1/} In 20 cases GMC did not operate in the respondent's area. These areas were Nootenzuil, Coriverton, Black Bush, and Mahaicony Creek.

^{2/} Parenthetical numbers refer to the number of responses from areas where the GMC did not operate.

Of 45 respondents, 37 -- or 80 percent -- said that markets would not be a problem if they expanded foodcrop output. No one thought he would fail to find markets, while eight were not sure.

Distances traveled to sell produce were similar whether the farmer sold to the GMC or to the private market. In areas where the GMC competed with hucksters, the farmer was more likely to have opportunity to sell right at the farm. By contrast, where the GMC did not operate, the farmer had to travel greater distances. However, transportation appeared to have little impact on the decision as to where to sell. Only four respondents, or 10 percent of those answering this question, indicated that transport was a factor in that decision.

Analysis

Farmers sold mostly on the free market, but indicated about equal preference between free and public markets. Farmers like the GMC because it is always there, maintains floor prices, and, essentially, keeps private traders honest. These findings show insight: a perception of the benefits of market competition, support (not fixed) prices, and the presence of a buyer of last resort.

At this moment in time, foodcrop farmers have a very optimistic view of future markets, and desire to expand foodcrop output accordingly (see Table III-2). This evidences the efficient functioning of a market pricing mechanism. Food scarcity has driven free market prices up. To attract produce, the GMC has followed free market prices. Due to the high prices, farmers are planning to expand their output of these crops. By contrast, in past years, floor prices were low, and foodcrop output was held down.

Past delays in payment by GMC to farmers is a sore spot with many. We are aware that GMC has recently moved to correct the problem. Still, the Corporation has far to go to overcome past farmer antipathy.

Farmer preferences as to where to sell are very much a function of quantity. Small quantities provide the options of retail sale and sale to hucksters. When large quantities are involved, there is no retail option, the huckster option is diminished, and farmers must rely more on GMC. The need to keep GMC in the market, and to maintain realistic -- i.e., low -- support prices will probably continue.

Transport presently appears to have virtually no influence on marketing decisions, at least in areas where the interviews took place. Our recommendations on foodcrop markets are found in Chapter IV-A.

7. Agricultural Extension (Technical Assistance)

Farmers were asked a series of questions about the Extension Service. The intent was (1) to gauge how much exposure foodcrop farmers actually had to the service, (2) to determine what Agents 1/ actually did when dealing with farmers, (3) to get farmer opinions as to the efficacy of any advice given, and most importantly, (4) to gauge foodcrop-farmer attitudes toward the Service.

The question, "Have you ever received a visit from a field assistant, or attended a seminar, field day, or short course?" received the following responses: Yes, 28; No, 20; and 'no, but I went to his office to see him,' 6. Most contacts took place within the last year or two (Table III-13).

When a respondent had contact with the Service, he was asked, "What advice was given, were you able to follow it, were you able to use what you were taught?" Fifteen respondents were not able to use or follow the advice given, while 12 were.

When a respondent said he was unable to use the advice, he was asked why. In ten instances, specific advice was not received. Examples of this were: the farmer was absent at the time, and had not been advised of the visit beforehand; the visit regarded a pump, spray can, or other non-technical matter; the Agent came to check or renew a lease, or to promote a non-technical matter; the Agent said the problem was without solution; or the Agent merely said nothing was wrong, everything going nice.

In five instances, the farmer said, essentially, that he knew better than to try that advice, or was unable to do so. Fertilizer, drugs, or another input was recommended, but unavailable in the area. The technique was very labour or capital-intensive, and the farmer did not have the resources to try it. The farmer mistrusted the agent. The farmer deduced that the Agent's answer had to be incorrect in the circumstances. The farmer had not had a chance to try the advice; or the advice was tried and failed.

When the respondent was able to follow the advice, he was asked what happened. In 11 instances, the farmer followed the advice and got a good result. On four occasions, the farmer followed the advice and got poor results. Most of these cases -- both good and poor -- involved advice on drugs and pest problems.

Farmers were asked whether they had some current problem they would like help with, whether they had tried to get help, what happened when they tried, why they had not consulted the assistant, and whether they

1/ That is, either the AO or the AFA.

Table III-13

EXTENSION SERVICES

1. Have you ever received a visit from a field assistant, or attended a seminar, field day, or short course? 1/

	<u>Nos.</u>
Total number of respondents	50
Total number of responses	54
- Never.	20
- No, but I went to his office to see him.	6
- Yes.	28

a. About how long ago?	<u>Nos.</u>
1. within last year or two.	20
2. within last 2-5 years.	7
3. more than 5 years ago.	1

- b. Were you able to follow his advice, or use what you were taught?

	<u>Nos.</u>
Total number of respondents	27
No	15
Yes	12

1. Why not? (15 respondents)

- No specific advice was given. (10)
- Unable to try, or knew better than that. (5)
- Didn't yet try, or tried and failed. (2)

2. When you followed the advice, what happened? (12 respondents)

- Followed advice, crop improved, got good result. (11)
- Followed advice, got poor result. (4)

2. Do you now have some problem you need help on? Have you been able to get it? Would you like assistance?

- a. Positive answers. (29 responses)

- 1. I have neither sought or received help but I would like it. (12)
- 2. I want help and will follow the advice. (17)

- b. Negative answers. (25 responses)

- 1. I have sometimes sought help, but did not get it. (10)
- 2. I don't have a problem, and I don't need help (although some of these had received help in the past). (10)
- 3. If I had a problem, I would not go to the Government for help! (5)

1/ A number of respondents had several experiences with the extension service.

thought technical assistance would help them. The intent of all of these questions was to assess farmer attitudes toward the Extension Service. Attitudes were both positive and negative (Question 2, Table III-13).

The strongest positive response (12 of 29 responses) was that the farmer had not sought advice, but would like it. This included some who had never had an Extension contact, and others with none since a previous contact. A weaker positive response (17 of 29) was that the farmer wanted assistance and would use it. In other words, he was waiting. The technical assistance sought included advice on pruning, insect or fungus control, or on general cultural practices.

The mildest negative response (10 of 25 responses) was that advice or help had been sought but not received. Here, the respondent had requested a visit, but none was made; the assistant promised to come but did not; the assistant told the farmer to come to the office to see him, the farmer went, but the assistant was out or busy; the assistant refused to make the visit; or he said the problem was without solution. In ten stronger negative cases, farmers said they had no problem and didn't want the assistant around. Finally, five respondents were very negative toward the Service. They said, if they had a problem, they would not go to the Government for help. These farmers said they had many years experience and knew more about their farms than the Government; they once tried to get help, but got an unsatisfactory result and would not try again; or they simply didn't want the Government man near their farm. In some cases, these responses were undoubtedly motivated by a fear of taxes or a land title problem.

Analysis

About half of our interviewees either had never seen an Agent or had to travel to get him. When the respondent did get the Agent, about two-thirds of the time he received no useful advice. But, when useful advice was received, it worked about three-fourths of the time. Almost all of the latter -- or successful instances -- involved the diagnosis of a pest problem and the prescription of drugs for it.

How could it be that farmer-Agent contact produced no useful advice? Usually, the Agent was (1) promoting a non-technical program, such as a special loan or credit program; (2) transferring inputs, such as spray cans, seeds, tree saplings, drugs, or fertilizers; (3) promoting or administering a special production campaign, such as a peanut, blackeye, or corn campaign; or (4) dealing with questions regarding land lease and title. Frequently, too, the Agent arrived unannounced, was accompanying a Minister, expatriate, or other visitor. Technical advice, assistance on agronomic practices, or the education of farmers as to better production techniques were not involved.

Farmers are confused as to the Agent's role. Is he a tour guide, a salesman, a promoter, or a source of technical knowledge?

Many of the inputs and services funneled through the Agent are both vital and scarce (fertilizer, drugs, spray cans, credit, etc.). When farmers rely on the Agent for these items, and are then disappointed, the Agent loses credibility with them. Both the farmers and the Service may evaluate the Agent on his ability to produce scarce input supplies, to act as a tour guide, etc., rather than on his technical ability or his ability to communicate with farmers.

With all of this, farmers are still positive toward the Service. They like technical assistance, and would like more of it. Thirty-nine of 54 attitudinal responses, or 72 percent, indicate this. Our recommendations for the Service are found in Chapter IV-B.

8. Cooperatives

Farmers were asked a series of questions about cooperatives. The intent of these questions was similar to that for the Extension Service, that is: (1) to gauge the exposure of farmers to co-ops; (2) to learn -- from the farmers! -- what impact the co-ops have had; and (3) to gauge foodcrop-farmer attitudes toward co-ops, especially as a development vehicle.

There were 57 responses to the question "Are you, or have you ever been, a member of any foodcrop-associated cooperative or organized producers' group?" The answers were: Yes, 14; No, 36; and 'no, but I belong to a labour-sharing farmer's group,' 7 (Table III-14). Labour sharing, i.e., non-cash labour exchange, was common among Amerindians and Upper Berbice farmers.

The 14 respondents who were or had been members were asked, "What problems have you experienced?" and "What benefits have you received?" To the benefits question, five respondents answered, "as yet, none." Seven respondents answered that membership made them eligible for fertilizer, machinery services, land title, credit, technical assistance, and other scarce production factors and services. Without membership, these items were more difficult or impossible to obtain. However, two of these seven respondents had not as yet received any of these items. Other benefits listed were that co-op members work together, farm together, and help each other (two responses), and that co-ops pressure with one voice and bargain effectively (one response).

Eleven of the 14 members indicated that, with the problems, they would keep their memberships. No one said he would give up his membership (three respondents did not answer this question).

Of the 36 non-members, 22 said they would like membership, while 14 said they were not interested. Those saying they would like membership commonly qualified this by saying, "If they get good management, management is everything," or words to this effect.

Table III-14

COOPERATIVES

1. Are you, or have you ever been, a member of any foodcrop - associated cooperative or organized producers group?

	<u>Nos.</u>
Total number of respondents	57
- Yes.	14
- No.	36
- No, but I belong to a labour-sharing farmers' group.	7

- a. For those answering Yes (14 respondents):

1. What benefits have you received?
 - As yet, none. (5)
 - By joining the co-op, I become eligible for credit, fertilizer, technical assistance, etc., and received. (5)
 - By joining the co-op, I become eligible for credit, etc., but I didn't get it. (2)
 - Other. (3)
2. What problems have you experienced?
 - Benefits were promised, but not received. (2)
 - Some have not paid their debts, we are broke. (2)
 - We have tried to get TA, credit, etc., but nothing has happened. (2)
 - Infighting: members 'smart' each other. (1)
3. Will you keep your membership?
 - Yes. (11)
 - No. (0)
 - No answer. (3)

- b. For those answering No (36 respondents):

1. Would you like to be a co-op member?

	<u>Nos.</u>
- Total number of responses.	36
- Yes, I would like to be a co-op member.	22
- No, I am not interested.	14
2. How can co-op membership help you?
 - A co-op gives easier access to credit, fertilizer, TA, land. (10)
 - A co-op pressures with one voice, bargains effectively, enables us to work together. (9)
 - A co-op is able to pressure for higher prices. (3)
 - A co-op provides fellowship, comradeship in farming. (1)

Table III-14

COOPERATIVES (continued)

3. What are the problems with co-ops? Why haven't you joined?
 - I prefer to work individually, or with my family. Too many problems with co-ops! (15)
 - Members try to 'smart' each other, don't work together, infighting, etc. (8)
 - I live in a squatting area and am not eligible to join, as my land title is not legitimate. (4)
 - Now too old. (1)

The perceived benefits with co-op membership were: co-ops give easier access to fertilizer, land, credit, TA, etc. (11 responses); co-ops pressure and bargain effectively (9 responses); co-ops are able to pressure for higher prices (2 responses); and 'comradeship in farming' (1 response).

The perceived problems with co-ops were: too many problems! I prefer to work individually, with my family, or another evasive answer (15 responses); members try to 'smart' each other, don't work together, fight, etc. (8 responses). Four respondents said they were ineligible for membership as they lived in a squatting area, while one said he was not too old. These were also evasive answers.

Analysis

Of 57 respondents, only 14, or 25 percent, belonged to foodcrop-associated co-ops or organized producers groups. The rest did not. Negative past experience with co-ops were clearly of heavy influence in respondent attitudes, and in their behavior toward co-ops.

Among our respondents, agricultural production co-ops are a clear failure to date. Members and non-members alike were hard pressed to name co-op-associated benefits, other than access to vital production factors and services otherwise denied them. In fact, attitudes among members and non-members alike are so negative that it may take many years for Guyana's co-ops to overcome them:

"Me don wan hear nothin 'bout no kine co-op at all!"

Canals Polder Farmer,
July 9, 1982.

"Me not a member no co-op, me not going that thing at all!"

Washclothes Mahaicony,
backdam farmer,
June 24, 1982.

"They (co-ops) don't even work in the house!"

Les Beholen farmer,
June 10, 1982.

The unrecorded attitudes toward co-ops are perhaps even more illustrative. After fieldwork began, the co-op questions were moved to the last part of the interview because they often induced a sudden turn-off -- even hostility -- in previously open and friendly respondents. Several even thought it was a joke to suppose that they might be interested in co-op membership!

As a matter of past policy, the provision of benefits -- fertilizer, land title, access to machinery services, credit, etc. -- seems to have been used to coerce farmers to join co-ops: join, then you will receive. Even then, the promised benefits sometimes have not arrived. This has served to worsen already negative perceptions.

Co-ops seem to be highly politicized in Guyana. Rather than local control and organization to serve their constituents, they seem to have other uses. The communal labour sharing arrangements found in some areas provide instructive contrast. They function because they provide their members with a useful service, and because they are organized by their members to serve member needs.

Policy Recommendations

(1) It is recommended that cooperatives be de-emphasized as a vehicle to promote expanded foodcrop production, as they are very unpopular with a large majority of foodcrop farmers.

(2) In parts of the country, access to scarce and vital factors of production is restricted to co-op members. It is recommended that this coercive practice cease. Co-ops are unpopular among foodcrop farmers, whom they have not served. Why then, should membership be coerced in this way?

We believe that these findings irreparably prejudice a policy of foodcrop development through cooperatives.

9. Credit

Lack of finance, implying the need for credit, is one of the four chief barriers to the increased production of foodcrops. The intent of the questions about credit was (1) to determine the accessibility of credit to small foodcrop farmers, (2) to find out how these farmers have used or would like to use credit, (3) to determine whether credit -- or more finance -- is necessary for the expanded production of foodcrops, and, most importantly, (4) to determine whether the present system of credit release and administration is adapted to the requirements of foodcrop farmers.

Fifty-six farmers responded to the question, "Have you ever taken a loan, or received credit?" Of these, 35 said no, while 21 said yes (Table III-15). All but two of the loans were received from either GAI BANK or the MOA. The MOA credits were part of special promotion programs, e.g., for corn, peanuts, or blackeye.

Past credit recipients were asked how they had used the loan proceeds. All interviewees, whether past credit recipients or not, were asked how they might use a future loan.

Table III-15

CREDIT

1. Have you ever taken a loan, or received a credit? 1/

	<u>Nos.</u>
Total number of respondents	56
No	35
Yes	21

a. Who did you receive the credit from?

	<u>Nos.</u>
1. Agribank (GAIBANK)	18
2. MOA (promotion)	4
3. Savings and loan society	1
4. Private individual around	1

b. What was the past credit used for? OR
If you get a future credit, what will you use it for?

<u>Use</u>	<u>No. Responses</u>	
	<u>Past Loan</u>	<u>Future Loan</u>
1. Extend the presently cultivated area.	12	29
2. Other labour hire (general cultivations, water control).	12	20
3. Purchase inputs.		
- fertilizer, drugs, seeds, mach. hire (6,6)		
- chain saw, boat eng., small pump, spray can (3,13)		
- tractor, land (1,2)		
4. Improve drainage.	4	12
5. Intensify production on presently cultivated area.	5	3
6. Other.	1	2

c. Did you have any problems with the loan or credit that you received?

<u>Response</u>	<u>Nos.</u>
1. No. <u>2/</u>	9
2. Yes, with the applications and release of funds	7
3. Yes, I had a misunderstanding with the Bank	4
4. Yes, another problem	6

Tabel III-15

CREDIT (continued)

2. Are you able to get credit for foodcrop production?

<u>Response: Total number of respondents: 45</u>	<u>Nos.</u>
1. I don't want and won't take credit.	10
2. I haven't tried (ever, or since last loan).	22
3. Yes, I tried, and got a loan.	8
4. I applied, but no word until now.	5
5. No. I tried. I was refused, or had so many problems with the application that I gave up.	16

3. Would you be able to produce more foodcrops, in the future, without receiving credit?

	<u>Nos.</u>
Total number of respondents	39
- No.	14
- Yes, but credit would be a big assistance.	22
- Yes, credit is not really necessary. <u>3/</u>	3

1/ A number of respondents had received several past loans.

2/ But, some waited 3 to 5 months for approval and disbursal, but did not regard this as a problem.

3/ Of these, two said that without credit, a tractor would be needed.

In either case, the greatest use (41 total responses) was to extend the cultivated area, that is, to bring more land into cultivation. Almost always, this involved labour hire for land clearing, trenching, or another water control measure. The next greatest use (32 total responses) was for other labour hire. Here, the respondent stated directly that he would hire labourers for general cultivation.

The use of credit to purchase non-labour production inputs (31 total responses) was about equal to that for labour hire. Here, farmers purchased, or sought to purchase, fertilizer, drugs, seeds, machinery services, small tools, tractors, and land. A total of 16 responses concerned drainage improvement. Impoldering and koker purchase or construction were included. These responses were in addition to those on water control. There were a total of 11 responses covering the intensification of production on the currently cultivated area, its improvement, or essentially, non-foodcrop uses. 1/

Farmers who had received credit were asked, "Did you have any problems with the loan or credit that you received?" The 21 past recipients made a total of 26 responses to this question. Nine of these were no, i.e., no problem. However, discussion revealed that a number of these respondents had waited three to five months between applying and funds release. Seven respondents had a problem with the application procedure and subsequent release of funds. Of these, five said that they waited three to five months for release, while two said there was too much paper work, they had to go back repeatedly. In four cases, the recipient repaid his loan, but the bank then said he owed still more money. This led to misunderstanding and, in one case, the farmer's blacklisting (according to him). In four cases, the farmer lost the crop he borrowed for, and so could not repay. In two cases (corn promotion, MOA), the GMC refused to purchase the farmer's produce, which it had pledged to do under the loan agreement. As a consequence, the farmer again lacked the means to repay.

All interviewees were asked the questions, "Have you ever tried (or, have you tried since your last loan) to get a loan or a credit for foodcrop production? What happened when you tried?" These questions were intended to lead the farmer into a discussion of agricultural credit. The aim was to learn the farmer's view of the present system of credit administration, whether he views credit as accessible, and whether lending procedures are adapted to farmer needs -- as viewed by them. The 61 responses were most instructive (Question 2, Table III-15).

There were a total of 32 responses that (1) I don't want and won't take a loan, or (2) I haven't tried to get a loan. In general, these respondents indicated a fairly strong negative attitude. Some of these

1/ The purchase of a home and rig; equipment for a coconut oil factory; the construction of a fish pond.

respondents simply hadn't tried for a loan, for no particular reason. Usually, however, one of the following experiences or attitudes was manifested by the farmer: he had taken a past loan, and had a big problem; he was afraid he would not be able to repay (interest rates too high, thievery, crop failure); only "certain" people could really get credit -- and he was not one; or just "I don't need a loan at all!" (emotional). Sixteen other responses indicated that the farmer had tried for a loan, but a disastrous experience resulted. These disasters included: the farmer went through the complex application procedure, but his application was rejected without comment. The farmer discovered that he cultivated a squatting area and was thus ineligible for credit. The farmer was encouraged to apply for a specially promoted production program of which credit was a part (five-finger, blackeye, corn, peanuts): But, when his application came up, the program was out of money, and his application was rejected. The application took a very long time, the applicant had to go repeatedly back to the office, and so finally gave up. The applicant intended the money for a specific use which cost a certain amount. The Bank approved much less than that amount. Therefore, the project became infeasible. In other cases, a guarantor was lacking, the applicant was not a co-op member, a diagram or farm plan was missing, there was a personal dispute with the area manager, and other cases.

In eight cases, the respondent tried for and got a loan, without problem, and in five, he had applied but received no word as yet.

Finally, respondents were asked, "Would you be able to produce more foodcrops in the future, without receiving credit?" Answers to this question contrast dramatically with those to the previous one. Three respondents said yes, they could produce more using only their own resources, credit was not really necessary. Fourteen said no, they could not expand at all without credit. Twenty-two said yes, they could expand without credit, but credit would be a big help: it would enable them to expand more quickly and cultivate a larger area than otherwise.

Analysis

About 40 percent of our respondents had some personal past experience with credit. All but two of these had received the credit from either Agribank or the MOA.

The past and the desired future uses of credit were similar. These involved the expansion of the cultivated area, labour hire, land improvement (clearing and water control), and the purchase of production inputs. Evidently, the extension of agricultural credit to foodcrop farmers will directly impact policy goals: more crops will be produced and more rural employment will be generated. It appears that much past credit has been used to hire labourers.

The desire for and the perception of the beneficial uses of credit is great. Almost no one believed that fast or extensive foodcrop expansion would be possible without loans.

Among those receiving loans, 65 percent experienced problems. Of the remainder, a number had to wait three to five months for the release of funds, but did not consider this a problem. The negative experience of past credit recipients had a definite impact on those who had not taken a loan:

"Me no wan (credit)! You take it, they thief you out, then how you pay it back again?"

Crabu Creek - New Empolder Scheme
Female Farm Manager, June 9, 1982.

The application procedure, the release of loans, and their supervision have engendered a negative farmer view of credit. Forty-eight of 61 responses (79 percent) measuring attitudes were negative (and 5, or 8 percent, were neutral)! From the foodcrop farmer viewpoint, credit is accessible only with (often great) difficulty. Lending, release, and supervision procedures are not usually adapted to his needs. The lenders evidence the attitude that they know the correct procedures, but the farmers often disagree:

"When Government handles money, you got to be careful."

Upper Berbice - St. Lust Stelling
farmer, June 17, 1982.

10. Policy Directives -- What Did the Farmers Say?

At the beginning of each interview, before asking any of the questions discussed in Sections III-A-1 to 9, farmers were asked "What problems would you say are holding you back? What are some of the main problems on the farm?" Then, after completing the interview, they were asked, "What are some of the most important things the Government can do so that farmers can produce more foodcrops? What do you really recommend to Government?" Responses to these two questions go far toward summarizing our findings and recommendations.

Responses to the problems questions are shown in Table III-16. Altogether, 50 respondents give a total of 137 responses to the two questions.

Problems regarding available farmland were minor and regional. In older, more developed scheme-areas, such as Black Bush, Washclothes, or Nootenzuil, some foodcrop farmers do not have enough land to farm. In other, newer areas, such as the Upper Corentyne or Northwest Region I, some farms are large relative to the other resources -- labour and finance -- needed to operate.

Table III-16

MAIN PROBLEMS CONSTRAINING EXPANDED FOODCROP OUTPUT: RESPONSES TO THE QUESTIONS,
 "WHAT PROBLEMS WOULD YOU SAY ARE HOLDING YOU BACK?"
 "WHAT ARE SOME OF THE MAIN PROBLEMS ON THE FARM?"

Response	Sum	MMN	Pom.	Essequibo		Coren.	B.B.P.	Ebini (River)	NWR1	C.P.
				W.B.I.	W.C.					
Total number of respondents	50	5	7	4	6	9	7	5	3	4
1. Land	<u>9</u>									
a. Need more land, all now used. (8)		3	-	-	-	-	5	-	-	-
b. Not enough labour and capital to maintain all land. (1)		-	-	-	-	1	-	-	-	-
2. Access to direct production inputs	<u>43</u>									
a. Can't get enough fertilizer. (12)		2	-	1	1	5	-	-	1	2
b. Can't get enough drugs. (14)		1	2	1	-	7	2	-	-	1
c. Tractor: Can't buy, untimely hire, no spares. (2)		1	-	-	1	-	-	-	-	-
d. Fuel: Gas not available or untimely. (2)		-	-	-	-	2	-	-	-	-
e. Small equipment: not available, no spares. (13)										
- boat engine (6)		-	1	-	-	5	-	-	-	-
- spray can (5)		-	-	1	-	3	1	-	-	-
- small pump (for cash crop irrigation) (2)		1	-	-	-	-	1	-	-	-
3. Labour: need, hard to find, now expensive	<u>14</u>	1	4	-	2	3	-	3	1	-
4. Finance: need cash or credit, don't have, can't get	<u>16</u>	-	1	3	4	3	-	3	2	-
5. Flood Water	<u>24</u>									
a. In heavy rains, flood comes in at back (not usually a trench there). (3)		-	2	-	-	1	-	-	-	-
b. Trench, drain, canal needs repair, cleaning, re-excavation. (14)		3	1	-	1	4	2	-	-	3
c. Koker broker: tidal flooding from river, trench. (4)		-	4	-	-	-	-	-	-	-
d. In heavy rains, river rises, springs overtop dam. (3)		-	2	-	-	-	-	-	1	-
6. Markets	<u>6</u>									
a. Prices are too low! Prices disruptively fluctuate. (4)		-	-	-	1	-	2	-	-	1
b. No road, impassible road. (2)		-	-	-	-	2	-	-	-	-
7. Animals: wild animals destroy crops, no firearms available; neighbor's cows interfere with crops.	<u>13</u>	1	-	1	-	10	-	1	-	-
8. Government mismanagement (in water control schemes).	<u>4</u>	-	-	-	-	-	2	-	-	2
9. Other.	<u>8</u>	-	-	1	3	-	1	1	-	2
Total number of responses:	<u>137</u>									

Access to direct production inputs is the greatest single problem presently confronting Guyanese foodcrop agriculture. Almost one-third of all responses fell in this category. In order of importance, foodcrop farmers lack access to agricultural chemicals (14 responses), small tools, and equipment (13 responses), fertilizer (12), tractor machinery (2), and fuel (2). Lack of spare parts was much more frequently mentioned than inability to purchase new tools and equipment. Again, problems are regional. Fertilizer, for example, is not a problem in new or slash and burn areas. It is a problem in older, more settled, more intensely farmed areas.

Flood water is the second greatest current problem. Its importance and its source -- the nature of the problem -- are both regional. Nationwide, blocked, choked, silted-in, missing, and otherwise inoperative canals and trenches were the largest source of flood water problems (14 of 24 responses). Other problems derived from broken or missing kokers (4 responses), back-water flooding -- no trenches there (3), and spring tides and too low dams (3).

The lack of finance was the next most frequent problem mentioned, with 16 total responses. Finance was needed to purchase inputs -- especially labour -- to clear and bring more land into production, and to make associated water control improvements. This problem was national in scope.

Increasing labour scarcity, with 14 total responses, was the fourth most common problem. This meant that labour was becoming increasingly expensive and harder to find. This problem was also national in scope. In new areas -- the Upper Corentyne, Upper Berbice, and Supenaam Creek -- wild animals and Government refusal to give farmers firearms were problems (13 responses). Other problems mentioned were markets (6), Government mis-management in scheme areas (4), too many weeds and insects, thieves, and lack of attention by the AFA.

At the end of each interview, after all other questions, farmers were asked, "What are some of the most important things the Government can do, so that farmers can produce more foodcrops? What do you really recommend to Government?" Answers provided both support and counterpoint to the 'problem' questions, as shown in Table III-17. Altogether, 56 respondents produced a total of 136 recommendations.

Improved access to direct production inputs was by far the greatest recommendation, accounting for about one-half of all responses. This recommendation was national in scope. Recommended in order of importance were more access to fertilizer (17 responses), agricultural chemicals (15 responses), machinery and small tools (10 each), spare parts (5), and land clearing equipment.

Table III-17

FARMER RECOMMENDATIONS TO GOVERNMENT: RESPONSES TO THE QUESTIONS,
 "WHAT ARE SOME OF THE MOST IMPORTANT THINGS THE GOVERNMENT CAN DO SO THAT FARMERS CAN PRODUCE MORE FOODCROPS?"
 "WHAT DO YOU REALLY RECOMMEND TO GOVERNMENT?"

Response	Sum	MMN	Pom.	Essequibo		Coren.	B.B.P.	Ebini (River)	NWRI	C.P.
				W.B.I.	W.C.					
Total number of respondents	<u>56</u>	5	7	6	8	11	7	5	3	4
1. Land.	<u>6</u>									
a. Make more land available. (4)		2	-	-	-	1	-	-	1	-
b. Give title to the land we are farming. (2)		-	-	-	-	1	1	-	-	-
2. Improve access to production inputs.	<u>60</u>									
a. Make fertilizer more available, some plentiful. (17)		1	1	1	2	3	6	1	2	-
b. Make drugs more available, more plentiful. (15)		-	2	1	1	6	3	1	1	-
c. Make machinery more available (tractor). (10)		2	1	-	1	1	1	1	1	2
d. Make small tools more available. 1/ (10)		2	2	-	2	3	1	-	-	-
e. Make spare parts more available. 1/ (5)		-	-	-	-	2	3	-	-	-
f. Make bulldozers available, to clear the land. (3)		-	-	-	-	-	-	3	-	-
3. Make credit 2/ available, give it to those who farm.	<u>29</u>	1	3	6	4	7	1	3	3	1
4. Improve drainage 3/: impolder, clean trenches, heighten dams, install, repair kokers.	<u>21</u>	3	8	1	-	3	2	-	-	4
5. Marketing and transportation: prices too low, bus service irregular, boat, access road needed.	<u>7</u>	2	-	-	3	-	1	-	-	1
6. Protection from wild animals: give farmers firearms.	<u>6</u>	-	-	1	-	5	-	-	-	-
7. Make technical assistance more available.	<u>4</u>	-	2	-	1	-	-	1	-	-
8. Other.	<u>3</u>	-	-	-	-	1	2	-	-	-
Total number of responses:	<u>136</u>									

1/ Small tools includes spray cans, boat engines, small pumps, rototillers, cutlasses, hoes, and axes.

2/ Requests included those for production and short-term investment credit. Production credit was requested for labour hire and the purchase of direct production inputs. Short-term investment credit was requested for labour hire for land clearing and trenching, and for the purchase of small tools, and equipment. The recommendations also included improving credit access and use: make the application and disbursement process easier and assure that those who received credit actually use it to farm.

3/ Recommended drainage improvements included the deepening, widening, cleaning, constructing, and maintaining of both new and existing trenches and canals; the construction, lending, or giving of materials for new kokers; impoldering; and the constructing, heightening, strengthening, and repairing of both new and existing dams.

Increased access to credit was the second most common recommendation. Mentioned in all nine interview areas, the 29 responses accounted for about 21 percent of total recommendations. Table III-17, footnote 2, expands on this.

There were 21 recommendations to improve the maintenance and construction of drainage works. As elsewhere discussed, the nature of the drainage recommendations reflected regional conditions. Table III-17, footnote 3, expands on the drainage recommendations.

To a lesser extent, and on a more regional basis, recommendations were made regarding marketing (7 total responses), land (6), protection from wild animals (6), technical assistance (4), and 'other' (3).

Analysis

The term 'access,' which appears prominently in Tables III-16 and III-17, has two dimensions: quantity and ease of acquisition. In other words, lack of access means both that there is not enough in quantity, and that what is available is cumbersome, difficult, and untimely to get.

The country now faces an absolutely critical situation of highly diminished farmer access to crucial production factors and services. The latter are very expensive and scarce. When available, their delivery is often awkward or delayed. Farmers often travel far and repeatedly to get small quantities of drugs, spares, or services.

The current water control situation, particularly administration and maintenance in schemes, i.e., the 37-odd registered areas, is characterized by its distance from users, centralization, alien control and management, lack of user participation, and non-responsiveness.

Many foodcrop farmers wishing to increase their production lack the finance to do so.

Labour supply, which appeared prominently in the problems category, did not appear in farmer recommendations. This means simply that farmers can still get labourers, but that they are becoming increasingly expensive. The current Government policies of denying farmers access to the production inputs requisite to farms, and of allowing established schemes to deteriorate through non-maintenance, have the de facto effect of pushing a labour-intense foodcrop agriculture. Yet, we are already seeing the early manifestation of major limits to a labour-intense Guyanese foodcrop agriculture: rapidly increasing wage rates, and increasing complaints of labour non-availability.

In general, at the time of our interviews, the attitude of the majority of our interviewees can be characterized as follows: pride in their hard work and ability to produce; love of agriculture; hostility

toward those failing to deliver crucial production factors and services; alienation; and a lack of comprehension of the current agricultural situation, especially the input access and water control situations.

Policy Recommendations

We indicate the central, highest priority recommendations, all of which appear elsewhere in the report.

(1) Foodcrop-farmer access to direct production inputs must increase. In order of importance, this pertains to drugs, spare parts, small tools, and fertilizer. The reader is referred to the recommendations in Section III-A-2.

(2) Government must invest in water control, at budgeted amounts, and, in the face of retrenchment, these amounts must annually increase. The reader is referred to Sections III-A-4 and III-A-5.

(3) Large parts of the operation, maintenance, and administration of installed water control systems must pass to system users. The reader is referred to Sections III-A-5 and IV-D.

(4) GAIBANK must greatly increase its small farmer agricultural lending. To do so will require the Bank to internally revise its application, release, and supervision procedures for small loans. The reader is referred to Sections III-A-9 and IV-C.

(5) Agricultural labour must be made more productive by adopting the first four recommendations.

B. Interviews at State and Parastatal Farms

The four interviewed estate-farms ranged in size from about 500 to upwards of 10,000 acres. They cultivated 12 foodcrops totaling about 1,300 acres. Foodcrop areas ranged from about 15 to almost 600 acres. All estates plan to significantly expand their foodcrop production.

At the estates, the interview guide shown in Appendix II was used, but modified as additional issues of interest developed during fieldwork. These included:

- Do estates face direct production inputs access problems, like individual farmers, or are the estates favored?
- How do the estates arrange for machinery and small tools? How does their use compare to the volume of crops produced, and to the foodcrop technology employed by small farmers?
- How is labour supplied and used on estates?

- do estates sell in protected markets?
- How do estates arrange for agronomy and engineering services, and how do these arrangements compare to the situation faced by small farmers?
- How are State farms financed?

1. Fertilizer, Drugs, Purchased Seed, Tractor Machinery, and Small Tools

Excepting one crop on one estate, fertilizer was used on all the foodcrops at all the estates. In two cases, this fertilizer was 'thieved' from rice and sugar allotments. In one case, it came from the GRB, through "good relations with the Region."

Drugs were used on all crops at all estates. In one case, they were thieved, in one case imported directly, and in two cases obtained directly from the GNTC. No problems were reported obtaining either enough or timely GNTC drugs.

Seeds came primarily from either Mon Repos or elsewhere in MOA. On small provision areas, sticks, tubers, etc., were saved back.

Tractor machinery was used on all crops at all estates. In two cases, tractors were used primarily in land preparation, while other fieldwork was done by hand. At the other two estates, essentially all field operations were mechanized. At two estates, tractors and other machinery had been purchased normally. One estate's machinery was on loan from the GRB and the Region. One estate imported its machinery directly. The latter used 16 tractors to operate a total of 900 acres of all crops, including non-foodcrops. However, more machinery was needed, according to that farm manager.

Small tools, especially spray cans, were used on all crops at all estates. At three estates, small tool quantities were not enough, while spares were a problem at all four. Spares were obtained from the GNTC or, in one case, directly imported.

Analysis

The four institutions interviewed command the five scarce production factors discussed in this section to a vastly greater extent, and much more readily, than do our 57 interviewees. Access was the number one problem with the small farmers interviewed. None of the estates has a significant access problem, excepting with spare parts. At some estates, these inputs are not even costed.

The use of imported, capital-intense production techniques is the rule at estates, the opposite of the small farm situation.

2. Labour

All four estates had resident students, trainees, or labourers. Access to manual labour was not a problem. On two estates, labour was provided to the foodcrop enterprises without charge. At the other two, labour was fully charged, by the hour. The cost of manual labour was a problem at one estate, as finance for labour hire was not always readily available.

Analysis

Among our 57 small farmer interviewees, labour is becoming increasingly scarce and more expensive. Access to the direct production inputs that determine the productivity of that manual labour is the number one small farmer problem. Not so at estates. Resident labour is readily available at all four, and provided without cost at two. Labour is generally used together with adequate amounts of production inputs, and generally in support of machinery.

3. Land

Land for the expansion of foodcrop production is available at all four estates.

4. Water Control

At one upland estate, drainage was not a problem. At three estates, low-lying land had a variety of drainage problems. The problems related primarily to trenches and drains, and were similar to those among our small farmers.

All three estates locally controlled the cleaning and excavation of trenches, using their own or borrowed machinery, or manual labour. Two of these estates have been recently taken over by their present operators. At the third, foodcrops are a new enterprise, and are located on some of the estate's lowest lying lands. In all three cases, prospects are that drainage problems will soon ameliorate.

5. Markets

All four estates sold in secured or protected markets, through the use of contracts or verbal agreements. State institutions were the largest outlets. These included Guyana Stockfeeds, Guyana Stores, the GDF, the GNTC, hospitals, the police, KSI, and consumer co-ops. Other secured arrangements included seed sales to Mon Repos, sales through a wholesale market stall given to one estate, and sales to estate labourers.

Prices, transport, contracts, payment, and other marketing arrangements were commonly made at Georgetown central offices. One estate transported produce by air (foodcrops). Prices were generally, though not always, set to reflect transport arrangements.

Analysis

Our 57 interviewees did not sell in protected markets. They did sell to the GMC -- in areas where it operated -- but this has been associated with low prices and delayed payment. None of the four estates was faced with the problems of arranging transport, setting prices, or collecting payment.

6. Technical Assistance

Three estates had resident technicians. These included mechanics, plant protection specialist, agricultural science teachers, agronomists, animal scientists, and soils specialists. When non-resident technicians were needed, they were usually on immediate call from Mon Repos, the central Georgetown headquarters, or elsewhere. The technicians were not costed, separately to the foodcrop enterprise -- but this was also true with small farmers.

Access to this input was the main contrast between the estates and the small farmers: whereas both considered TA desirable -- or necessary -- the farmers often did not get it. At estates, it was usually resident.

7. Finance

In general, finance is outside the purvey of these four estates. They prepare budgets, and submit them to a central office for approval. Once approved, funds are released back to the estates. Sales and revenue are divorced from production and costs. It is not necessary to operate at a profit -- and none of these estates do. Their mandate is: produce.

Problems with releases were not found. Costs were often not allocated to the foodcrop enterprises. Examples of this were capital costs associated with land clearing and machinery acquisition, and direct costs for labour, technical assistance, and borrowed money.

Among our 57 small farmer interviewees, the need for cash or credit to finance production was the number three problem, and access to it was severely restricted. The number two recommendation was to make credit more available.

8. Findings and Recommendations

The four estates interviewed command scarce and vital production factors and services to a vastly greater degree than do our 57 small farmer interviewees. They have ready access to finance, yet neither pay all their costs nor operate at a profit. They have resident or readily accessible technical assistance. They sell in protected or secured markets. They use resident or costless manual labour. They use imported, capital-intense production techniques as a rule. They have priority call on spare parts, small tools, machinery, drugs, and fertilizer. Yet, protected from market forces, estate efficiency relative to that of small foodcrop farmers is unknown. Can it be that estates are that much more productive than small farmers, and merit their privileged status; or, is that privilege a misallocation of the resources needed to alleviate one of the worst food crises in Guyana's long history?

Recommendation

It is recommended that the Planning Department prepare a technical study of the relative economic efficiency of a sample of State and private foodcrop farms. The study would include production costs, factor returns, and analysis of technologies employed. On the basis of this study, policy to rank priority uses and to allocate production factors can be determined.

Chapter IV

RESULTS OF INSTITUTIONAL INTERVIEWS

A. The GMC

A number of past reports have described GMC's history, achievements, operating procedures, and problems. Among others, these include the Guyana Baseline Study and the ACDI Diagnostic Report (References 1 and 2).

Early in 1982, GMC completed a lengthy internal review of its role and functions. It recommended to the Vice President for Agriculture a very changed future for itself as an institution. In brief, it proposed that the Corporation shift away from its historic functions as a buyer of last resort and a mechanism for the support of food prices. Instead, the GMC proposed to concentrate on market development, particularly in processing and export. The Corporation proposed that its constituent farmers, with GMC cooperation and assistance, take over its historic jobbing, wholesaling, distributing, and retailing functions.

We believe the proposed changes are very much on target. They should be sanctioned via the 1982-86 development plan, with a single exception, as noted below.

1. Historic Mandate and Operations

At present, the GMC is mandated to purchase a long list of scheduled foodcrops, paying either a fixed, legal price, a minimum support price, or the market price if this is above the support price and is authorized by the purchasing manager. For scheduled crops, GMC must buy all produce offered at its buying prices, even though resale may be impossible, or only possible via dumping. GMC may and usually does purchase other crops, at its discretion, paying prices generally parallel to the free market.

GMC has marketed food crops retail, wholesale, and to export, fresh and processed.

GMC has conflicting policy mandates, to wit:

- Pay farmers a competitive purchase price,
- Sell for less than other intermediaries,
- Buy all that is offered, and
- Operate at a profit.

The modus operandi has been to purchase, transport to urban markets -- principally Georgetown -- and sell. Stocks have not been kept (other than against standing orders, or when there is glut), and the

Corporation has minimal storage facilities. Sale to wholesale or retail has taken place as quickly as possible. Farmers have had minimal involvement in GMC's affairs.

Staff, Finance, Facilities, Other Resources, and Margins

Rural purchasing, assembly, transport, urban warehousing, jobbing, wholesaling, and retailing require large amounts of both staff and facilities. This and the requirements to purchase competitively, purchase all that is offered, and sell below the market have meant profitable operations. GMC has required much larger margins than private buyers. GMC's cost of sales includes central and field office staff, per diem, meals allowance, and other overhead costs, in addition to the transport, loss, and other sales cost incurred by free market traders. GMC reports that its cost to bring one pound of produce from Charity to Georgetown is 22 cents. Of this, the transport cost is just 5 cents, but that 5 cents is the hucksters' total (cash) cost! The huckster does not separately price his labour, pay himself per diem, and so on. Therefore, it is seen that the mandate to "pay a fair price, sell below market, and operate at a profit" is internally contradictory.

When prices are well above support or legally mandated levels, GMC cannot attract volumes of produce. Therefore, its overhead costs, which are relatively constant, are spread over a smaller volume, and wholesale and retail operations become even more unprofitable than usual.

Support and Fixed Prices

Support, or minimum, and fixed purchase prices have been based on cost-of-production studies, and on political considerations.

The methodology employed in the cost of production studies has been criticized on technical grounds: Crops interplanted and jointly produced are considered in isolation, clearing and establishment costs properly amortized over several years have been recovered in one year, and so on. This, plus politics, has caused support and fixed prices to be set well above production costs. Purchasing at these prices, and re-selling below the market, while at the same time suffering much larger overhead costs than the private sector, are the main sources of GMC's financial problems.

Both the level of support prices and whether they should exist at all are policy issues in themselves.

2. The New GMC

Principal features of the just-completed assessment and recommendations to the Vice President for Agriculture, are:

- Eliminate both future guaranteed minimum support prices and the mandate to purchase all that is offered of scheduled crops.
- Confine future activity to processing and to export.
- Let farmers' associations take over the operation of the FCPMP buying stations, and foodcrop wholesaling in general.
- Support farmer-controlled wholesaling via assembly and distribution, and get altogether out of retailing.
- Let GMC purchase against processing, export, and wholesale orders.
- Give these orders to farmers, and let the farmers, via their organizations, allocate production quotas against the orders, among themselves.
- Let GMC and Quality Foods merge.
- Give rural-based, farmer-controlled organizations a Georgetown wholesale market of their own.

These proposals are endorsed in their entirety, with the single exception noted under 'support prices,' below.

Staff, Finance, Facilities, Other Resources, and Margins in the New GMC

GMC believes that its proposed new role will require less of staff, finance, and facilities than at present, and much less than if its present mandate were more fully met. In addition, the concentration on processing, export, and orders against projected market potential leaves to the GMC its most profitable functions. Farmers and the private sector will be left to fulfill functions they have elsewhere shown they can perform well.

If the GMC is left to organize its market acquisitions and produce placement in the orderly way it proposes, we predict two results:

1. It will begin to operate at a profit, and contribute to, not drain from, the Treasury; and
2. It will be able to direct farmers into crops with immediate processing and export potential, such as cassava chips and edible oils. This will generate, not require, foreign exchange for the country.

Support Prices

We endorse the proposal to eliminate fixed buying prices. However, we propose that support prices for a selected, reduced list of commodities be retained, as follows:

- a. Selection of Commodities to be Supported - Instead of the lengthy list of commodities presently supported, GMC should support those commodities satisfying at least one of these criteria:
 1. Necessary for the national food supply.
 2. Necessary for the development of specific, known, and quantified processing opportunity.
 3. Necessary to meet export orders.
- b. Level of Support Prices - Support prices should be fixed after the execution of rigorous, economically and financially sound cost of production studies. Such studies would cover at least two production cycles, take place in the field, and directly involve farmers on a continuing basis.

After completing such a study, the support price would be set just below the average cost of production for the commodity. This will reward efficient producers, and stimulate the adoption of the most efficient technology.

B. The Extension Service

During fieldwork, informal discussions were held with the AO's and AFA's who accompanied us to the farmer-interviews. The Director General of the Agricultural Education and Extension Service was also interviewed. These discussions focused around five topics: (1) A review of the findings and analysis discussed in Chapter III-A-7; (2) The impact that regionalization has had on the Service's field operations; (3) The link or absence thereof, between research and extension; (4) The absence of farmer input to both the Service and the research establishment; and (5) The Service's staff situation.

1. Review of Findings from Farmer Interviews

It was noted that Agent-farmer contact did not usually involve the giving of technical advice or the education of farmers as to superior production practices. When such advice was given, its scope was usually limited to the prescription of imported agricultural chemicals.

The use of the Agents as tour guides, input suppliers, and special program promoters engendered a confusion in the farmer's mind as to the Agent's proper function, and compromised the Agent's credibility with the farmers. Withal, farmers like technical assistance, when it is received, and would like more of it.

2. Regionalization and the Extension Service

At field level, the impact of regionalization on the Service's work program has been a disaster. Vehicles, boats, fuel, and other Service equipment are taken by the Regional staff for other uses. The Agents are thus unable to work in the field. Rather than fieldwork, Agent time is now directed to a variety of other uses, such as participation in "endless" meetings, the preparation of numerous, often redundant reports, or participation in political campaigns and rallies.

Besides vehicles and equipment, Service funds and vouchers are now administered regionally. This has resulted in voucher processing delays that reach to months. Further, REO's do not appear to understand that, during fieldwork, Agents incur reimbursable expenses for transport, meals, and other incidentals. There were numerous reports that such expenses were criticized and argued over, or even that the Region refused outright to reimburse them.

The Region is now able to limit the number and deployment of staff, where they are housed, and to arbitrarily change Agent work programs. In effect, the Service no longer controls its field resources or activities: it is now a head without a body.

3. The Research - Extension - Farmer Linkage

At present, the link between research and extension involves the Director's reading of research reports and his passing to the field Agents any information that appears useful. The Service has little impact on directing research. Neither the Service nor the research establishment listen to farmers. In essence, there is no linkage, especially from farmers back through the Service to the research establishment.

Virtually, all research is done in a vacuum at Mon Repos. A preferable arrangement would be to test research results on-farm before making recommendations, or even to conduct the research on farms, under field conditions. Precedent for both procedures exists in Guyana.

Farmers, the people who have the needs and problems, are told; yet they should be telling. The correct linkage is for the farmer to advise what his problems are, and to cause research activity to derive therefrom. The research should then be conducted -- and proven -- on farms. In this way, the users of research -- the farmers -- are involved totally in the process: their problems determine what research is undertaken, their conditions test its findings, and its field efficacy is at once proven.

4. Field Staff

At the time of the interviews, three of ten A0 positions and 18 of 45 AFA positions were vacant. The Service was also suffering the outright reduction of permanent staff positions. We ask: How is field contact with farmers going to be achieved without staff?

Policy Recommendations

(1) Deregionalize the Service immediately, to place control of its staff and other resources back into the hands of its technical directors, and let it cease functioning in support of political campaigns.

(2) Fully staff the Service to a level of ten A0's and 45 AFA's.

(3) Divorce the Agents altogether from input supply, the promotion of special campaigns and programs, the handling of land title and lease questions, and other non-technical activity.

(4) Let the Agents concentrate on technical assistance to farmers, especially in two immediate areas:

- a. Farmer-education as to seed selection, storage, and preservation.
- b. Education as to essentially costless (and non-foreign exchange requiring) improved production practices, such as: planting depth, row spacing, plant population and timing frequency, and method of weeding.

(5) Link research, extension, and farmers in a two-way information and advisory process by:

- a. Causing Mon Repos to conduct and test applied research on farms, under on-farm conditions; and
- b. Establishing a farmer committee to advise both the research and extension establishments. This committee will function to (1) tell both establishments what the field problems are, so as to direct research; and (2) advise both services as to the on-farm efficacy of their work and recommendations.

C. GAIBANK

Voluminous past reports have analyzed GAIBANK's organization, administrative procedures, and virtually all its other aspects. References one and two cite such reports. Credit is the subject of a separate specialist report under the Agricultural Planning Project. Our interest was restricted to contrasting the Bank's operations with the credit

expressed by our interviewees. To this end, we interviewed the Bank's General Manager, Deputy General Manager, and Service Manager for Loan Administration. The discussion focused around (1) a review of the findings and analysis discussed in Chapter III-A-9; (2) the Bank's operating procedures in the making of small agricultural loans; (3) decentralization; and (4) philosophy: listening to farmers, future policy, and the proper uses of agricultural credit by small farmers.

1. Review of Findings from the Farmer Interviews -- Chapter III-A-9.

The greatest uses of foodcrop farmer credit were to clear and control water on more land, thereby extending the cultivated area. This usually involved substantial labour hire. Credit application and release procedures were cumbersome. Delays exceeding three months, repeat office visits, misunderstandings, and disagreements between borrower and lender were common.

Of the interview responses designed to assess user attitudes toward the system of credit administration, 79 percent were negative, often strongly so. Discouragement, fear of default, and incomprehension of the application, approval, and release procedure were common. Yet, just eight percent of our respondents felt they could appreciably expand foodcrop production without credit, through the exclusive use of their own resources.

2. The Bank and Its Operating Procedures: A Positive Impression

The Bank's top staff gave the impression of care in management, professionalism, long experience in banking, and thorough and frequent field exposure.

The Bank analyzes loan requests as if they were projects. A rigorous, standard, exhaustive, and thoroughly professional process is employed. The loan application requires extensive personal data on the prospective borrower and the submission of diagrams and crop budgets. Pre-approval farm visits are made. Amounts lent are determined by the Bank according to a formula: so much for each proposed field operation or use. Money is released in tranches, with a supervisory field visit made after each release to assure that loan funds have been applied to their intended use.

The Bank is flexible on project selection and appraises projects individually, focusing on the ability of the proposed project to service the debt incurred. It does not always require real or even physical collateral.

The Bank's own field staff analyzes and appraises loan requests, and makes the farm visits. Supervision is continuous and real. GAIBANK is strongly committed to supervised credit, a policy expected to continue. Another policy is to use credit to stimulate the adoption of improved

production practices. It does not believe that credit should be used for the expansion of what are regarded as inefficient practices, for example, traditional slash and burn techniques. The Bank also believes that loans should be a part of an integrated agricultural project. Credit, extension, and marketing might all be involved.

As a point of philosophy, the Bank has resisted strong past donor pressure to accept special programs when these call for an abandonment of its normal, careful lending practices. Nor does it like compartmentalized money, e.g., that with strings attached. In our view, Bank resistance to these pressures is commendable.

The Bank has shown recent willingness to innovate, to adapt its procedures to changing needs. It has put teeth into regionalization by decentralizing the approval and release of small agricultural loans. It is engaged in a preliminary phase of computerizing data on past applicants. The intent is to match loan performance with applicant characteristics, and with regional agricultural patterns.

Between 1972 and 1982, more than 80 percent of all agricultural loans by number involved amounts to less than G\$10,000. These consumed most of the staff's time. The Bank regards this as prima facie evidence that it is servicing the needs of small farmers.

Future Policy

The Bank indicated future policy directions:

- a. Continue the emphasis on linkage: credit linked to planning, extension, and input supply; production linked to marketing and processing.
- b. Continue tight supervision and careful approval.
- c. Speed decentralization.
- d. Develop the computerized applicant profile.
- e. Gradually reduce the size of interest rate subsidies (reduce the spread).

3. Conclusions and Policy Recommendations

Between the Bank and its farmer-constituents, there is a major divergence of views. When a farmer applies for a certain amount for a specified use, the Bank sits as final arbiter of the amount required and how the funds will be used. Exhaustive application and close supervision -- admirable from a banker's view -- constitute an intimidating, frustrating headache for the farmer. The Bank's top managers express

the view that credit is the least binding constraint to expanded output. Farmers expressed exactly the opposite view (Tables III-17 and 17). Both sides manifest distrust of each other. But, two conclusions are clear: the Bank is not meeting the agricultural credit needs of small foodcrop farmers. The Bank does not have the staff or the administrative capability, nor could it bear the expense, to extend its present procedures to the thousands of small foodcrop farmers who would benefit from small amounts of credit.

Policy Recommendations

(1) It is recommended that the Bank form a committee of small farmers to advise it on application, approval, release, and supervision of small loans.

(2) It is recommended that the Bank continue to internally investigate how it might revise its small loan procedures. The objective would be to find a cost-effective, decentralized, and rapid application, release, and recovery procedure, to permit the future making of thousands of small loans.

In connection with this effort, the Bank may wish to investigate the Small Farm Credit Project of the Bolivian Agricultural Bank. ^{1/} That project, over its three-year life, has made 3,000 unsecured loans averaging \$US150 in size, at a profit, with a total default of 1.9 percent.

D. The Hydraulics Division^{2/}

An interview was held with the Acting Deputy Chief Hydraulics Officer and the Assistant Chief Hydraulics Officer for Operation and Maintenance, Hydraulics Division, MOA. Our interview findings ^{3/} were presented. The officer was requested to comment on why so many schemes were deteriorating due to undermaintenance, and to react to our ideas on local participation -- even control -- in scheme design, administration, operation, and maintenance.

Present systems for the collection of rates and for the administration, operation, and maintenance of schemes were explained. The officer outlined a series of problems facing both the Local Authorities (LA's) and the HD. These chiefly involved the collection and release of rates and budget, and the transfer of control over HD resources to the Regions.

^{1/} The Proyecto de Creditos para Pequeños Agricultores, or PCPA.

^{2/} The Drainage and Irrigation Board is a dependency of the HD. Our comments apply equally to the D and I Board.

^{3/} See Sections III-A-4 and 5.

It was explained that users routinely underpaid rates, or do not pay them at all. For scheduled areas, GOG had made up HD operating deficits in past years. However, present economic circumstances no longer permitted this. Consequently, available finance for the maintenance of scheduled schemes had fallen 200 percent in 1982.

Water rates are collected together with those for roads and other uses. The LA's are not obligated to release any collections to the HD until they have collected all of their own approved budgets. Nor does the HD have the legal power to sue the LA's for the release of paid water rates. As a consequence, the LA's usually keep all the rates collected, including those for scheme maintenance, until all their budget for all expenditures has been collected. Hence, LA payments to the HD are fractions of the little collected.

With regionalization, HD releases now pass to Regional Offices. As with the Extension Service, this has left the Division as a head without a body. It no longer has control over its field resources. And as with the Service, HD resources are often dedicated to other users by the Regions.

The position of the farmers is that they are the victims of this system of diffuse, overlapping authority and responsibility, and the re-direction -- or misdirection -- of critical technical support programs for agriculture.

It was agreed that, at the moment, there is no user participation in scheme design, operation, administration, or maintenance. By tradition in Guyana, these functions have been reserved to a central authority -- the HD -- operating from Georgetown.

Our recommendations (Section III-A-5) were discussed. Essentially, we recommend that participation by resident farmer-scheme users should be tried. Participation, amounting to control on at least a trial basis, would be in the administration, operation, and maintenance of completed schemes. Precedent for this proposal was cited in the form of small irrigation projects in Bolivia, Upper Volta, and Bangladesh.

- In Bolivia, the National Community Development Service sponsors about 15 small water projects. Following traditional community systems, these are constructed, operated, administered, and maintained by their user-beneficiaries.
- In Upper Volta, the Dams Office, MOA, sponsors about 200 small water projects. Each is operated by a democratically elected committee consisting of user-farmers (who have the majority vote), the local tribal chiefs, and the Extension Service. The Committee schedules water, determines crop plans and planting schedules, and organizes the communal maintenance of project works.

- In Bangladesh, CARE sponsors the operation of about 150 deep wells. Again, users control the scheduling and management of the water, assess themselves rates, and communally maintain the schemes.

The Acting Deputy Chief stated that such ideas and precedents would have to be tailored and adapted to local conditions. He noted the advisability of allowing management committee participation by Extension Agents and other authorities. He stated that control over some operational scheme features would have to be retained by technicians. Examples in Guyana were the maintenance of water conservancies and of large electric pump motors. However, he noted that Guyana will participate later this year in a FAO-sponsored conference on the administration and management of water projects. User participation is on the agenda, and two farmers will be included in Guyana's delegation.

We believe this to be a propitious moment for the trial of such an idea, and the the HD may be very receptive to it.

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2. ACDI. Diagnostic Report. Georgetown, November 1980.
3. Robert R. Nathan Associates. Rural Farm Household Income Study. Washington, D.C., April 1980.
4. MOA. Agricultural Commodities Program. Georgetown, April 1982.
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Appendix I

SCOPE OF WORK

Tropical Foodcrops Specialist

Purpose of activities: The specialist shall develop policy alternatives for increasing the output of fruits and vegetables. These alternatives must apply to both areas presently under cultivation and those to be developed in the hinterland. The alternatives must be integrable into the Agricultural Sector Plan. The specialist will also provide suggestions for output improvement in the short-term. All interviews and research will be carried out with a counterpart assigned by the Planning Department. This counterpart will be trained to be able to monitor and update this section of the Agricultural Sector Plan in subsequent years. The counterpart will be responsible for setting up interviews and planning field trips.

Estimated duration of assignment: 2.5 - 3.0 months.

Activities shall include the following:

1. Bring to Guyana any tropical agronomic and marketing information for such crops as plantains, bananas, cassava, eddoes, sweet potatoes, yams, tannias (similar to eddoe), tomatoes, shallots, boulanger (egg plant), lettuce, cabbage, calaloo, pumpkin, bora (long green beans), okra, citrus, avocados, pineapples, mangoes, coffee, cocoa, ginger, corn, black-eye peas, melon.
2. Review in Guyana the following locally generated reports:
 - a. Robert Nathan Associates, The Income and Production of Guyana Rural Farm Households, MOA/USAID, Guyana, April 1980.
 - b. Robert Nathan Associates, Guyana's Food Crop Systems: An Analysis for Development Planning, MOA/USAID, Guyana, 1974.
 - c. MOA/Planning Dept., Guyana, Quarterly and Annual Digest of Agricultural Statistics.
 - d. FAO, Planning Agricultural Development, Report to the Government of British Guiana, Rome, 1963
 - e. Min. of Economic Dev., Third Development Plan 1977-81.
 - f. FAO, Annual Questionnaire of the Import of Major Commodities, 1981.

- g. MOA/Planning Dept., Guyana, A Revised Edition of Cost of Production of Some Major Agricultural Products, 1981.
- h. MOA/Planning Dept., Guyana, Production of Some Major Commodities.
- i. MOA/Planning Dept., Guyana, Crop and Livestock Targets 1981.
- j. MOA/Planning Dept., Guyana, Guyana's Report to the FAO/FIAC Seminar, special attention to fertilizer.
- k. MOA/Planning Dept., Guyana, Establishing the Basis for Self-sufficiency in Edible Oils, 1981.
- l. MOA/Planning Dept., Guyana, Establishing the Basis for Putting Black-Eye Peas on the Open Market, 1981.
- m. Tropical Agriculturalist and Nutritionist reports, analytical description of Ag Sector.

3. Interview appropriate officials:

- a. Minister of Agriculture
- b. Director of GUYSUCO
- c. Chief Agricultural Planner
- d. Agricultural Planning Advisor
- e. Rural Development Officer, USAID
- f. Director and consultants to GAIBANK
- g. Director and consultants to GMC
- h. Maharaja Oil Mill, Edible Oil Mills, Sterling Products Ltd., Swan Manufacturing Co. Ltd., Market Clerks of Public Markets, Coop Complex, J.P. Santos, Guyana Stores Ltd., Arrowhead Enterprises
- i. GPC (Guyana Pharmaceutical Corp.)
- j. Other Ministries, agencies or consultants, as appropriate.

4. Directly interview food crop farmers of all sizes in both the coastal and hinterland regions, using a standardized questionnaire, which will be developed by the specialist and approved by the Agricultural Planning Advisor and the Chief Agricultural Planner. A professional from the Planning Department will be assigned as counterpart to work with this specialist and accompany him during field surveys. Areas to be visited are: Pomeroon, Corentyne, Mahaica-Mahaicony, West Demerara, North-West District Region I, Mazaruni, and Upper Mazaruni Region VIII. Some of these regions are accessible only by air or boat.

The Questionnaire will generate the following information:

- a. Current status of production, state-of-the-art, level of mechanization and infrastructure, labor employed, inputs utilized, credit system, appropriate technology utilized.
- b. Marketing channels.
- c. Involvement and impact upon target group:
 - Income
 - Demographic variables
 - Resources
 - Land tenure
 - Production
 - Marketing
 - Socio-cultural variables
- d. Involvement of cooperatives.
- e. Involvement of state enterprises.
- f. Activities of extension and research.
- g. Constraints to higher production:
 - Farm level
 - Local
 - Climatic
 - Support system
 - Institutional
 - National (Policy)

5. Incorporate data concerning production practices into an analytical report. This report will present policy alternatives in light of constraints. The alternatives will be constructed as higher cost/higher technology/higher output; mid-range cost/mid-level technology/mid-level output; and lower cost/lower technology/lower output option packages. These shall include budget estimates and output levels for the different option packages. Specific recommendations will be made concerning alternative crops which might be introduced in Guyana and application of appropriate technologies. Recommendations regarding alternative crops will be made on the basis of agronomic viability and food import substitution possibilities.
6. Develop recommendations for immediate actions to increase output.
7. Provide input into Census Supplement for Agriculture, if required.

Appendix II
FARMER INTERVIEW GUIDE
(Foodcrops)

Introduction:

- a. What is your name?
 - b. What is the name of the place where your farm is located?
 - c. Could you tell me the main crops that you cultivate? Do you grow provisions? Dry peas or beans? Corn, peanuts or coffee? Pineapple, limes or oranges?
 - d. About how much land do you have (in each of) these crops?
 - e. Would you like to grow more of these crops? Which ones would you really like to expand?
 - f. What problems would you say are holding you back, or blocking you down? What are some of the main problems on the farm?
2. A. Fertilizer, Purchased Seed, Drugs

- a. Did you use fertilizer on these crops last year? Which crops did you use the fertilizer on?

If Yes:

Where did you get the fertilizer? (Did he get it from a rice farmer)?

Did you get enough? (All you wanted)?

Did it arrive on time?

If No:

Why did you not use fertilizer, what was the reason?

- b. Did you use drugs on these crops last year? Which crops did you use them on?

If Yes:

Where did you get the drugs?

Did you get enough?

Did they arrive on time?

- c. Did you purchase seeds, sticks, suckers for these crops last year? Which crops did you purchase them for?

If No:

Why did you not purchase seeds for them?

2. B. Machinery

- a. Did you use machinery (tractor) last year for food crops? Which crops was the machinery used for? What did the machinery do for you?
- b. Was a chain saw, boat engine, pump, or roto tiller used?
- c. Do you own the tractor machinery that you used, or did you hire it?

If Hire:

Who did you hire the machinery from?

Were you satisfied with the job?

- d. What machinery problems did you have?
- e. Can you produce more food crops without the use of machinery? (Record any hire or piece rates paid)

3. Labour

- a. Besides family members, did you hire labour to work on food crops last year? Which crops did they work on, and what did they actually do?
- b. Did you have any problems finding labourers to hire?
- c. To expand food crop production, will more non-family labour have to be hired?
- d. Did any household or family member work elsewhere last year? Who? What work did they have?
- e. About how much of the year were they gone?
- f. If you expand food crop production, would this person be willing to leave his off-farm employment to work on them?
- g. Would you still have to hire labourers anyway?

- h. In your absence, is a woman ever in charge of the farm?
About how often?
- i. (Wage, other rates observed)

4. Land:

- a. About how much land do you own? In how many pieces?
- b. Last year, did you lease or rent land? About how many acres, in how many pieces?
- c. Last year, did you cultivate all of the land you own or lease?
If No:
Why not? What was the reason, or problem, that held you back?
Is any improvement required before you can cultivate that land?
- d. To grow more food crops, would you have to lease or buy more land?

5. Drainage and Water Control:

- a. Last year, did you have any water problem on your farm?
- b. What was the problem? (Source)
- c. Did you farm that area anyway?
- d. Was any crop lost due to water? About how much was lost?
- e. Will this problem keep you from growing more food crops in the future? Will it seriously reduce yields?

6. Credit:

- a. Have you ever taken a loan, or received a credit?
If Yes:
What was the credit used for?
Who did you receive the credit from?
Did you have any problems with the loan or credit that you received? (Delay, timeliness, go-back, treatment)
- b. Have you ever tried (or, have you tried since your last loan) to get a loan or credit for food crop production? What happened when you tried?

- c. If you get a future credit what will you use it for?
- d. Would you be able to produce more food crops, in the future, without receiving credit?

7. Marketing:

- a. Last year, where did you sell your feed crops?
- b. How long did you have to wait for payment?
- c. Where did you sell your food crops? How far did you have to travel to sell them?
- d. Did the length of travel influence your decision as to where to sell?
- e. Who paid or pays the highest prices?
- f. Who do you prefer to sell your food crops to? Why?
- g. If you grow more food crops, will you be able to find a market for them?

8. Extension:

- a. Have you ever received a visit from a field assistant, or attended a seminar or short course?

If Yes:

About how long ago was this?

What was the advice given, what did they say?

Were you able to follow the advice? Did you have any problems?

- b. Do you have some problem you need Agricultural advice on now?
- c. Have you tried to get advice, or help? What happened when you tried? Why haven't you consulted the field assistant?
- d. Do you think that technical assistance or the field assistant can help you?

9. Cooperatives:

- a. Are you or have you ever been a member of any food crop-associated cooperative or organized producers group?

If Yes:

What benefits have you received?

What problems have you experienced?

If No:

Would you like to be a co-op member?

Why haven't you joined?

How can co-op membership help you?

What are the problems with co-operatives?

- b. Will you keep your co-op membership?

10. Recommendations:

What are some of the most important things the Government can do so that farmers can produce more food crops?

What do you really recommend to Government?

Appendix III

INSTITUTIONAL INTERVIEW GUIDE

1. Briefly describe the purpose or mandate of the institution.
2. Performance Targets and Plans

Did the institution have any performance targets last year? (volumes, tons handled?) Were they reached?

 - Timeliness
 - Were 100 percent of orders met?
 - Was all produce offered bought?
 - Any problems in securing goods that had to be imported?

Do you have a development plan?
What will be required to meet this plan? (Resources)
Are the objectives and aims of this plan still valid today?
3. Marketing

Is the difference between the buying and selling price enough to cover costs?
Is available storage sufficient?
Is available transportation adequate?
4. Finance

Last year, was all of your allocated budget released?
Did any undisbursal or late disbursal of budget cause problems?
How so?
Was your purchasing or operating capital enough to purchase or stock the goods you are mandated to handle?
If not, what was the consequence?
Did you experience any delays in payment? What was the impact of this?
5. Business Procedures

Can decisions to buy, or stock be made locally, or must they be cleared elsewhere? Where, or by whom?
What about production decisions?
Plans for next year?
Are commodities handled, assembled, or distributed from a central location?
About how long does it take from the time an order is made until it is received?
How much paperwork is required to purchase, handle, and sell?
Is the process or technology employed correct for your circumstances?

Is it too expensive; does it rely too heavily on imported goods?

Is there a preferable method, where more local goods might be used?

6. Achievements

What were the chief achievements of the institution last year?
What made this possible?

7. What were the chief problems experienced last year?
How can these be resolved?

8. (Topics, Ideas Arising From Farmer Interviews)

9. Recommendations for the future?

Appendix IV

MISCELLANEOUS RATES, AS OF JUNE 1982

Periodically, respondents indicated prices for piece labour, machinery hire, and other inputs. These were recorded, and are reported here:

<u>Description</u>	<u>Location</u>	<u>Price</u>
A. Piece Labour		
1. Bush clearing (ax, cutlass)	Pomeroon	\$150 per acre
2. Bush clearing (ax, cutlass)	Pomeroon	\$250 per acre
3. Weeding (scraping)	Pomeroon	\$80 per acre
4. Trenching, 2' x 2'	Pomeroon	\$14.40 per rod
5. Trenching, 2' x 2'	Red Lock	\$6.00 per rod
6. Trenching, 5' x 3"	NWRI	\$15.00 per rod
B. Machinery Hire		
1. Tractor plowing, 1st cut	MMN	\$45 per acre
2. Tractor plowing, 1st cut	NWRI	\$25 per acre
3. Tractor plowing, 1st cut	Canals Polder	\$70 per acre
4. Tractor plowing, 1st cut	Canals Polder	\$75 per acre
5. Tractor plowing, 2nd cut	MMN	\$40 per acre
6. Tractor plowing, any cut	Esseq. W.C.	\$35 per acre
7. Tractor chipping	Canals Polder	\$60-65 per acre
8. Tractor bedding or damming	Black Bush P.	\$100 per acre
9. Tractor bedding or damming	Black Bush P.	\$150 per acre
10. Bulldozer bidding	(not recorded)	\$105 per acre
11. Dragline hire	Black Bush P.	\$70 per acre
C. Input Purchase		
1. Fertilizer	(not recorded)	\$100-115 per 50 kg bag
2. Urea	(not recorded)	\$70 per 50 kg
3. TSP	NWRI	\$52 per bag
4. Citrus Seedlings	Corentyne	\$0.70 each
5. 6 hp outboard engine	Near Ebini St.	\$3,000
6. 25 hp outboard engine	Near Ebini St.	\$3,600
7. Chain saw	(not recorded)	\$500-600
8. Knapsack spray can	(not recorded)	\$400
9. Diesel fuel	Black Bush P.	\$500/gal, 100 gal. drum
10. Gasoline	NWRI	\$300/drum