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THE JAMAICA FOOD STAMP PROGRAM: FINANCIAL MANAGEMENT AND ACCOUNTING ISSUES; AND THE POTENTIAL FOR FRAUD, ABUSE AND THEFT

Donovan P. Kudisuhle, M.B.A.
and
Charles H. Sweeney

Reports submitted to
The Government of Jamaica
and USAID/Kingston

Management Sciences for Health
165 Allandale Road
Boston, Massachusetts, 02130
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FORWARD

The firm of Management Sciences for Health was asked by USAID/Kingston to perform a management review of the newly implemented Food Stamp Program in Jamaica. The review focused on:

1) administrative operations (Report by C. Carpenter and K. Smith)
2) financial and accounting systems (Report by D. Rudisuhle)
3) the potential for fraud, abuse, and theft (Report by C. Sweeney)
4) evaluation aspects - from the health and nutritional standpoint (Report by Dr. Eileen Kennedy).

The findings and recommendations in each of these areas have been presented in separate reports.

This report addresses two issues: financial and accounting systems and the potential for fraud, abuse and theft.

Implementation of these recommendations to enhance or modify current practices, should result in more efficient and effective procedures as well as utilization of personnel; which in turn should lead to attainment of the Program's objectives.

The review of the Food Stamp Program was prepared under contract PDC-1406-I-00-4060-00.

ACKNOWLEDGEMENTS

The team wishes to extend its thanks to Ms. Francesa Nelson of USAID/Kingston, and all the personnel of the Government of Jamaica who spent time with us - from their busy schedules - to share their knowledge, perceptions and perspectives regarding this program. Without their guidance, advice, assistance and cooperation, this review would not have been possible.

While this report is the product of our shared experiences with our Jamaican hosts, the views and interpretations expressed herein are those of the authors, and we take full responsibility for the conclusions and recommendations, as well as any errors of omission or commission. These recommendations should not be attributed to the U.S. Agency for International Development, or any element of the Government of Jamaica. They are presented here for consideration by officials of both governments, as responsible and interested parties in the Program.

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EXECUTIVE SUMMARY

The creation of the Food Stamp Program was an effort that involved numerous government organizations working together under serious time limitations in order to implement the program as soon as possible. The results were indeed remarkable in that the program was operational in a very short period of time and that an adequate system of accounting control was in place at the time the program began to function.

The purpose of this report is therefore not to create an entire new system, but rather to recommend modifications and enhancements to the existing system to help the Ministry of Social Security deal with some of the problems that have arisen as a result of the rapid growth that the Food Stamp Program has experienced in the last six months.

The principal problems encountered were:

1. There is no real systematic budgeting and forecasting mechanism in place to estimate revenues and control expenses. While original estimates were prepared at the inception of the program, these have not been updated to reflect significant changes which have material impact on revenue and expense expectations. There is an insufficient level of coordination between the various government organization responsible for the implementation of the program.

2. The program is seriously underfunded. The resources that were originally anticipated are highly unlikely to materialize. Expenses will probably increase as the program expands to full capacity.

3. The manual preparation of the lists of beneficiaries is a very tedious and time-consuming process. There are insufficient human resources and equipment to continue with present level of effort, let alone the 40% increase in the number of food stamp recipients which is scheduled to take place in the next few months.

4. The reconciliation process whereby stamps are put back into their original numerical sequences is a major administrative burden that is practically impossible to perform under the present workload and certainly cannot be continued in the future.

The recommendations offered are as follows:

1. There must be a coordinated effort between the implementing organizations to establish a system which predicts revenues and expenses on an ongoing basis. This system should generate periodic reports which compare monthly actual figures to the budgeted amounts for the corresponding month. These reports should be made available promptly to the program managers so that they may take corrective measures on a timely basis.

2. The Ministry of Social Security must identify alternative sources of financing to close the deficit created by the shortfalls in anticipated revenues.

3. The preparation of the food stamp beneficiaries list should be computerized. The Ministry should investigate the possibility of mechanizing other functions, such as payroll deductions and the Ministry's payroll itself. An appropriate computer system and software should be selected and put into operation without delay.

4. The manual reconciliation of encashed stamps should be discontinued in favor of a weekly report that compares global stamp inflows and outflows on a dollar basis. The inflows should segregated according to the bank that presented them.

The detailed recommendations for implementation of the above recommendations are included in the accompanying report and its annexes. The report is divided into three sections. Section one introduces the system; section two describes the features of the system presently in place. The third section discusses in detail the problem areas encountered in the present system and makes recommendations for improvement.

I. BACKGROUND

The Jamaican Food Stamp Program employs funds from various domestic and international sources and uses them to procure and distribute Food Stamps to qualified individuals who exchange them for food. The merchants who supply the food are able to convert the stamps into cash. While the system can be viewed globally as a series of independent activities, for the purpose of analysis, the flow of documents, information and funds can be separated into three distinct cycles. The first of these is the Revenue Cycle, through which commodities obtained through the PL-480 agreement with USAID, the European Economic Community and the Canadian International Development Agency are converted into cash for use by the Project. The second cycle is the Distribution Cycle, which encompasses all activities from the time new Food Stamps are released from the Bank of Jamaica until the time they are turned over to the beneficiaries. The final cycle, the Redemption Cycle, covers the process through which the retailers and wholesalers cash the stamps at commercial banks (alternatively the retailers can redeem the stamps directly with wholesalers for additional foods) and their subsequent redemption by the Bank of Jamaica and the final reconciliation performed by the Ministry of Social Security.

II. THE PRESENT SYSTEM

A. REVENUE CYCLE

The Planning Institute of Jamaica (PIOJ) is the Government organization responsible for the procurement of the commodities that are imported into the country for the purpose of supporting the various programs operated under The Food Assistance Plan. The PIOJ negotiates with the various donor nations and organizations and signs agreements for supplies of commodities. It sets the amounts of each commodity needed and the respective amounts to be monetized through sales to the private sector. All foods are monetized for sale to the private sector with the exception of very small amounts of Title 416 commodities. The PIOJ also monitors the programs and sends periodic reports to the donors, based on the quarterly reports received from the various ministries who are implementing the programs.
However, the Food Stamp Program is relatively new and is not yet being monitored by the PIOJ.

The actual logistics of procurement of commodities and scheduling of shipments are carried out by the Jamaica Commodities Trading Company (JCTC). The Jamaican Embassy in Washington, D.C. maintains an agent who oversees the purchase of goods originating in the United States, which are procured through a tender process which is conducted in compliance with USDA regulations.

It is the JCTC that arranges for the sale of the commodities once they arrive in Jamaica. Most products are sold ex-ship or ex-wharf, since JCTC has only limited warehousing facilities. Corn and wheat are shipped directly to the mills and rice is sent directly to the distributors.

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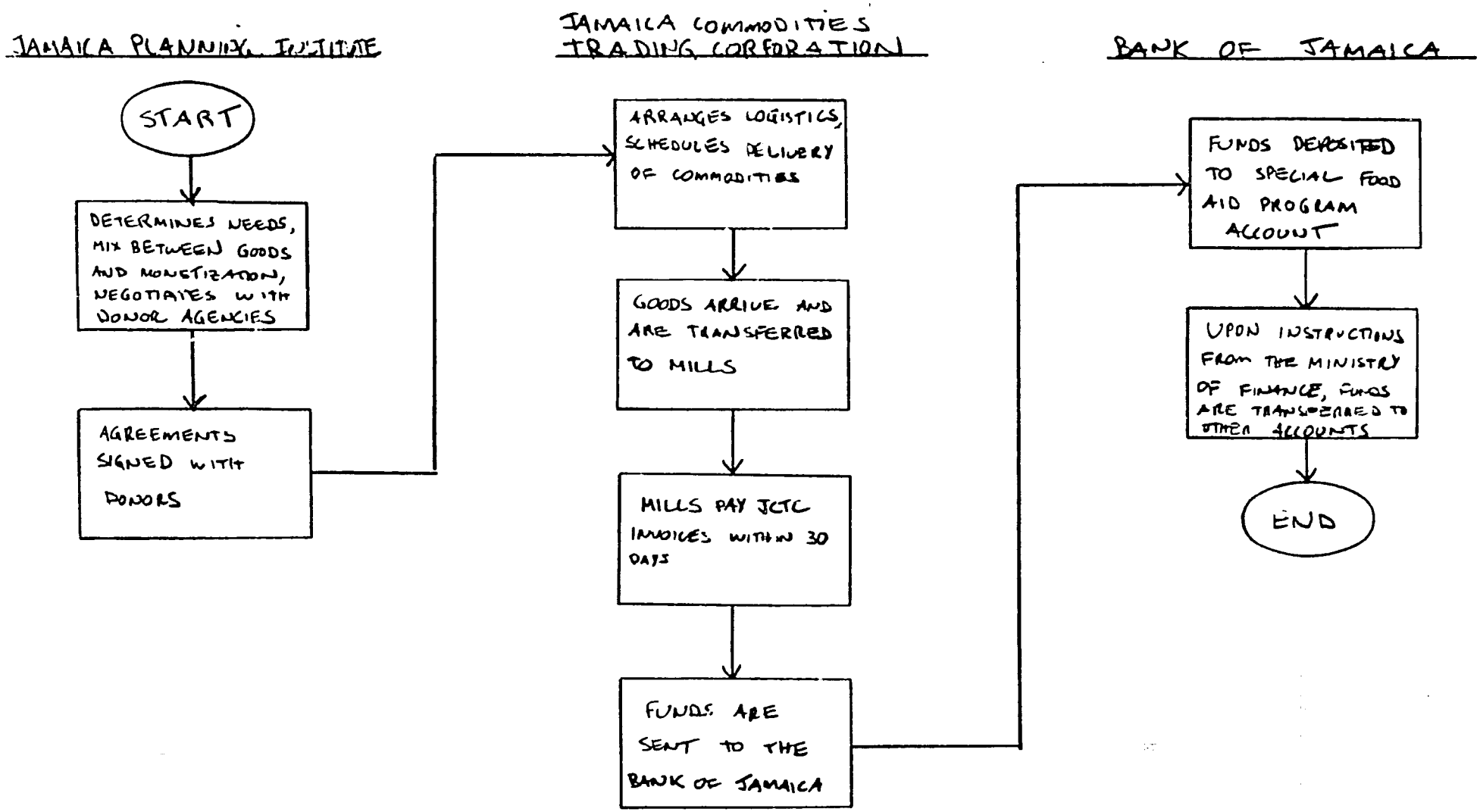
REVENUE CYCLE



The prices charged to the mills and distributors for the commodities are established by the Price Commission of the Ministry of Industry and Commerce. The mills and distributors are invoiced on net 30 day basis and the collection experience has been reported to be generally good. There is an incentive for compliance with the terms of payment, since deliquency could result in an interruption of the regular shipments upon which the mill depends.

The checks from the mills and distributors are collected by JCTC and deposited by the Accountant General into a separate food aid account at the Bank of Jamaica. The various ministries involved in the implementation of the Food Assistance Plan make expenditures which are paid by the Ministry of Finance, which in turn draws down the special food aid account at the Bank of Jamaica. The system therefore operates on a reimbursement basis. The amounts allocated to each project are established in the counterpart agreement. A budget was prepared during the design phase of the project, however it has not been revised and as it exists, is not a useful management tool since there is no detailed tracking system comparing actual monthly expenditues to budget. A monthly flow report is available, but it includes only actual amounts disbursed and does not take into consideration any amounts committed but not yet paid nor does it make any comparison against a monthly phased budget.

B. FOOD STAMP DISTRIBUTION CYCLE

The food stamps are printed on currency quality paper by a firm in the United Kingdom. The standard order quantity is 400,000 booklets of 10 - $2.00 stamps each. The most recent invoice covering a shipment of 400,000 booklets totaled £100,790. The stamps are either green or pink, depending on the type of commodities for which they may be exchanged*. The color of the stamp can be determined by its serial number. The food stamps are stored in a vault at the Bank of Jamaica in boxes containing 4,000 booklets each.

The Ministry of Social Security keeps small stocks of food stamps at Ministry headquarters in a locking fireproof cabinet. (Once the strong room is set up, it is anticipated that 15-20 boxes can be stored at the Ministry). When the Ministry observes that their stocks are running low, a letter of requisition is made up. It is addressed to the Bank of Jamaica and it designates the numbers of the boxes requested, the name of the person picking them up and the vehicle registration number. The letter must be signed by either the Permanent Secretary or the Director of the Food Stamp Program. Only certain persons are authorized to pick up food stamps. An official of the Bank of Jamaica obtains the stamps and signs the transfer

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* Both pink and green Food Stamps may now be exchanged for rice, cornmeal or dry skim milk.

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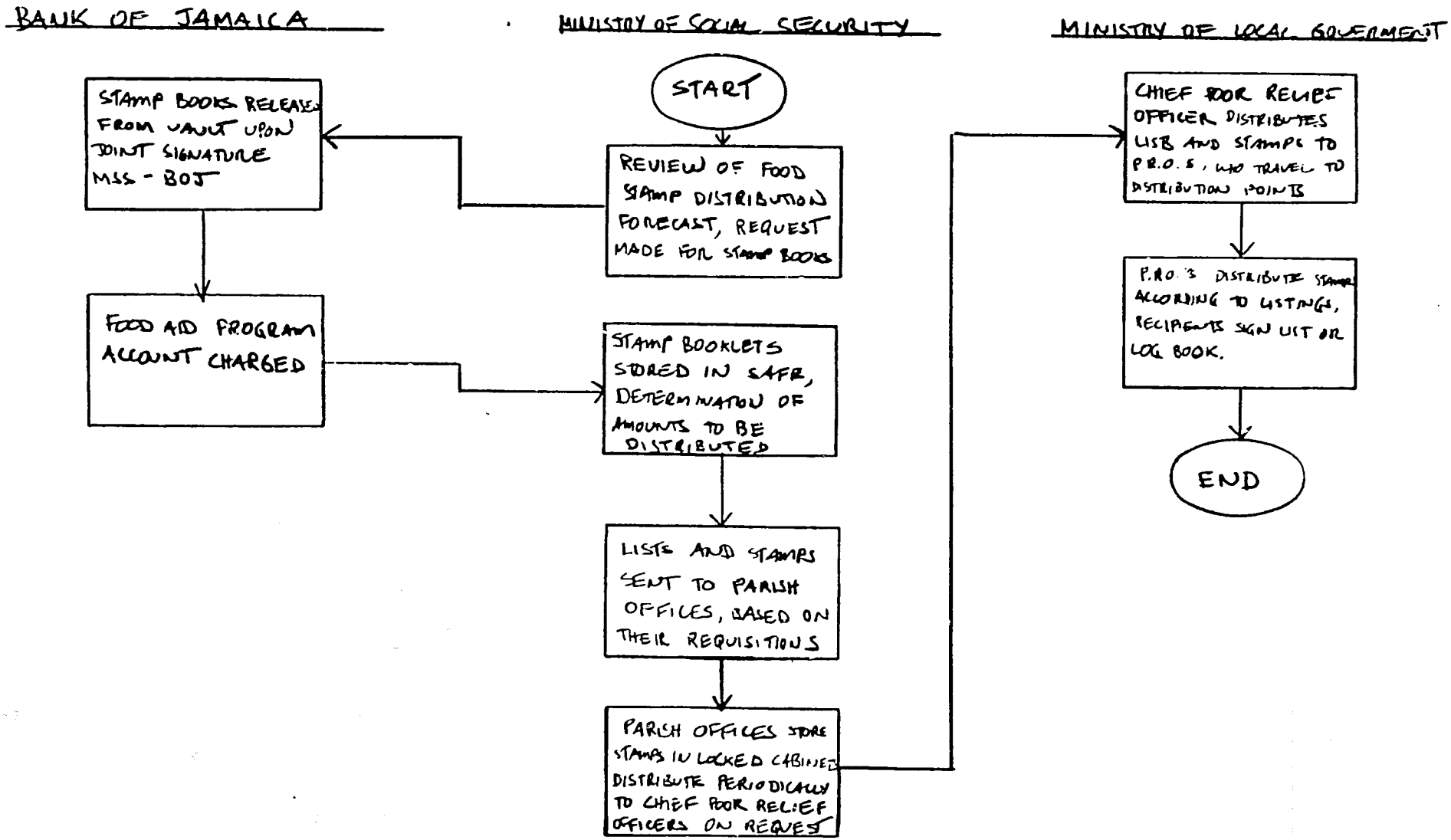
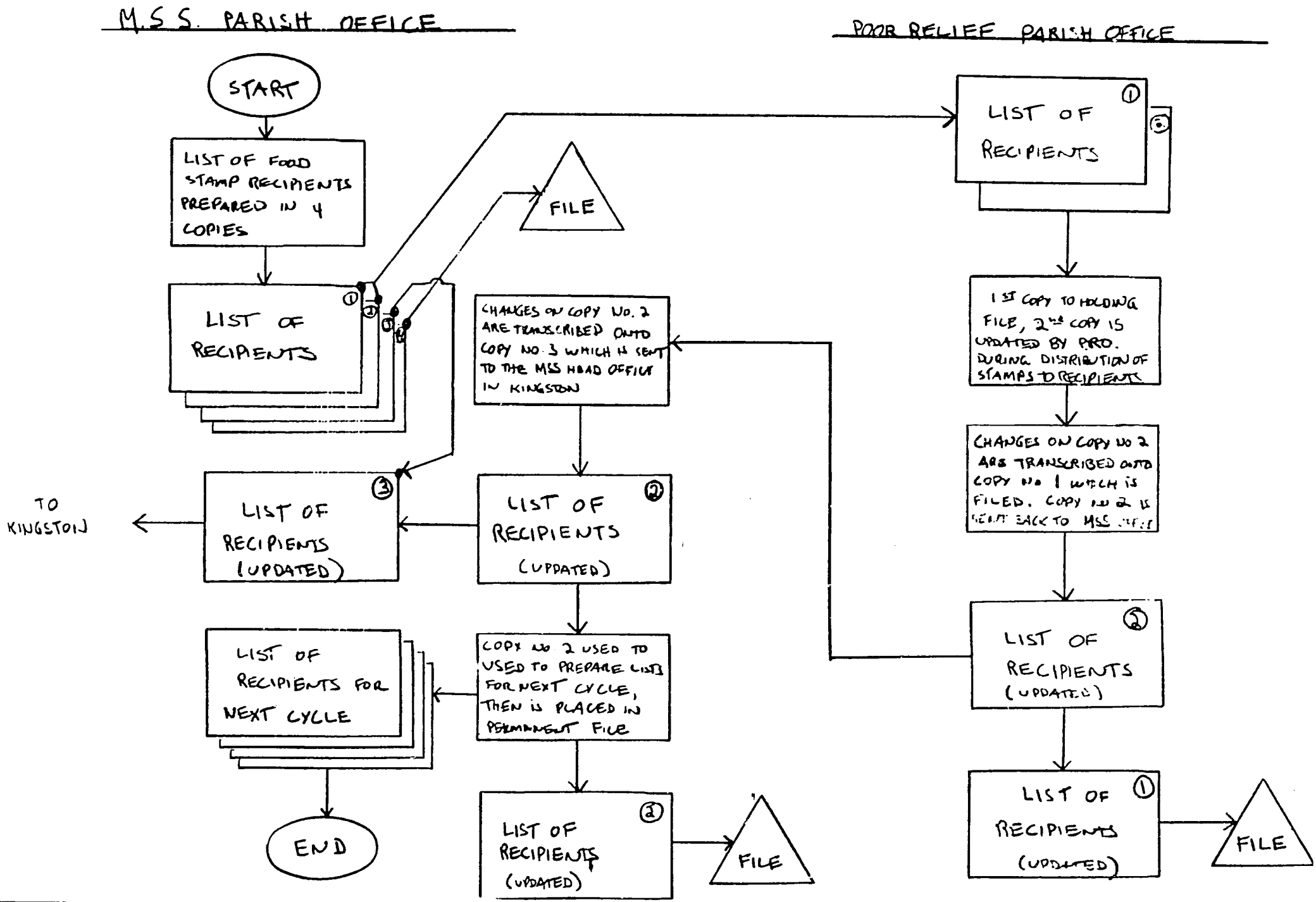
DISTRIBUTION CYCLE
(OVERVIEW)



DISTRIBUTION CYCLE
(DETAIL)



documents, along with the representative of the Ministry of Social Security who is picking them up. They are then transported to the Ministry of Social Security.

The Ministry of Social Security maintains control over the supply of stamps. The amounts to be transferred to parish offices are determined by the requests from Parish Chiefs which are based upon the listings of beneficiaries for each distribution cycle.

At the time of issuance, a transmittal document is filled out detailing the serial numbers of the stamps being sent. It is signed by the person issuing the stamps and the person responsible for their transportation. Upon arrival at the destination, this person signs again along with the Ministry of Social Security Parish manager, who accepts the stamps and keeps a copy of the transmittal document. The stamps are then placed in the fire proof cabinet.

It is the responsibility of the MSS Parish Chief to issue stamps to the Chief Poor Relief Officer in that parish. The quantity, again, is established based on the listing of beneficiaries for the forthcoming cycle. A document is prepared listing the number of books and their serial numbers and is signed by the Chief Poor Relief Officer and the MSS Parish Chief. The stamps are stored in locked cabinets at the Poor Relief Office.

Once the final listings of beneficiaries for the current cycle have been issued, each Poor Relief Officer picks up the list for the districts to be covered and the exact number of stamps required. The Poor Relief Officers sign for the stamps and the numbers assigned to them are entered in a log, by district. The Poor Relief Officers travel to the various pay points and distribute the stamps to the beneficiaries, who present their green registration card, which the Poor Relief Officer examines, making sure that the name and serial number match the list. The recipient then signs next to his or her name. In some cases, a separate log book is maintained and the beneficiary signs the log book instead. The Poor Relief Officer notes on the list the names of the people who did not present themselves to pick up their stamps. The Poor Relief Officer will keep those stamps in his or her possession and will make subsequent attempts to locate the recipients.

In the event that a person is unable to come to the pay point in person (due to illness, advanced age, transportation problems, etc.), a proxy system exists whereby another person may present a letter from the beneficiary along with the beneficiary's card. In general, the number of stamps that one person may pick up on behalf of others is restricted. However, cases of one person picking up stamps for 10 other people have been noted.

Once the stamps have been distributed, the Poor Relief Officer brings in the corrected lists to the Poor Relief Office. Additions, deletions and corrections are noted and transcribed to the PRO copy of the list, which also contains the names and numbers of the beneficiaries and the stamp numbers issued. A corrected list is sent to the Ministry of Social Security Parish Office where the changes

are again transcribed, this time to the MSS Parish Office copy. A corrected copy is sent to the Ministry Headquarters in Kingston. In some parishes, the MSS Parish Office prepares a consolidated master list for the entire parish, which includes all of the district lists and contains the names of all the beneficiaries, in alphabetical order. The corrected district lists become the basis for the preparation of the new lists for the subsequent cycle. The constant updating, consolidating, alphabetizing, transcribing and retyping of lists is a tedious, time-consuming effort which severely taxes the human and mechanical resources of the organization.

C. FOOD STAMP REDEMPTION CYCLE

The food stamp recipients buy food and the shopkeeper accepts the food stamps in lieu of cash. The shopkeeper has two options for redeeming the stamps. The first option is to present the stamps at a commercial bank. The shopkeeper presents a retail license and is able to exchange the stamps for cash. Since many rural shopkeepers do not have access to a bank, the second option is often preferred: Instead of cashing the stamps directly, the shopkeeper may use the food stamps to pay a wholesaler for goods purchased. There is no restriction as to the types of items a shopkeeper may buy from a wholesaler with food stamps. They are treated as cash. This arrangement is more advantageous to the small shopkeeper because the wholesalers often deliver the goods directly, eliminating a trip to the bank. This feature has probably been a positive factor in attracting shopkeepers to participate in the system.

The wholesaler cashes the stamps at a commercial bank much in the same way a shopkeeper might, except that they might be deposited to an account as opposed to being exchanged for cash.

The bank processes the food stamps along with other routine items such as cash and checks. The food stamps are broken out, counted and packaged in sealed bags. A listing accompanies the bags when they are sent to the Bank of Jamaica for credit.

The Bank of Jamaica accepts the packages of stamps, records the amounts and credits the commercial bank for the amounts indicated. The Bank of Jamaica accepts the bank's figures on faith and does not recount the stamps. The packages and listing are then sent to the Ministry of Social Security.

The Ministry of Social Security has a separate accounting office whose main responsibility is to count the stamps received from the Bank of Jamaica and prepare reports on registration of beneficiaries and issuance of stamps. The packages of stamps are opened and the stamps are placed into a counting machine. The amount displayed by the counting machine is compared to the amount listed by the commercial bank. Any discrepancies are noted and reported to the Bank of Jamaica wihin 5 working days. The stamps are then sent to a large table where they are sorted by hand and put back into numerical order. The purpose of this exercise is to account for all of the stamps issued. The stamps, which bear a stamp mark of the bank that processed them, are then batched up and filed at the Ministry of Social Security.

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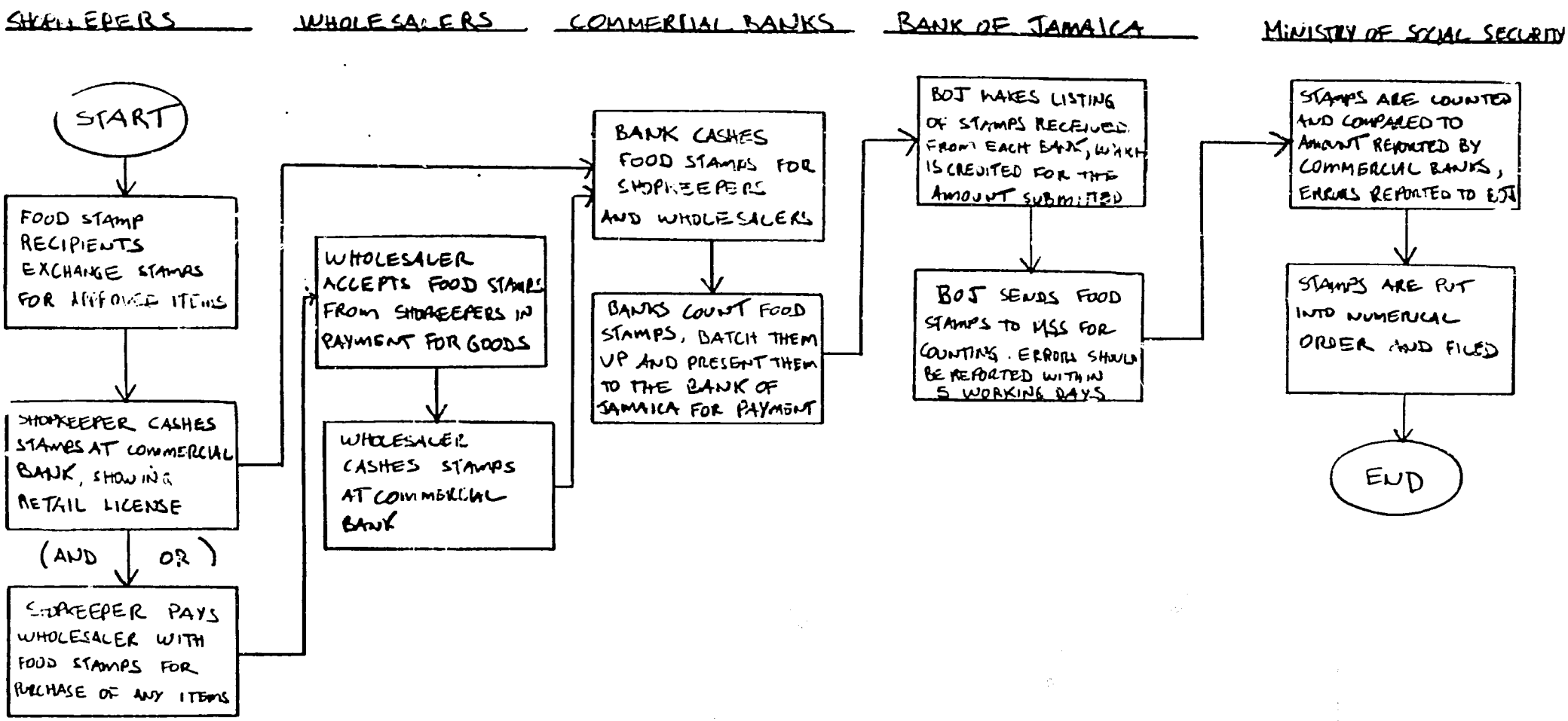
REDEMPTION CYCLE



III. RECOMMENDATIONS

A. REVENUE CYCLE

1. Problem: Budgeting and Forecasting

There is presently an inadequate level of coordination and information exchange between the organizations responsible for the planning and implementation of the Food Stamp Program financing mechanism. The Ministry of Social Security incurs the largest share of program expenses as a result of its control over the issuance of Food Stamps. In addition, it carries the largest overhead in the form of the salaries and expenses it pays to its officials and staff. The top management officers have the authority to control these expenditures, but lack any detailed information about the level and timing of financial support for the program. Since they operate on a variable monthly authorization to overspend their warrant, it is difficult for the Ministry of establish and adhere to a fixed long-term spending plan. This deprives them of the ability to weigh different alternatives in the light of given financial constraints and forces them to operate in a state of perpetual insecurity.

Recommendation:

All parties involved in the financing of the Food Stamp Program should meet to establish a plan which would establish a sound financial planning and budgeting mechanism. The following should be considered : a) a detailed monthly operating budget; b) a revenues budget and forecasting system; c) a commitments register.

The meeting should include the Planning Institute of Jamaica, the Jamaica Commodity Trading Company, the Ministry of Social Security and the Ministry of Finance. The meeting should delegate responsibility for accomplishing the following tasks:

a) The creation of detailed monthly operating expense budget that considers all fixed and variable cost components of the Food Stamp Program. It should take into account the forthcoming inclusion of the Poor Relief Officers into the Ministry of Social Security and should estimate both the savings realized from the consolidation of facilities as well as the additional costs associated with salary and benefits equalization. The budget should reflect estimated stamp issuance levels and the incremental costs in increasing the participation level to the authorized limits. The additional costs might take the form of higher travel budgets for field officers, more paper and supplies (including the stamps themselves) and new personnel for stamp distribution. The budget should be calendarized for the twelve month fiscal year 1985-86. The subsequent two years should be projected on a quarterly basis. The two main participants in this exercise should be the Planning Institute of Jamaica and the Ministry of Social Security. Input from members at the implementation level of the latter organization should be included to insure that realistic and obtainable objectives are

established. The budget should attempt to strike a satisfactory balance between maintaining acceptable service levels to food stamp recipients and adherence to strict cost containment policies.

b) The establishment of a revenues budgeting and forecasting system. The Planning Institute of Jamaica should work together with USAID and the Jamaica Commodity Trading Company to set up a detailed schedule of anticipated revenues from the various funding sources which are earmarked specifically for the Food Stamp Program. The forecast should be a dynamic system that is updated monthly and the results should be forwarded to all concerned parties, especially the Ministry of Social Security. As the fiscal year progresses, actual monthly revenue figures should replace the budgeted amounts and the remaining monthly figures should be adjusted to reflect changes in the level and timing of future revenues. The revenue should be split into two different categories: first, those revenues which are certain to materialize e.g. commodities with scheduled shipping and arrival dates and secondly, revenues which are somewhat less uncertain. For example, an offer of aid from a foreign government which is being negotiated but for which no contract has been signed. Over time, it should be possible to chart a historical ratio between these two numbers, which would give an indication of the financial solvency of the Food Stamp Program.

c) A Food Stamp Program Commitments Register should be designed detailing the funds available to the program at the Bank of Jamaica and the outstanding commitments against those funds, e.g. Food Stamps in circulation and outstanding purchase orders to suppliers. The information for the reports would be furnished by both the Ministry of Social Security and the Ministry of Finance. The commitments register would contain a column for each budget line item which would start out with the original budgeted amount for each category. As commitments of funds are made, (e.g., purchase orders, payroll registers, etc.) the amounts are subtracted from the available budget. When invoices and salaries are paid, the original encumbrance is reviewed and any necessary adjustments are made at that time. This register is analogous to the Votes Book that is currently used at the Ministry of Social Security, except that it contains more detail on the budget categories. For example, category 07, "Other Operating and Maintenance Services" would have to be broken out into its major components, such as Food Stamp printing costs. Similar detail should be reflected for all other costs that are of a controllable nature. Another difference between the commitments register and the Votes Book is the flexibility to make reallocations between budget categories on a regular basis. The need for transfers from one budget category to another would be determined by the monthly updates to the year-end forecast, i.e. the monthly exercise that is performed to estimate the total costs that the program will incur by the end of the fiscal year.

2. Problem: Program Financial Support

The original revenue projections for the Food Aid Program prepared by the Planning Institute of Jamaica in October 1984 estimated total revenues for fiscal year 1985/86 at approximately $57 million U.S. dollars. This amount was made up of the following components:

Monetized Commodities:	(Millions) US$	J$ @ 4.5 Rate
PL 480 Title I	4.0	18.0
Section 416	2.0	9.0
Italian Rice	5.0	22.5
Sub-Total	11.0	49.5
Plus:		
School Feeding Sales		7.5
Total Estimated Revenue 1985/86		57.0

At that time, J$57,000,000 was sufficient to cover the estimated 1985/86 fiscal year expenses of J$55,000,000. However, several of the components have failed to materialize, driving the program into a serious deficitary position.

The most serious shortfall was caused by the reduction in rice to be supplied by the Italian Government. It is anticipated that the amount actually delivered will only be about 20% of the original agreement. Secondly, the United States Government (U.S. Department of Agriculture) has indicated that the monetization of Section 416 commodities is not permitted by law. Historical collection experience, coupled with a growth rate that was somewhat slower than anticipated, suggests that the expected revenues from the school feeding sales were unrealistic. The present situation is as follows:

	(Millions) US$	J$ @ 6.0 Rate
PL 480 Title I	4.0	24.0
Italian Rice	1.0	6.0
Total Estimated Revenue 1985/86	5.0	30.0

This level of funding is clearly insufficient to support the program, especially when the expense carry forward of approximately J$12,000,000 from fiscal year 1984/85 is considered. The shortfall will be offset somewhat by the deterioration of the exchange rate which will produce more Jamaican dollars than originally anticipated and also by the fact that the limit of 400,000 beneficiaries has not yet been attained.

Recommendation:

The Ministry of Social Security must coordinate with other Government organizations and identify the sources of funding needed to maintain program liquidity.

B. DISTRIBUTION CYCLE

1. Problem: The Manual System

The current manual system is extremely cumbersome to maintain and consumes valuable staff time at both the head office and the district offices. This time could be put to other uses that are far more productive in maintaining the system and performing other important tasks that are currently being neglected as typists, clerks and administrators scramble to feed the paper blizzard that has been created by the rapid growth of the program. The systems that were originally conceived at the inception of the program were entirely adequate to manage the relatively small volume of activity that the district offices experienced initially. However, in a matter of months, the program quickly expanded to include well in excess of 200,000 beneficiaries. This growth in the amount of data processed has rapidly outstripped the ability of the system to deal with it and backlogs have been created. Only through the tenacity and dedication of the staffs has the system managed to endure to the present. When the full 400,000 beneficiaries come on stream, the system will without doubt break down. This will have serious consequences for the government and the beneficiaries alike, since the program will lose credibility that will not easily be recovered.

A preliminary study has been made by the Ministry of Social Security in conjunction with the government computer center to set up a program to keep track of the food stamp beneficiaries. However, when the sheer volume of data to be processed is considered, it is highly unlikely that the computer center will be able to cope with the additional work load, which may well exceed the effort required to produce the entire government payroll.

At first glance, it is easy to overlook the logistical consequences of producing multiple sorted lists of 400,000 beneficiaries. If the current system were transferred to computer with all of the characteristics presently deemed desirable, the printout produced every two months would be over 10 miles long and would require 2 1/2 acres of paper. On an average speed printer, it would take more than three weeks of uninterrupted printing. This had been anticipated to some degree in the original planning phase.

Clearly, something must be done to reduce the volume of information circulating between Kingston and the parishes. The new system must provide for an acceptable level of internal control while at the same time furnish all of the information required by field officers to deliver timely services to the beneficiaries. Paper flow must be kept to an absolute minimum.

The reason that the system has become unmanageable is that the safeguards and internal controls that were originally built in to protect the program's assets have now in fact become the principal bottleneck that inhibits the system's proper functioning. The constant manual transcription of information from one list to another and the consolidation and re-alphabetization of beneficiaries at the parish level has become the main administrative task performed by the staff. Coupled with the weekly activity reports and consolidated lists sent periodically to the head office in Kingston, the staff is confronted with a continuous task of Herculean proportions. This has had negative effects on staff productivity and morale. Parish staffs are requesting more typewriters and photocopying machines so that they can keep up the information flow. The system is rapidly approaching the day of paper gridlock.

Recommendation

The new system should be computerized at the Ministry of Social Security head office in Kingston.

As noted earlier, the central Government computer center would in all probability find it difficult to deal with the additional burden of 400,000 names to be processed on a bi-monthly basis. In addition, the deadline constraints imposed by the Food Stamp Program are more restrictive than those of a routine statistical report. The Food Stamp beneficiary lists must be prepared and delivered in accordance with a predetermined schedule, since beneficiaries will have been notified in advance about the date on which they may present themselves to collect their Food Stamp booklets. In this sense, the beneficiary lists take on many of the attributes of a payroll. For this reason, it is recommended that the computer processing be carried out in-house, so as to maximize the degree of control that the Ministry of Social Security may exercise over the system. The detailed structure of the proposed system follows.

SYSTEM OVERVIEW

The names of all beneficiaries in the country will be entered on a master list on the computer which could be broken down into district lists using the code contained in the registration numbers. In some cases, the district lists would be subdivided when two or more field officers covered pay points in the same district or made separate distribution trips to pay points within the same district. The entire nationwide program would require some 130 lists with a rough average of 3,000 names each.

New applications approved by the Parish Committees will be entered into the master lists or in the respective queue, if there is a waiting list for that particular district. The new names would be checked for duplications before inclusion on the lists. The stamp issuance dates will be staggered by district to provide for a continuous work flow at the Ministry of Social Security Head Office. A single list will be prepared bimonthly for each district and would be sent to the field along with the exact number of stamps required. The computer will record all activity during the month and produce a periodic statistical report.

REGISTRATION PROCESS

For the purposes of financial management, the first significant event occurs when an application for Food Stamps receives its final approval by the parish committee. At this point, the applicant's name must be entered into the system so that he or she will appear on the next bi-monthly list for stamp distribution in that particular district. If the district has already reached its ceiling and cannot accept any more recipients, then provisions must be made to place those persons on a waiting list, which must be equitable on both a local and national basis. The system must also provide for tests against duplicate and/or multiple registrations at both the district and parish levels. It must also automatically terminate individuals who cease to qualify for benefits.

ADD SHEETS

Once the person in charge of registration has obtained final approval from the parish committee, the information on the registration document is transcribed onto the ADD SHEET which is the basis for entering the new applicant's name onto the active beneficiaries list. The information contained on the ADD SHEET consists of two parts. The first part, which contains the name, address and age as well as maiden name and spouse's name is essential to the processing of the application and must not be omitted, otherwise the tests for duplication cannot be performed. The additional information requested is not mandatory, but will help provide the Ministry with important data about the composition of the group it serves.

The ADD SHEETS are batched up at the parish level and forwarded to the Ministry of Social Security head office in Kingston on a regular basis. In Kingston they are entered into the computer, which immediately adds them to the Active List to be used for the next distribution in that particular district. A symbol is placed next to the new names to indicate that they are new additions. This is the Poor Relief Officer's check that all names submitted on the ADD SHEET were input to the computer. The computer automatically performs a search for other active beneficiaries with the same name, and/or address. If the computer does in fact encounter a potential duplication, it does not delete either name from the list. Instead, along with the normal Active List, the computer will generate a List of Potential Duplications in multiple copies. This list will be sent to the Poor Relief Officers in each district along with their regular Active Lists. They will investigate the beneficiaries concerned and

if a duplication is revealed, they will agree among themselves as to which name to delete. The Chief Poor Relief Officer and the MSS Parish Chief will participate in the decision and authorize the deletion, if necessary. In the case that more than one parish is involved, then the Chief Poor Relief Officer and the MSS Parish Chief will negotiate with their counterparts in other parishes.

REGULAR ONGOING ACTIVITIES

The three main documents which affect the data base of Food Stamp recipients on a regular basis are the ADD SHEET, the DELETE SHEET and the UPDATE SHEET. The ADD SHEET has already been discussed in the previous section. Its main purpose is to record new beneficiaries who are being entered into the system as a result of the registration process. It might also be used to reinstate a beneficiary who has been incorrectly deleted, though the controls over the deletion process should preclude this sort of error.

The DELETE SHEET is the document used to manually terminate the benefits of an individual who has ceased to be eligible for the program. Infants under the age of three would be terminated automatically by the computer as soon as they reach their third birthday. Others, however, will have to be removed manually, as investigations by Poor Relief Officers reveal information that is evidence of non-qualification, e.g. duplicate registration, death, etc.

The Poor Relief Officers send in the DELETE SHEETS for their districts to the Ministry Head Office on a regular basis. The computer operator enters the beneficiary's registration number and calls that particular record to the screen. The name on the screen is compared to the name on the DELETE SHEET to make sure that the correct person is being deleted. If the names do not match, the name is not deleted. It remains on the active list, but is flagged with a special symbol that alerts the Poor Relief Officer that a deletion was requested, but not performed.

After deleting the recipients, the computer places them in a deletion file. When the new district lists are run, a Deletion Report is produced at the same time. It is sent to each district concerned as a confirmation to the Poor Relief Officer that the deletions requested were in fact performed. The deletion process allows the addition of new names to the Active List in those districts that have reached their maximum allocated number of beneficiaries.

The QUEUE is an active file of names of eligible persons who have been approved for participation in the program and have entered the system through the ADD SHEET process, but who must wait because the district is currently serving the total number of persons authorized by the Head Office. At the end of each month, the computer will produce the QUEUE REPORT which is a list of all of the districts, their number of approved beneficiaries, the number of persons waiting in the queue and an estimate of the average waiting time, based on historical turnover experience. This information could be

used by the Head Office to perform the most efficient allocation of spaces to each district, i.e. attempt to equalize the waiting time across all districts.

The UPDATE SHEET is used to correct errors in the permanent records. These could be due to incorrect entries by computer personnel, such as misspelled names or wrong birthdates. More typically, the UPDATE SHEET might be used to enter the new addresses of persons who have moved or to change the criteria under which the person qualified. It is the tool used by Poor Relief Officers and Head Office personnel alike to maintain the files and keep them free of errors. As in the case of deletions, an UPDATE REPORT is issued at month end, detailing all changes made to names and other data, by district.

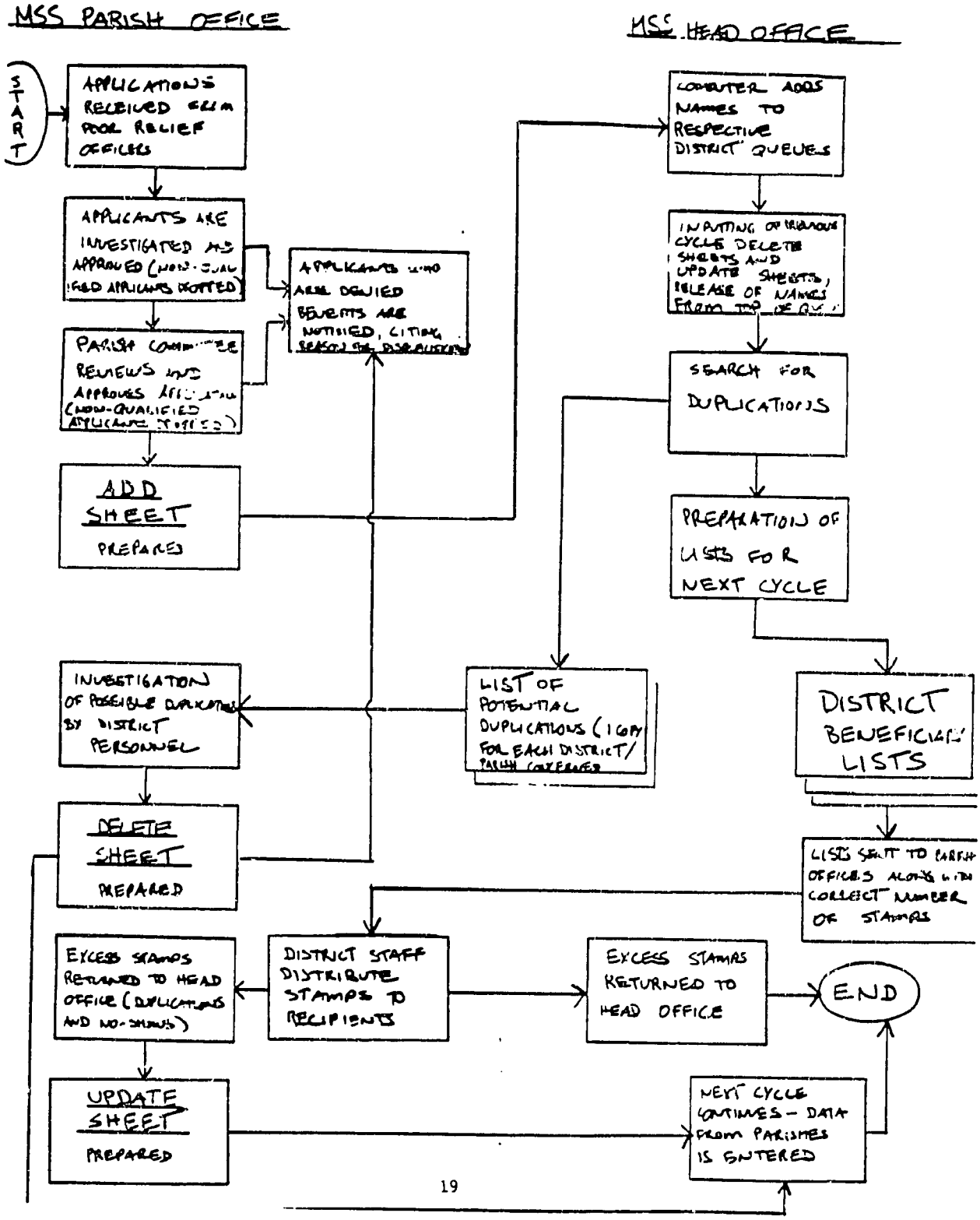
A Jamaican computer consulting firm, Interface Consultants Limited, was asked to prepare a preliminary study on the computer hardware and software requirements for mechanization of the system. Their study is included as Appendix II.

The consultants compared two computer systems on the basis of power, speed and cost. Both IBM and NCR have local support and service capabilities. The large volume of data to be processed and stored suggests that the IBM PC/AT would be pushed to the limit of its capacity. It appears that the NCR NGEN is the most logical choice, especially in light of its expansion capabilities. Once the Food Stamp Program is mechanized and functioning properly, the Ministry of Social Security could consider computerizing other areas, such as payroll and statistics. Interface Consultants have available their own payroll program which is tailored to the Jamaican system. If the Ministry does in fact wish to look into other applications, then these should be taken into consideration at the time the next detailed computerization study is commissioned. In-house, distributed processing is clearly the way of the future. It is the opinion of many computer professionals in the United States that the large centralized mainframe system, such as the one presently used by the Government of Jamaica, will not see out the end of this decade. This is due mainly to its high cost of operation and the inherent inefficiency of batch processing.

According to the consultants, the minimal system that would be required to process all of the Food Stamp Program lists and reports is as follows:

		FOB COST
1.	NCR NGEN Master, 1 MB Memory, 84 MB Disk	US$20,000
2.	NCR 6442 Printers, 125 lines per minute	6,400
3.	Operating Systems CTOS O/S, MS-DOS, ISAM	1,000
4.	PC/FOCUS Data Base Software	1,600
5.	Programming Costs	5,000
	TOTAL	US$34,000

REGISTRATION PROCESS



ADD SHEET

PARISH : NUMBER ☐☐ NAME : _____

DISTRICT : NUMBER ☐☐☐ NAME : _____

DATE : ☐☐☐☐☐☐

FIRST NAME ☐☐☐☐☐☐☐☐☐☐

LAST NAME ☐☐☐☐☐☐☐☐☐☐☐☐☐☐

ADDRESS ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

BIRTHDATE ☐☐☐☐☐☐

MARITAL STATUS ☐

MAIDEN NAME ☐☐☐☐☐☐☐☐☐☐☐☐☐☐

SPOUSE'S NAME ☐☐☐☐☐☐☐☐☐☐

NUMBER OF PERSONS IN HOUSEHOLD ☐☐

NUMBER OF DEPENDENTS ☐☐

NUMBER IN SCHOOL ☐☐

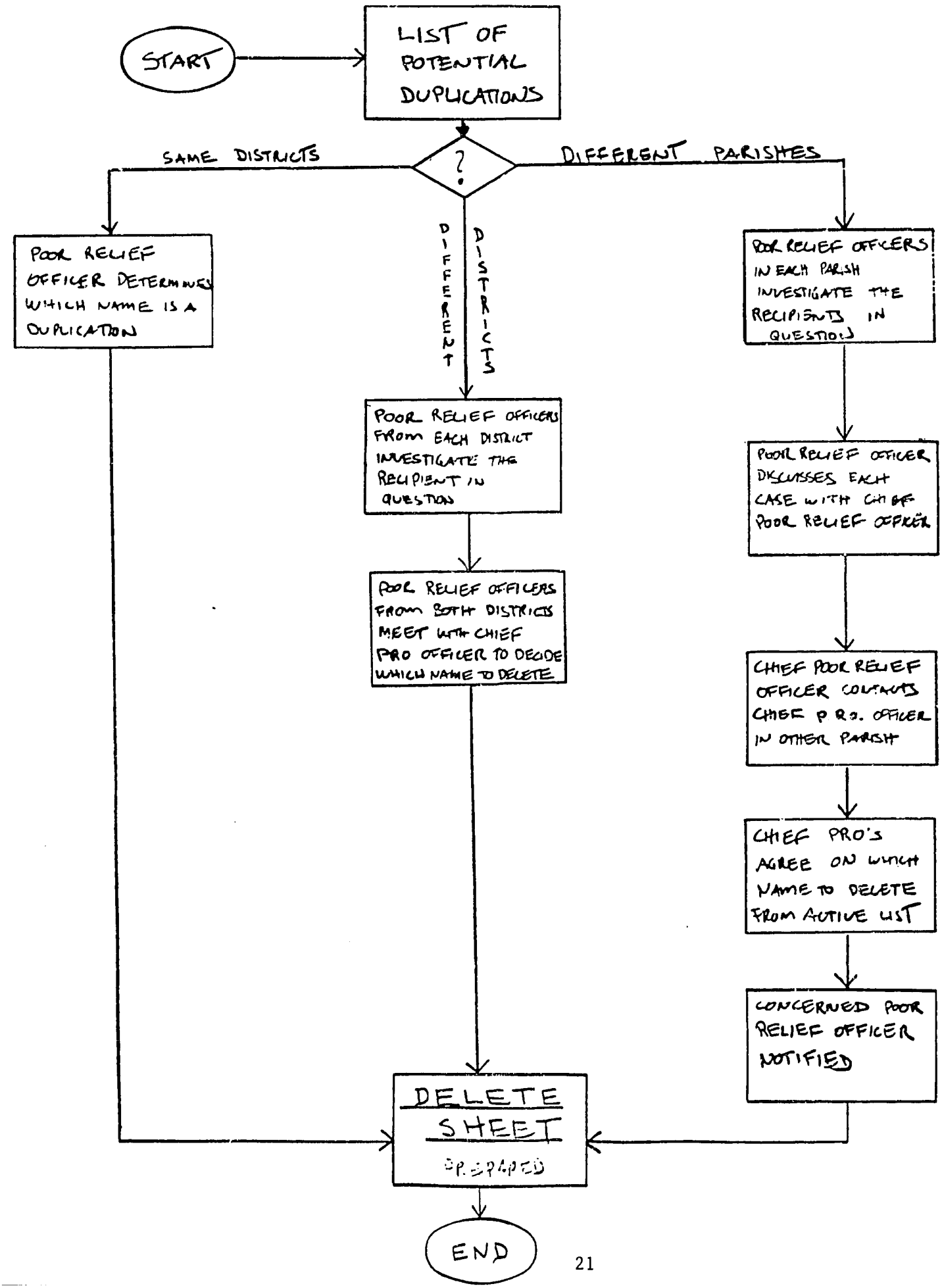
REGISTRATION NUMBER ☐☐-☐☐☐-☐☐☐☐☐

PREPARED BY : _____

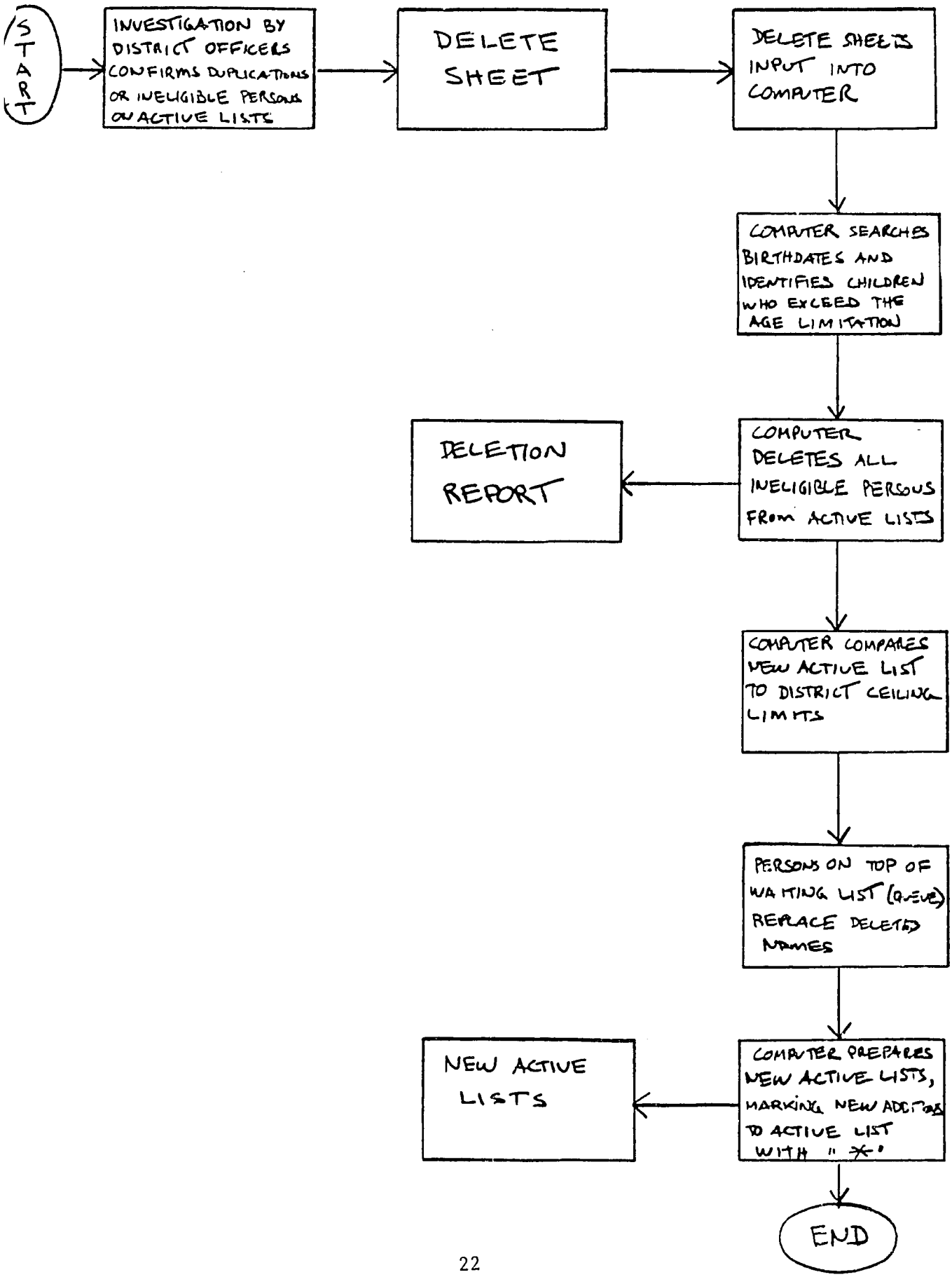
RECEIVED BY : _____ DATE : __/__/__

INPUT BY : _____ DATE : __/__/__

PROCEDURE FOR CORRECTING DOUBLE/MULTIPLE REGISTRANTS



DELETION PROCESS



DELETE SHEET

PARISH : NUMBER ☐☐ NAME : _____

DISTRICT : NUMBER ☐☐☐ NAME : _____

DATE : ☐☐☐☐☐☐

REGISTRATION NUMBER	NAME OF BENEFICIARY	REASON FOR DELETION / COMMENT
☐☐ - ☐☐☐ - ☐☐☐☐☐		☐
☐☐ - ☐☐☐ - ☐☐☐☐☐		☐
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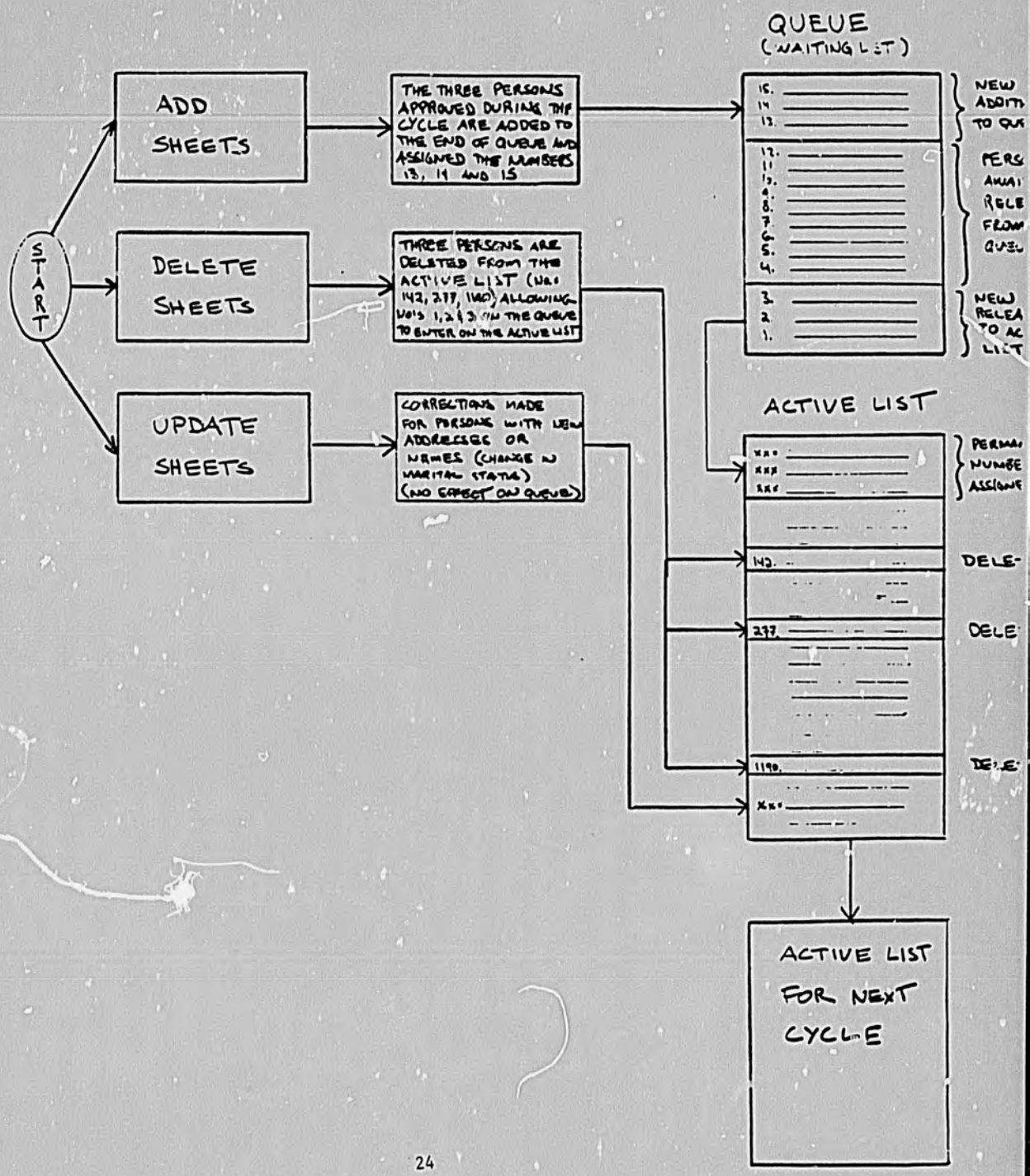
REASON FOR DELETION :

1. DUPLICATE / MULTIPLE REGISTRATION
2. RECIPIENT DECEASED
3. RECIPIENT FAILS TO MEET ELIGIBILITY CRITERIA

SUMMARY OF HEAD OFFICE CYCLE



These costs are rough estimates only. A more detailed cost breadkown will have to be prepared in the future.

In evaluating the cost-effectiveness of the new computer system, alternative costs must be taken into account. While the computer system may be considered a discretionary item, if it is not implemented the Ministry of Social Security will certainly incur additional expenses as overworked typewriters and dupicipating machines succumb to various mechanical problems resulting from their continuous operation.

2. Problem: Higglers

It has been suggested that it would be desirable to expand the food stamp system to integrate higglers (market vendors) into the program. The argument supporting this proposal is based on the long-term need for Jamaica to encourage the local production of food and reduce the dependency on expensive imported commodities. In addition, involving higglers in the system would create a larger number of distribution points which would make the access to food easier for those target recipients who are unable to get around due to physical infirmity and also for those who live in remote areas and have no means of transportation. Higglers also sell commodities in small quantities, unlike larger retailers and may have local produce that is not available at shops.

When this suggestion was presented to GOJ officials with roles in the various areas of implementation of the food stamp program, the response was overwhelmingly negative. The principal arguments against allowing higglers into the system are:

- The recipients already have access to local produce. Food items such as yams, sweet potatoes, bananas and even chickens are often provided by relatives. Allowing food stamps to be used for these items could undermine this system. Furthermore, it could encourage praedial larceny as people search for items with which to barter.

- The caloric value of local produce is inferior. The program allows the recipients to buy scarce commodities of high nutritional value which ordinarily would not be affordable to them. In the absence of the Food Stamp Program, the small shopkeepers would not even carry these items due to the low demand for them.

- Higglers are more expensive. It has been demonstrated that they are aware of shortages before they occur and will purchase existing supplies to be resold later at a high price when demand increases.

- Higglers are more likely to abuse the system. Higglers are shrewd, and being itinerant, are hard to control. They could easily become agents for the laundering of illegally-obtained stamps.

Recommendation

Higglers should not be included in the system at this time.

However, if at some time in the future, the decision is made to bring higglers into the system, this can be accomplished with a minimal amount of modification to the existing system. It must be recognized that there is some element of risk associated with their inclusion and that must be weighted in light of the perceived benefits of their participation. Due to the itinerant nature of the higglers, it is highly unlikely that a workable control system could be imposed on them because:

- Requiring a retail license would not be an effective control since the higglers would simply avoid banks and take their stamps to wholesalers, making the transaction difficult to trace.

- Placing a maximum on the amount of stamps that can be cashed by a higgler would be ineffective for the same reason cited above. Clearly, wholesalers do not see themselves as enforcers of Social Security regulations and it would not be right to burden them with the responsibility of keeping higglers in line. On the contrary it is desirable to make things as easy as possible for wholesalers to encourage their participation in the system.

- Attempting to confine a higgler to a fixed place of business would be impossible to enforce, since higglers frequently move their activities to wherever they can make a profit.

The activity of the higglers is best monitored by district officials at the local level. A system of informal checks could be set up whereby the Poor Relief Officer obtains information from recipients and merchants regarding the behavior of the higgler in each community. Perhaps, in this manner, improprieties committed by a higgler might eventually surface and be reported.

3. Problem: Head Office Accounting Records

The ledgers and subledgers maintained by the Accounting Department at the Ministry of Social Security accumulate all expenses for the Food Security Program globally. This makes it difficult to break out the individual costs of the Food Stamp Program and the School Feeding Program. The accounts must be analyzed in order to identify the cost components of each program, which differ vastly from each other in the nature, timing and magnitude of expense.

Recommendation

The Ministry of Social Security should open separate ledgers and subledgers for the Food Stamp Program and the School Feeding Program.

Expenses that can clearly be identified with these projects should be recorded in their respective ledgers. These ledgers will then be the basis for the monthly operational statements prepared by the ministry using its own information and information supplied by other organizations.

4. Problem: Financial Reporting

At present, there is not a sufficiently detailed, timely, monthly financial report that shows revenues and expenses for the Food Stamp Program.

Recommendation

The Ministry of Social Security should create a detailed monthly report that shows both revenues and expenses for the Food Stamp Program and compares them to budget and prior year actuals.

The report should be divided into two sections. The first section should show the revenue and expense figures for the current month and compare the numbers to the budget for the month and also to the same month last year. Two additional columns should be provided to express this comparison in terms of percentages. The second part of the report would be designed exactly as the first, except that all figures would show the year-to-date results instead of the month alone. This report differs from the one currently being produced in several important respects. More than a simple information medium, it is a management tool. It compares current results to established benchmarks and allows the program decisionmakers to take corrective action as soon as problems are identified. It also watches revenues and expenses, so that cost-control measures can be implemented and trade-offs between various expenditure options can be evaluated. The report should be accompanied by a short narrative that explains all of the major variances against budget and prior year figures.

C. REDEMPTION CYCLE

The redemption system is largely self-managing and does not merit any externally imposed controls until such time as the stamps actually reach the Ministry of Social Security. It is assumed that shopkeepers and wholesalers will act promptly in their own interest and present the stamps to commercial banks without major delay. It is further assumed that commercial banks will honor all stamps presented by merchants and batch them up promptly for transmittal to the Bank of Jamaica, who in turn passes them on to the Ministry of Social Security. There is no evidence to suggest that this system is not working as it should.

1. Problem: Stamp Reconciliation

The Ministry of Social Security currently performs an exhaustive reconciliation of all Food Stamps issued and redeemed. When the stamps are returned by the Bank of Jamaica, they are counted to verify the original count performed by the commercial banks. After that, they are placed in numerical order and filed. At present, the stamps are piling up at unprecedented rates, outstripping the staff's capabilities to process them. This sort of reconciliation could be justified for a much smaller volume of items with higher unit values. However, it is impossible to continue to individually reconcile 400,000 stamps worth two Jamaican dollars each using a manual system.

Recommendation

The manual reconciliation should be discontinued. Instead, the Ministry should prepare a weekly report of stamps redeemed compared to stamps issued.

This report should include the week's inflows and outflows of stamps and also the same information accumulated year to date. The weekly ratio of stamps coming in to stamps going out will give a good indication of the flow and is frequent enough to catch problems before they get seriously out of control. Once the target population service levels are achieved, it would be expected that the ratio would approximate 1:1. Until equilibrium is reached, the issue rate will exceed the redemption rate. When the redemption rate is greater, special attention should be focused on the source of the increased volume. This can be done by keeping a historical record of stamp volume by bank. Thus, the bank responsible for the sudden change in volume can be identified. This could be the first symptom of the circulation of counterfeit stamps. As the volume increases, it will be necessary to acquire at least 5 more counting machines so that more people can count at peak periods.

There is no practical way that the Ministry can manually reconcile the redeemed stamps to their original issue sequences. In the future, however, it may be possible to consider the possibility of printing stamp serial numbers with magnetic ink much in the same fashion that checks are printed in the United States. The computer peripheral devices used to read the magnetic number are not prohibitively expensive and have relatively low error rates. The cost of adding the magnetic numbers must be taken into account, but this may well be offset by the savings realized from replacing the current supplier of stamps with lower cost sources in the United States. Preliminary conversations with personnel at the U.S. Department of Agriculture have suggested that the American Bank Note Company and U.S Bank Note Company can deliver stamps at less than half of the present cost of J$680,000 per 400,000 books. Appendix I lists addresses and names of contact persons of three United States firms that print food stamps and/or currency.

APPENDIX I

ALTERNATE SOURCES OF SUPPLY FOR PRINTING OF FOOD STAMPS

The following are the addresses and the names of contact persons at three companies in the United States that print food stamps or currency. The Ministry of Social Security should contact them and send them food stamp facsimiles and estimated order quantities so that they can prepare quotes. It is anticipated that the Government of Jamaica will realize significant savings over their present supplier. These firms may also be able to print the stamp serial numbers using magnetic coded information which can be read by machine, although this may increase the cost considerably.

American Bank Note Company
70 Broad Street
New York, N.Y. 10004

Contact: Sal D'Amato
Tel. (212) 425-5100

United States Bank Note Company
345 Hudson Street
New York, N.Y. 10014

Contact: Bob Christopherson
Tel. (212) 741-8500

Jeffries Bank Note Company
1330 West Pico Boulevard
Los Angeles, CA 90015

Contact: Bob Wilcox
Tel. (213) 742-8888

APPENDIX II

PRELIMINARY STUDY FOR:		U.S.A.I.D. 2 OXFORD ROAD KINGSTON 5.
DATE	:	29th MARCH, 1985.
FROM	:	INTERFACE CONSULTANTS LIMITED 15 CALEDONIA AVENUE KINGSTON 5. TELEPHONE: 92840

C O N T E N T S

1.0 OVERVIEW

2.0 POSSIBLE APPROACHES

3.0 ESTIMATE OF HARDWARE COSTS

4.0 ESTIMATE OF SOFTWARE COSTS

5.0 SUMMARY

1.0 OVERVIEW

The Government of Jamaica has implemented a food stamp programme which involves some 400,000 persons islandwide.

Food stamps are distributed to these persons every two (2) months through 140 distribution points. This distribution is staggered so that the process is continuous throughout the year.

The United States Agency for International Development is assisting the Jamaican Government in setting up proper monitoring and administrative systems for the efficient implementation of this food stamp programmme.

The present system is manual and, due to the large number of records to be manipulated and the high volume of transactions, has many obvious defects.

The consultants(s) working directly on the project feel that the system needs to be computerized in order for it to function properly.

While it would be desirable to utilize a fairly large computer system, the initial financial constraints dictate a multi-user micro approach with terminals being added as necessary.

The size of the project dictates that the system utilized should have a high speed processor, be able to accomodate multiple terminals and should have a large hard disk capacity.

2.0 POSSIBLE APPROACHES

In order for a decision to be made to computerize the food stamp operation, two main areas need to be researched. These are :-

- Hardware
- Software

Normally, the software search is performed first and then the appropriate hardware is located which will run the selected software.

Because of the volume of this task however, and restrictions in available financing it is perhaps necessary in this case to reverse the normal order of procedure.

2.1 HARDWARE

The recommended hardware approach is based on the following assumptions:-

- The systems to be implemented are those listed in Section 4 under the heading "Software Requirements"
- The hardware system required should not cost over $ 20,000 U.S. initially, but should have the capacity to grow to accomodate additional users and terminals as might become necessary.
- Data transfer and/or program compatibility is required with other organisations using dBase II or III and with the IBM PC/XT microcomputer.

Given the initial cost constraints, the immediate solution will have to be a microcomputer with hard disk which has the capability of being upgraded at a later date as becomes necessary.

The study was restricted to two (2) vendors - IBM and NCR - for the following reasons:-

- Well established customer base with good after sales support and service
- NCR markets IBM compatible microcomputers
- The NCR microcomputer has a multi-user operating system which does away with the need for the purchase of network hardware and software and which runs multiple operating systems simultaneously - i.e. CTOS, MS-DOS and CP/M 86 can be run by different users at the same time

The results of cost enquiries made of these vendors are summarized in Table II.

A brief summary of the advantages and disadvantages of the two machines being considered is provided in Table I below.

TABLE I

MACHINE	ADVANTAGES	DISADVANTAGES
IBM PC-AT	1. Uses new Intel 80286 (16 bit) chip - 2 1/2 to 3 times faster than Z 8088 chip. This means fast operation and better response time for complex operations. 2. Can use XENIX operating system which is multi-user, and is based on the fastest growing operating system in the industry - UNIX. 3. The maximum memory is expandable to 3 Mb which will allow any foreseeable program to be run under Xenix. 4. Uses high density (1.2M) diskette drive - approx. 3 times standard diskette (360 Kb) capacity. 5. Standard hard disk is 20 Mb capacity, compared to 10 Mb for the other systems 6. Wide range of application software readily available	1. The XENIX operating system causes the AT to loose some of its advantage in the area of speed, since power and complexity of this O/S results in some of apparent speed. 2. The IBM AT, while it will run some PC/XT programs, will not run all of them. 3. The standard 1 Mb diskette drive is not compatible with the PC or XT. Another 360 Kb diskette drive which will allow for this is an extra cost option $ 637 U.S. 4. Under DOS 3.0, will not access more than 640 K mem 5. Maximum disk capacity - 40 Mb. More storage would have to be purchased from a 3rd party manufacturer 6. Backup to diskette only. No date quoted by IBM.
NCR NGEN	1. Uses Intel 80186 (16 bit) chip (similar to IBM AT). 2. CTOS (multi-user) operating system is standard and allows up to four units to be clustered without purchasing additional hardware or software. 3. Can purchase software to make it MS-DOS and CP/M 86 compatible. Runs many IBM PC/XT programs running in MS-DOS mode including WordStar, Lotus and dBase. 4. If using multiple stations, stations may run BTOS, MS-DOS or CP/M 86 operating systems simultaneously. 5. The word processor (Wordready) which is bundled, is more powerful than most others on the market and the keyboard has many pre-configured keys for W.P.	1. The maximum memory per station is 1 Mb which is le than that of the IBM AT (3 Mb). 2. Not all IBM software will run on the NGEN 3. Conversion of files to PC-DOS format will require purchase of additional software and will take one additional conversion step. 4. Diskette capacity is less than the IBM AT, 630 K. 5. Streaming tape backup will not be available until 3rd quarter, 1985.

TABLE I (cont.)

MACHINE	ADVANTAGES	DISADVANTAGES
	6. The potential growth of this system is far greater than for the IBM. If more than 4 units need to be clustered, the NGEN will allow for a total of 7 cluster stations by mid-year.	
	7. Optional terminal may be purchased which will allow 132 columns on screen rather than the standard 80.	
	8. High resolution screen - 720 x 348 pixels	
	9. Serial printer port is included along with the standard parallel. This is an extra cost option in the other system.	
	10. Printer spooling is included in the standard software.	
	11. The processor runs at 8 MHz compared to 6 MHz for the IBM AT. This means that it runs significantly faster.	
	12. A fast (8 page per minute) laser printer is available for this machine. NCR Jamaica will support this printer.	
	13. ARCHIVE command in CTOS allows selective backup of file changes - checks date and time of record capture.	

2.2 SOFTWARE

The recommended software approach is based on the following assumptions:-

- The average user will enter data into master files but will not need to manipulate the data.
- Data manipulation and extraction of management information will be performed by a single master station.

- In addition to the food stamp programme, other database applications will be required as time goes on.

For the database application and for the manipulation, extraction and correlation of statistical information, a database package such as PC/FOCUS will allow for easy data retrieval. This package will also facilitate for quick enhancements to the initial system.

PC/FOCUS also has built in statistical functions, graphics, menu query and an application development language.

Because PC/FOCUS is not yet multi-user, we recommend that the data entry programmes be written in a standard 'high-level' language such as COBOL or "C" which will facilitate multi-user access to files simultaneously. The files can then be accessed by PC/FOCUS for extraction of information. This approach will also offer greater speed in the entry of data since database packages are also typically slower than 'hard-coded' programmes.

3.0 ESTIMATE OF HARDWARE COSTS

TABLE 1I

VENDOR NAME	HARDWARE CONFIGURATION	FOB COST (US$)	GROWTH POTENTIAL
IBM	1 x PC-AT micro with 1.2 Mb diskette, 40 Mb disk, 1 Mb memory	10,943	40 Mb disk, 3 Mb memory for master
	1 x PC microcomputer with 1 diskette drive and 256 Kb memory	2,790	10 Mb disk, 640 Kb memory for slaves
	1 x 80 column dot matrix printer, 120 c.p.s.	575	Max. 3 PC's in cluster, can cluster several AT's together. 1 printer/un
	XENIX operating system & PC-DOS 3.0	470	IBM does not market a faster printer
	TOTAL	14,779	
NCR NGEN	1 x NGEN master with 1 Mb memory, 84 Mb disk, 1 x 630 K floppy	20,000	84 Mb disk, 1 Mb memory for master
	1 x NGEN slave with 512 Kb memory, no floppy	5,500	40 Mb disk, 1 Mb memory for slaves. Can cluster 3 to master. Further ex ansion up to 7 units by mid-year. NCR will support XEROX printer.
	1 x XEROX laser printer - 8 pages per minute	8,000 - 10,000	
	1 x 6430 NCR printer - 360 lines per minute	9,600	
	1 x 6442 NCR printer - 125 lines per minute	3,200	
	CTOS O/S (inc. Wordready word processing), MS-DOS and ISAM	1,000	
	TOTAL		

The decision has to be made as to the configuration required at start up. In order to do this an example of the calculation required has been given below.

For a single application e.g. Food stamp programme

- Determine the number of entries per month.
- Divide by the number of working days in the month - i.e. 20 to determine the # of entries per day (D)
- Allow approximately 1 minute per entry
- Allow for 4 hours productive time per day - i.e. 240 mins (M)
- Multiply # of daily entries (D) by 1 min for each entry to determine the # of minutes per day required to perform this task
- Repeat for each task to be performed on the computer system - i.e. Payroll, Word processing, etc.

Example : Let # of entries/month = 10000
Let # of work days/month = 20
Let time per entry = 1 min

Then # of entries/day = 10000/20 = 500/day
And # of mins data entry/day = 1 x 500 = 500 mins.

This result means that 3 stations would be required to cope with this volume of work at the specified level of productivity.

Bear in mind that :-

- Some tasks are cyclic - e.g. payroll - and must be performed at the required time no matter what other functions are being carried out at that time.

- Printing reports etc. will "eat up" a lot of productive time - a 2 page report will typically take approximately 2-3 minutes to print on a 120 c.p.s. printer if no calculations are being performed.

If the result of this exercise shows that a single unit can perform all the tasks during the standard work day at a 50 % efficiency level, then a single one of any of the above systems will meet the needs of the organisation.

(NOTE : A 50% PRODUCTIVE LEVEL IS AVERAGE FOR PERFORMING THIS SORT OF TASK)

4.0 ESTIMATE OF SOFTWARE COSTS

One of the obvious needs is for compatibility with other organisations using dBase II or III. Unfortunately, dBase does not allow for multiple users to access the same files simultaneously, which could become one of the requirements in the future. It is possible, however, to find other data base packages which are multi-user and which will output files in a format which is accessible by dBase.

In addition, dBase is not very 'user-friendly' and still needs advanced programming knowledge to make use of its features. A more attractive alternative is to acquire a system which has the power of dBase for information retrieval but is useable by the non-programmer with minimal computer training.

One such package is the PC/FOCUS data base system which was described in the preceeding section. This package runs on both of the systems analysed in this document but would require additional memory to run properly - (minimum 1 Mb on the NCR, 640 Kb on the IBM.

Detailed costings for software development will depend on whether a data base approach is used and if so, on which package is selected. Based on the systems outlined, this cost would be in the region of $ 35,000 - 40,000 (Ja.) if 'hard-coded' programs were to be written and between $ 15,000 - 25,000 if a powerful data base system were to be used. If a positive decision to proceed with the computerisation of operations is made then a more detailed costing will be performed at that time.

Additional software costs would be :-

- Payroll - Ja. $ 4,500 (including installation and training)
- PC/FOCUS - US. $ 1,600

  NOTE: This package includes statistics, graphics, data base which would negate the need to purchase additional software to perform these functions. By comparison the cost of dBase III is US $ 700, a graphics package $ 400, and a statistics package approx. $ 750.

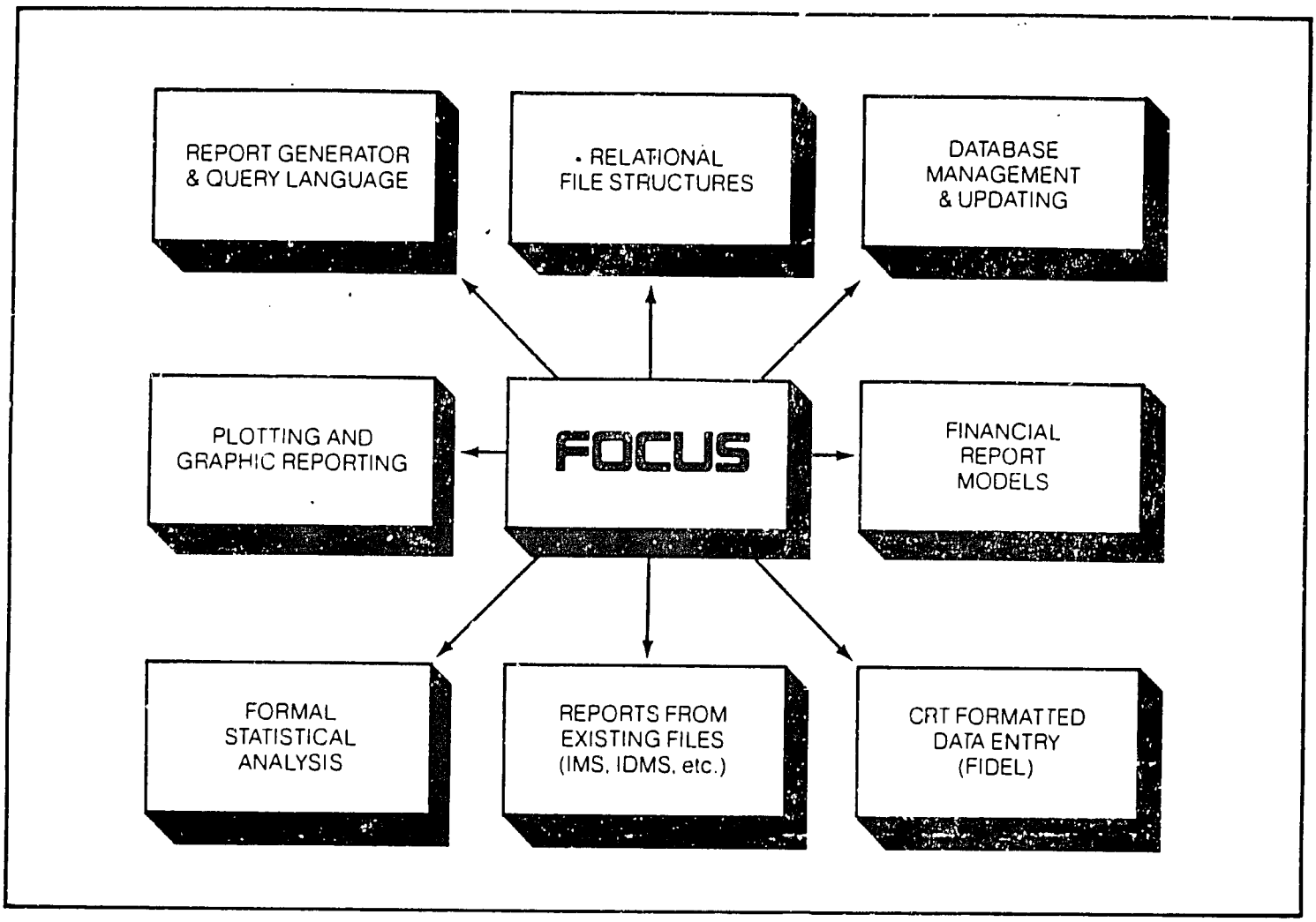
5.0 SUMMARY

Overall, the NCR NGEN appears to be the best choice of hardware because of the speed of its microprocessor and the power of its operating system. (See accompanying review versus the IBM PC/XT. This comparison would also hold true for the NCR PC 4.

Drawbacks are in the area of initial cost (more than the IBM), and in the availability of IBM compatible software. As new programs are released for the IBM, will they be able to run on the NCR?

The IBM AT allows for vast amounts of memory to be added, and we are sure that a great deal of software will be released for this machine as time passes. The base model has more disk storage than the other system but the NGEN may be built up to a greater maximum amount.

FOCUS The Interactive Information Control System



FOR THE PROGRAMMER...

FOCUS lets you develop applications more quickly.
FOCUS reduces the time spent repairing/overhauling programming.
FOCUS offers simplified file maintenance procedures.
FOCUS lets you fulfill report requests in a fraction of the time.
FOCUS is flexible and self-documenting.

FOR THE NON-PROGRAMMER...

FOCUS provides immediate access to the data.
FOCUS provides the precise management summary and exception reporting needed for interpretive analysis and decision-making.
FOCUS supplies formal and informal reports ... and prompts the user for the key information during processing.

FOR ALL USERS...

FOCUS stores repetitive procedures which can be called for to update and maintain files and produce on-going reports.
FOCUS has simple on-line commands which let you add, delete, locate, question, and change records instantly, and you can browse through a file to extract the item you need.
FOCUS applications can be developed without formal programming.
FOCUS allows computer hardware and resources to be used efficiently.
FOCUS database access and turnaround is virtually immediate.
FOCUS users at all company levels and backgrounds become productive in hours.
FOCUS' speedy response encourages greater productivity, and assists in faster and more knowledgeable decision-making.
FOCUS simplifies the maze of unwieldy and complex computer procedures.
FOCUS' English language is easy to learn and natural to use.
FOCUS permits multiple users to access common data files under comprehensive security and privacy conditions.
FOCUS provides interactive error-corrections and self-teaching responses.
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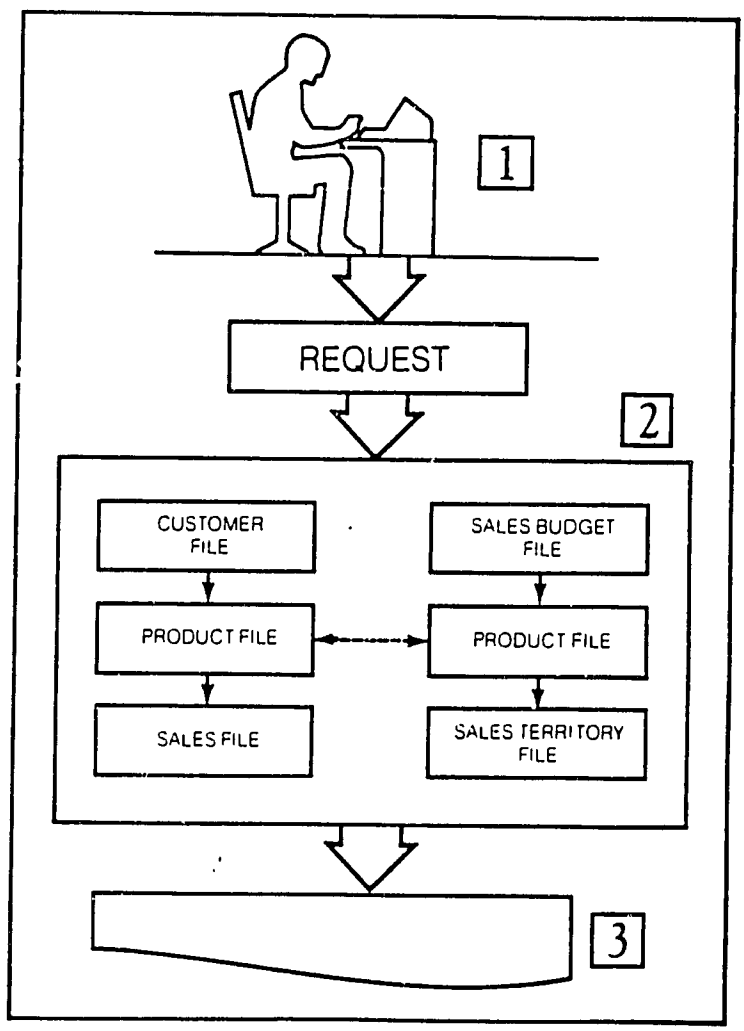

Information Builders 1250 Broadway, New York, New York 10001 212-736-4433

THE JAMAICA FOOD STAMP PROGRAM: THE POTENTIAL FOR FRAUD, ABUSE AND THEFT

Charles H. Sweeney

Report submitted to:
The Government of Jamaica
and USAID/Kingston

Management Sciences for Health
165 Allandale Road
Boston, Massachusetts, 02130
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EXECUTIVE SUMMARY

In any social assistance program the potential exists for fraud, abuse and error. The period in which the program is most vulnerable is during its initial implementation phase when procedures are untested and staff is uncertain as to the adequacy of safeguards formulated in project design. The vulnerability of the Food Stamp Program is higher due to the speed with which the program was organized and introduced to the nation. This rapidity compromised program design, systematic planning and coordination between ministries and departments responsible for its management. In this dynamic setting, gaps in program security may be expected to occur.

This report discusses the areas most prone to fraud, abuse and error and makes the following recommendations:

1. Cancel the approvals and remove from eligibility lists all persons who cannot be located after two attempts to issue identification cards.

2. Approved food stamp recipients should be re-investigated periodically on a random basis to assure qualtiy control.

3. Special procedures (detailed in Section III) should be followed in the distribution system when food stamp supply books are concentrated in large dollar amounts. This includes the completion of a food stamp storage room in the Ministry Head Office.

4. Commercial banks should be required to cancel stamps through perforation.

5. Periodic audits should be conducted to verify food stamp inventories.

6. No attempt should be made to link or monitor food stamp distribution with actual commodities.

The report is divided into three parts. Section I details registration procedures; Section II addresses the issue of theft of stamps at any point in the distribution system; and Section III discusses commodity programming.

I. REGISTRATION PROCEDURES

The speed with which the Food Stamp Program was organized and introduced to the nation and the need to register and validate the applications of thousands of potential recipients resulted in having to use temporary registrars and investigators with responsibilities in other human service programs, e.g. public health personnel, and individuals recruited from the outside. This created problems. Some parish enrollment activities were very high, others lagged behind. Cash incentives were offered for each new registration and so in many parishes enrollment increased. There was also misunderstanding of eligibility criteria.

These events are predictable when the emphasis is placed on a quantitative rather than a qualitative process of program development. Thus safeguards to program integrity may have been eroded and the following may already have occured in some aspects of program implementation:

- Applicants providing erroneous or misleading information due to misunderstanding program criteria for eligibility.

- Applicants willfully providing false or misleading information regarding income.

- Applicants providing fictitious names and false information in order to obtain benefits or to obtain double or triple benefits.

- Fabrication of applications by government employees to meet quotas, obtain incentive payments and/or embezzle food stamps and acquire free medical care.

The foregoing cases reflect vulnerabilities of the food stamp program during normal operation but are more likely to occur during the implementation stage. These dangers are indicative of the value of the Program to the nation. It is a positive program which offers increased food purchasing power and free medical care hence it becomes a target for exploitation by those out to "beat the system".

An analysis of monthly food stamp registration reports which depicts parish enrollment activities indicates that there is a range of variance in approval of applications submitted to the parish committees. Contrasting examples would include Kingston and St. Andrew where 28,552 applications were submitted to the Parish Committee for action. Of this number 27,285 were approved, none deferred, 152 were refused and 173 were duplications. In St. Thomas, of 5,664 application referrals, 3,274 were approved, 1,664 deferred, 140 refused and 89 were duplications. By contrast Kingston refused only 0.5% of the applications, where St. Thomas refused 2.5%, or five times higher. Similarly with duplications, St. Thomas has a rate of over two and a half times greater than Kingston. Deferral action in the same parish ran to 20% of applications while none were deferred in Kingston and St. Andrew. Findings in other parishes reflect similar variations.

Possible explanations for these differences may be found in:

1. Variations in the economic status of applicants.

2. The quality of investigations performed.

3. Differing attitudes and guidelines used between parish committees.

4. Lack of complete understanding of the eligibility criteria to be used.

The number of applicants who have been approved for receipt of food stamps but who have neglected to pick up their identification cards and books or who have not been located is significant. Some Poor Relief Officers routinely continue attempts to locate these approved recepients while other workers return the identity card to the parish office.

Recommendations

1. Cancel the approvals and remove from eligibility lists all persons who cannot be located after two attempts to issue identification cards. Inform those individuals who appear subsequent to their removal from the eligible list of their disqualification and instruct them to reapply.

2. The Ministry of Social Security should create an ongoing quality control function wherein a random sample of approved food stamp recipients are reinvestigated periodically. New staff positions as quality control investigators should be authorized to maintain the integrity of the Food Stamp Program. The number of positions needed in each parish would be dependent on the sample size divided by the number of reinvestigations one person could complete during a given time frame (including travel time and availability of transportation). An alternative would be to assign the quality control reinvestigations to the current parish investigator staff. Should this be done no investigator should be assigned to reinvestigate a case which was originally assigned to him or her.

3. In the short term, all cases investigated by temporary employees should be reinvestigated before implementing the random sample reinvestigation system.

4. After the program has been operational for one year, a recertification period should be phased in, the recommended certification period is six months.

II. THEFT POTENTIAL

New food stamps are vulnerable to theft at any point in the distribution system where they are concentrated in large dollar amounts.

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Typically, a thief will cash stolen stamps through either a professional who deals in stolen property or by selling them directly on the "street". Professionals will purchase food stamps for between ten and twenty-five percent of face value and sell them, through intermediaries, for fifty or sixty percent of face value. The thief can usually get fifty cents on the dollar selling directly on the "street". The thief's advantage in dealing with a professional fence is making a "quick sale" and reducing the risk of getting caught with a large quantity of stamps. In either of these cases, the stolen stamps will be disbursed over a relatively large area and will be difficult if not impossible to trace back to the thief.

However, a well-planned theft of a large number of food stamps could result from a conspiracy involving a Ministry employee and either a commercial bank or food merchant employee. Since the Ministry of Social Security keeps track of food stamps by serial number, a timely report of the stolen food stamps' serial numbers will allow the Ministry, through their reconciliation process, to ascertain which commercial bank submitted the stolen stamps to the Bank of Jamaica for payment. With this information, police officers investigating the theft would be better able to solve the crime by tracing the source of the food stamps.

In the above situation, the Government of Jamaica could avoid taking a loss by refusing to allow payment for the stolen stamps. In the other situations, while the stolen food stamps' serial numbers could be circulated to commercial banks and even food merchants, the redemptions would occur over such a wide area that an attempt to stop payment would not be advisable. Such an attempt would predictably damage the credibility of the Food Stamp Program and undo much of the successful work to gain shopkeepers acceptance of the food stamp as legal tender.

The recommendations that follow are proposed to avoid thefts and protect the integrity of both the Food Stamp Program and the Ministry employees who handle and distribute food stamps.

A. Ministry Offices - Kingston

The largest concentration of food stamps occurs at the point the Ministry withdraws a periodic supply of books until they are distributed to the parish Public Assistance Offices. To guard against theft of bulk stamp supplies it is recommended that:

1. Ministry officials responsible for the withdrawal and transfer of stamps should periodically establish the minimum quantity necessary to meet current distribution requirements only. The food stamp inventory of the Ministry's Office should be reduced to a minimum after each monthly shipment to the parishes.

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2. The Food Stamp Program Manager should establish a separation of duties for personnel involved with the following functions:

- The ordering of food stamps from the Bank of Jamaica.
- Receiving stamps into inventory and placing them in secured storage and maintaining a perpetual inventory.
- The distribution of food stamps to parish offices.

3. A police escort should be used when transporting food stamps from the Bank of Jamaica to their place of storage in the Ministry Main Office.

4. Personnel withdrawing stamps from the Bank should not establish a uniform pattern for the transporting of stamps. Pick-up schedules should be varied to insure that different monthly dates, days of the week, times of day and driving routes are used when food stamps are withdrawn from the Bank of Jamaica.

5. Complete construction of the food stamp storage strong room in Ministry Head Office as soon as possible.

6. Two employees should be utilized to transport, receive and verify counts of booklets. If the relay method of delivery is to be used, the food stamp booklets should be packaged for delivery to Parish Offices in specific amounts to facilitate verification

7. The delivery schedules of food stamps to the parishes should be staggered to prevent detectable transport patterns. The delivery routes should be varied to the extent possible and large shipments of stamps should be transported only during daylight hours.

B. Food Stamp Cancellation Procedures

At the present time, after reconciliation at the Ministry's headquarters, redeemed food stamps are stored in bulk packaging. The evidence of cancellation on these stamps is an official bank stamp seal. There are chemical "wash" techniques known to most professional forgers that will remove ink without leaving a trace visible to the unaided eye. Used food stamps, so treated, could easily be redeemed through any merchant authorized to accept them as tender.

Recommendation

Unless the Ministry plans to reissue food stamps (not a recommended strategy), commercial banks should be required to cancel stamps through perforation. Should this prove too costly, the Ministry should routinely and frequently consign the used stamps to witnessed destruction after reconcilliation.

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C. Security Precautions in Parish Offices

Currently food stamp booklets are stored in locked file cabinets which are not designed for this purpose. The cabinets are vulnerable to theft as they are not secured to the floor. A determined thief, after gaining entrance to the office, can open the locked cabinets with heavy tools (e.g. crowbar). The cabinets could also be stolen by using a two-wheeled handcart to move the cabinet to a small truck or van. A similar situation exists at parish poor relief offices which often lack storage space in their safes.

Recommendation

Wherever possible, parish offices should utilize a local bank or similar secure storage facility to safeguard food stamp booklets prior to their distribution to the Poor Relief Officers. Parish offices should retain only the minimum amount of booklets for the shortest amount of time necessary to facilitate timely and efficient distribution.

D. Security Precautions in Poor Relief Offices

At the present time Poor Relief Officers must carry large numbers of booklets to distant and often remote locations often traveling by public transportation or even by foot. It is widely known that these officers carry both cash and food stamps, and they are therefore highly vulnerable to robbery attempts.

Recommendation

The Ministry should provide Poor Relief Officers who distribute cash and food stamps with a suitable vehicle or assist them to finance their own vehicle on a duty-free basis. This will provide some security as well as allow for increased productivity through decreased travel time. Whenever possible, a local constable should be present when large amounts of food stamps are slated for distribution.

E. Audits

Recommendation

The Board of Supervision should conduct periodic audits to verify all food stamp inventories: including those held by Poor Relief Officers.

F. Food Stamp Program Integrity - Shopkeepers

Acceptance of food stamps by shopkeepers as tender is high. Larger markets appear to generally honor restrictions by limiting their use to only purchase rice, cornmeal or dry skim milk. The very small shopkeepers however, will generally take stamps for the purchase of any item and provide change or items equal to the remaining value.

When not given change for a partial purchase, the food stamp recipient cannot help but believe that the storekeeper is cheating him/her. Some will never be convinced that the storekeeper is not allowed to provide either change or additional items not on the approved list. In addition, they know that many items in their usual diet cost less than the items covered by the food stamp. Therefore, it is difficult for some beneficiaries to accept a requirement to purchase only the specified items with their food stamps.

Recommendations

1. Continue the public information announcements and the informational meetings with shopkeepers discussing the restrictions on the use of food stamps.

2. Do not attempt to sanction any storekeeper for ignoring the restrictions unless specific individual situations become blatant and threaten the integrity of the Food Stamp Program.

III. COMMODITY PROGRAMMING

Since the commodities under the program are imported, sold and distributed by the free market in commercial channels, although they may be scheduled and distributed to meet overall population consumption requirements, they are not (and cannot be) tied to the distribution of food stamps to beneficiaries. Commodities are available for open sale to all comers, and are not rationed. Thus there can be no guarantee that individuals with stamps will always be able to find such goods available for purchase in the open market. Some shortages have been experienced in the past, and individual taste preferences, as well as packaging and storage difficulties have distorted the equitability of distribution patterns which might otherwise have been presumed to exist. For instance, skim milk powder is generally sold in bulk rather than packaged in small consumable quantities, it hardens if exposed to ambient humidity without appropriate packaging.

Consequently, there is a high probability that food stamps will be utilized simply as °cash' to procure other food commodities from shopkeepers on many occasions. Such transactions cannot be eliminated without extensive policing which would probably cost more than it would prevent. Furthermore, even if such transactions are considered illegal and prosecuted as such, many shopkeepers will continue to accept and trade the stamps for other goods, and because of the illegallity of the transaction, will probably discount the stamps in value to compensate for any perceived risk. Thus, administratively, it is suggested that no attempt be made to link, or monitor food stamp distribution with the actual commodities, and that a °blind eye' be turned to the monetization of food stamps for the procurement of other commodities, while continuing to emphasize the nutritional benefits of rice, cornmeal, and skim milk powder.

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