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A PENNY SAVED . . . . .  
KENYA'S COOPERATIVE SAVINGS SCHEME  
AND SOME RELATED ASPECTS OF RURAL FINANCE

by

J.D. Von Pischke

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UNIVERSITY OF NAIROBI  
P.O. BOX 30197  
NAIROBI, KENYA

JANUARY 1975

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ABSTRACT

Within two years of its transformation from a pilot project to an on-going savings programme for smallholders, the Cooperative Savings Scheme's balances increased from Sh 2 million to almost Sh 37 million, and the number of depositors exceeded 110,000. By the close of 1974 these balances will no doubt exceed Sh 60 million, belonging to 150,000 cooperators. Cooperative Savings Scheme balances have a considerable impact on cooperative finance and at the close of 1973 exceeded by Sh 22 million the amount of loans outstanding on the books of participating societies under the Cooperative Production Credit Scheme, a companion programme. The Cooperative Savings Scheme operates in rural areas only and most depositors are members of primary coffee marketing societies.

The Cooperative Savings Scheme exhibits several operational and management problems and cannot yet be considered mature. However, its performance during a period of generally favourable conditions in the smallholder coffee sector suggests that considerable rural savings capacity exists among small cash crop farmers and that this capacity is not tapped by financial institutions other than cooperatives. Savings is defined simply as deferred consumption, and the financier's view of savings as a funds flow phenomenon is more relevant to rural development than are considerations of savings as an institutional phenomenon motivated by long run considerations.

\* \* \* \* \*

This paper is intended to complement the author's IDS Working Paper No. 80; "A Description of the Cooperative Production Credit Scheme," written in December 1972. The writer is grateful for the assistance and information provided by officials of cooperative unions in Embu, Kiambu, Machakos and Murang'a, the Cooperative Bank and the Department of Cooperative Development. Special thanks are due Mr. Michael Gitau of the Credit and Savings Section of the Department of Cooperative Development, who accom-

panied the writer on several visits to unions, interviewed depositors and assisted with extracting data from union records. Comments on earlier drafts were received from IDS colleagues and from organisers and members of the Second International Seminar on Change in Agriculture at the University of Reading, 9-19 September, 1974, to which a similar but shorter paper was submitted. Any errors are the sole responsibility of the writer.



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## I. INTRODUCTION

The Cooperative Savings Scheme (CSS)<sup>1</sup> was begun as an adjunct to or second phase of the Cooperative Production Credit Scheme (CPCS) which provides short and some medium term credit to cooperators.. (19, pp. 8-11) Both of these schemes grew out of recommendations made by Sven Linquist, a cooperative credit specialist, in 1967. (25) Both operate in rural areas served by cash crop marketing societies.

### 1. CSS Compared with Other Institutional Savings Media

Growth patterns for various common types of institutionalised savings media in Kenya between 31 December 1970 and 31 December 1973 are as follows:

<u>Total Balances</u>	<u>Compounded Annual Growth Rate</u>
Cooperative Savings Scheme	222%
Post Office Savings Bank	8%
Commercial Bank Savings Accounts	13%
Commercial Bank Time Deposits	17%
Private financial institutions:	
time and savings accounts belonging to Kenya residents	21% (1970 to 1972)
Cooperative savings and credit societies <sup>2</sup> (credit union) shares	87%

This data is derived from Table 1 in the Statistical Appendix to this paper. Reference to the Table indicates that CSS began with a very small base, relative to the other savings media listed, in 1970, providing a basis for these comparisons which is favourable to CSS, given the mathematics of percentage growth calculations. Other material in the Appendix suggests that CSS balances tend to reach high points in November, December and January, which may also overstate to some extent

1. The Subject of this paper is now known as the Cooperative Savings Scheme. The Linquist Report uses alternative nomenclature, speaking of a Cooperative Thrift Scheme, (25, pp. 45-47) and the latter terminology was also used in the IDS Working Paper on the Cooperative Production Credit Scheme. (31, pp. 13-17)

its performance in comparison with competing media, such as commercial bank savings deposits, which have not exhibited significant seasonality in recent years according to data in the Economic and Financial Review published periodically by the Central Bank of Kenya. However, CSS expansion has continued sharply in 1974, with a 60% annual deposit growth rate realised in the first nine months of the year. Finally, it should be noted that a portion of CSS growth may be traced to the participation of the Murang'a Union, beginning in 1972. This Union brought to CSS a savings and credit society in the process of liquidation, which at the close of 1971 had savings balances of Sh 3.4 million, accounting for about one-third of the Scheme's growth in 1972. Even considering all of these qualifications, however, it may still be argued that CSS is in a class by itself.

In terms of numbers of accounts, CSS performance between 1970 and the end of 1973 is also impressive. Over 110,000 accounts were opened, compared to the approximately 300,000 savings accounts in the commercial banking system at the end of 1973 (as estimated by the writer from data supplied by several banks) and the Post Office Savings Bank's 690,000 accounts. By the end of 1974 there were approximately 150,000 CSS accounts.

To what extent is CSS a substitute for other types of savings media? The average balance data given in Table 1 suggests that CSS and the Post Office Savings Bank are similar in that they cater primarily to small savers, although the Post Office has a more extensive coverage and is the only institution which caters for small savers in both rural and urban centres. With regard to the range of financial services offered, however, it will be shown later in this paper that CSS depositors enjoy access to a wider range of financial services through cooperative banking than is available through the Post Office. Commercial bank savings accounts are certainly competitive with CSS accounts in terms of services offered, but the minimum balance requirements of Sh 300 and above imposed by several of the larger banks tend to discourage smaller savers from maintaining savings accounts

with commercial banks.<sup>2</sup> Likewise, commercial bank time deposits do not provide a realistic alternative for small savers. While the Post Office and the commercial banks have extensive urban and rural branch networks, the "private financial institutions" licensed under the Banking Act (savings banks, building societies, finance companies, etc.) are found only in large urban centres and hence do not compete directly with CSS on a significant scale. Cooperative credit unions are likewise largely urban institutions, serving wage and salary earners, especially civil servants.

While experiencing the highest annual growth rate of any of the main forms of savings media in recent years, CSS serves primarily the small saver and is unique in being based entirely in the rural sector. CSS has been incredibly successful, relative to growth patterns in the financial sector, in accumulating deposits, and this aspect of its performance alone is sufficient justification for a study of its operations.

At the end of 1971, when the Scheme was still in its pilot stage and confined to the Kiambu Coffee Growers' Cooperative Union, total savings balances approximated Sh 2.3 million. Within 12 months four other District unions had joined the Scheme and balances stood at over Sh 12 million, and the next 12 months saw a three-fold increase in the size of the Scheme in shilling terms. By the end of 1974 balances are expected to have exceeded Sh 60 million, having reached Sh 56.4 million by the end of September 1974. This type of performance (documented in Table 2) was entirely unexpected by the programme's initiators and most observers, many of whom were no doubt accustomed to looking to government sources of finance for cooperative development in conformity with the usual pattern in

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2. Commercial bank savings accounts frequently may be opened with smaller deposits, so that the minimum may be accumulated over several deposits.

developing countries. The rapid growth of CSS balances raises several interesting questions:

- 1) do substantial rural savings capacities exist which have not been stimulated or tapped by hitherto existing financial institutions?
- 2) is there scope for putting rural savings to work through the institutionalisation of these savings?
- 3) do cooperatives constitute a unique channel for the stimulation or mobilisation of rural savings? and
- 4) what concept of saving is most suitable for planners or bankers concerned with the process in a developing economy such as Kenya's, with a substantial "traditional" rural sector?

## 2. The Cooperative Environment of CSS

Most Savings Scheme depositors are small coffee farmers. Coffee is the major commodity handled by primary societies, and half of Kenya's crop is produced by smallholders. (10, p. 68, 12, pp. 65-66) The present structure dates from the 1960's, (26) following the reform of administrative arrangements which had the effect of limiting coffee production largely to European estates. (3, p. 23; 4, p. 63; 9, p. 45; 28, p. 216).

The majority of small scale growers hold individual freehold title to consolidated family-operated farms ranging in size from roughly two to six hectares. On the smaller holdings within this range coffee is frequently the major cash crop. Husbandry varies widely. Smallholder yields average approximately half the average obtained on plantations, but are of a somewhat higher quality than estate production. (12, p. 66) Some of the differences in average yields reflect the greater capital intensity of plantation production, as in overhead irrigation and high levels of fertiliser application and spraying. Some may also be

accounted for by marginal smallholder stands which are harvested only when prices are attractive.

Primary societies own and operate coffee pulping facilities (3, p. 111) and the growth in the number of these facilities provides an index of the rate of growth of smallholder production and the spread of the crop to a wider range of areas. The year of completion of the approximately 500 mechanised cooperative coffee pulping facilities constructed by the end of 1971 is given below, classified according to Province and four year periods. (15) Most factories are the

<u>Province</u>	<u>before 1952</u>	<u>1952- 1955</u>	<u>1955- 1959</u>	<u>1960- 1963</u>	<u>1964- 1967</u>	<u>1968- 1971</u>
Central	1	11	23	42	118	16
Eastern	12	19	35	35	47	24
Nyanza	-	4	18	17	27	12
Western	-	3	12	2	9	4
Other	-	1	-	4	3	1
Total Constructed Per Period	<u>13</u>	<u>38</u>	<u>88</u>	<u>100</u>	<u>204</u>	<u>57</u>

same size, having three disks for pulping, although the range is from one to six disks per factory. (15) Coffee processed by the primary societies is sold by District-level cooperative unions as agents for affiliated societies to the apex Kenya Planters Coffee Union, which performs storage, milling and grading functions. Export auctions are conducted by the Coffee Marketing Board, a statutory body.

Cooperation is a matter of Government concern. (6, foreward; 10, p. 67; 11, pp. 147-156; 17; 24, p. 46) The Department of Cooperative Development in the Ministry of Cooperative Development (formed in 1974 out of the former Ministry of Cooperatives and Social Services) closely supervise many aspects of cooperation, including society and union budgets,



union staffing, training and auditing. Signatures of Department staff are required on all cheques written by societies. A Loans Committee in the Department has the delegated authority "to examine, appraise, and approve, reject or modify applications for loans, advances, and all forms of credit facilities" used by societies. (21) The Department has received technical support from the Nordic Project for Cooperative Assistance to Kenya. Now scheduled to be phased out by 1977, the Project for several years consisted of about 50 Scandinavian advisers, more than half of whom worked in the field. (11, pp. 173-186; 23, p. 67; 24, pp. 1-53; 30, p. 16).

## II. STRUCTURE AND ADMINISTRATION

The Cooperative Savings Scheme was conceived as an adjunct to the Cooperative Production Credit Scheme which provides short and some medium term credit to cooperators. (7, pp. 107-120; 11, pp. 168-170; 31, pp. 13-17) CSS complements CPCS by generating a source of funds for lending within the cooperative sector and supplements CPCS by offering cooperators a wider range of financial services, adding savings facilities to the credit operations of produce societies. Societies participating satisfactorily in CPCS are eligible to join CSS upon having staff trained in CSS procedures, standardised accounts, adequate security arrangements and the passage of enabling resolutions by a majority vote of the membership. Phasing of this sort helps to ensure the existence of an accounting capability to handle savings within the cooperative structure.

CSS operates through the individual accounts maintained for paying members for their crop deliveries and which also serve as a channel for loan recoveries. (14) Members of non-CSS societies are simply paid in full in cash or through their accounts with commercial banks on each payout date, while in CSS societies payouts are credited to members' accounts and each member may, within certain limitations, make withdrawals as he desires. The addition of savings operations to an existing

accounting system permits certain economies which could not be realised by a commercial bank, for example, which would have to open a new account for each new depositor.

The basic limitation is a minimum balance requirement of Sh 40 or Sh 50, depending on the union,<sup>3</sup> which may be met by retentions of Sh 10 from the first four or five payouts following the introduction of CSS. (Inspection of union records suggests, however, that the minimum balance requirement is not always rigidly adhered to.) During the week following a payout a member may withdraw the amount of the payout plus Sh 200, always assuming the required minimum balance is maintained. At other times the withdrawal limit is Sh 200 per day subject to a Sh 2000 monthly maximum, but is waived if liquidity permits and when depositors make prior arrangements for larger transactions. In fact, these limitations on withdrawals of amounts above the minimum balance requirement are infrequently invoked, as most banking sections operate on a large enough scale to benefit from the law of large members and are able to plan their till money positions with reasonable accuracy.

Members are free to make deposits and to authorise inward transfers under standing instructions. "Outside" deposits not originating from payouts account for a variable fraction of credit entries. In the Machakos Union in 1973 the proportion of outside deposits ranged from 2% to over 90% of monthly deposit transactions in shilling terms. The proportion is influenced greatly by the volume of coffee payouts credited to accounts, of course. Members of societies affiliated with the Kiambu Coffee Growers Cooperative Union also receive payouts for pyrethrum and milk through their CSS accounts although separate societies and unions also based in Kiambu handle these commo-

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3. The Kirinyaga Union voluntarily increased the minimum balance to Sh 100 for its depositors in 1974.



dities. Likewise, CSS account holders in Kiambu can arrange to have proceeds from tea deliveries to the Kenya Tea Development Authority (KTDA) credited directly to their CSS accounts by KTDA. All unions offer outward transfer facilities, generally by selling union cheques drawn on the Cooperative Bank in Nairobi or on a local commercial bank payable to the party and for the amount specified by the purchaser, whose CSS account is charged accordingly. Interest at 5% per annum is computed monthly on the lowest balance rounded downward to an even Sh 20 unit, and is supposed to be credited to accounts annually.<sup>4</sup> A service fee of Sh 1 per payout is charged and in some unions a fee of Sh 1 is levied for the issue of a passbook.

Savings services are handled by cooperative unions' banking sections, where bookkeeping is done largely by hand. The accounting system in use is called a member's transaction (MT) system, which has as its central element a ledger card for each member on which payouts, other deposits, interest calculations, members' debts, loan repayments, and withdrawals are recorded. The net balance on the ledger card is the member's savings balance. (Members' debts to their societies are recovered only from payouts, not from other deposits or from balances on hand.) A sample members personal account ledger card is included at the end of this paper.

Attempts to decentralise accounting to the local society level were abandoned because of control and cost considerations and, in some areas, because of members' fears that the confidentiality of their accounts would not be respected. Depositors may generally transact business on their accounts six days a week at a banking section office operated by the union to which their local society belongs. These offices are generally located in District headquarters towns and most participating

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4. Prior to October 1974 a 4% rate prevailed.

unions also have one or more banking section branches in smaller rural centres. Unions provide additional banking services at local society offices or other specified rural places on periodically scheduled days or to coincide with payouts which, for coffee growers, are made approximately five times a year.

### III. A CRITIQUE OF OPERATING RESULTS

Several aspects of CSS performance are summarised in tables in the Statistical Appendix to this paper. In 1972 CSS passed from the pilot to the implementation phase and by the end of 1974 included nine unions and about 150,000 accounts belonging to members of affiliated primary societies. Total CSS balances are expected to have exceeded Sh 60 million at the end of 1973, averaging about Sh 400 per farmer account. That the average balance stands above the Sh 40 or Sh 50 minimum in each union shortly after the introduction of the Scheme signifies that depositors are using their accounts for saving purposes.

The proportion of accounts which stand at the minimum required level give an indication of how many cooperators are not in fact accumulating balances in their accounts - which is not necessarily identical to an absence of saving, as discussed later. A random sample of accounts was taken in 12 societies selected from those affiliated with four unions which were visited. Data was collected for recent seasonal high and low points of total savings balances for sample societies, given the logic that average balances are lowest at seasonal low points and highest at seasonal high points. The results of this sampling, shown in Table 3, revealed that as many as half the accounts contain not more than Sh 50 at seasonal low points.

The survey results show two patterns of balance behaviour. One is found in those societies in which the differences in the distribution of balances shows little difference between recent seasonal high and low points. This pattern suggests that

the sample may not have been representative or in some other way inaccurate, and/or that the society statistics used to identify seasonal peaks and troughs in deposit levels were not reflected in members' accounts. This latter possibility could occur if the union statistics which were used to identify seasonal peaks and troughs show amounts credited to societies which had not yet been credited to the accounts of individual members. The second pattern, found in nine of the 12 societies sampled, is in line with the expectation that the number of accounts containing very small balances diminishes markedly at seasonal high points. Those accounts having minimum balances at the seasonal peak reflect inactive membership, quick withdrawals of payouts and large deductions from payouts for the repayment of members' outstanding debts to their societies. It should be noted that the significant proportion of accounts containing minimum balances (or less) at seasonal high points (between 8% and 69%, median 17%, in the societies in the sample) does not appear to constitute a vote against the CSS concept, as there have been no moves by local societies to withdraw from the Scheme and revert to the old system of payouts in cash or through members' accounts with commercial banks.

... Differences in performance between unions reflect the sizes of payouts, the timing of payout and withdrawal cycles<sup>5</sup> relative to statistical reference dates, the position of coffee as a source of cash in the smallholder economy, the presence of competing financial services and numerous other factors, the most important of which is depositor confidence. (In one instance banking section staff urged depositors to withdraw their entire crop delivery proceeds so that bookkeeping chores would be lightened.)

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5. The Department of Cooperative Development is taking steps to make payouts more uniform under an averaging technique. One reason for doing so is that payouts of sufficient size at times when cooperators need cash, as for the payment of school fees, have a social benefit as well as simplifying credit administration.

## 1. Employment Of Funds

CSS performance may be criticised on three counts. The first is that it is successful to the point of embarrassment. Balances have accumulated rapidly and in 1972 surpassed the amount of CPCS loans outstanding - an event projected for the Millenium. The Department of Cooperative Development's 1971-1974 Development Plan estimated that the gross CPCS credit requirement at the member/society level would reach Sh 35 million in 1973/74 and that savings balances would reach Sh 20 million during that year. (20, p. 43) The actual result as of the end of 1973 exhibited just the opposite relationship: savings balances were Sh 35 million and Sh 14 million of CPCS loans were outstanding.<sup>6</sup> (See Table 4) A group of Kenyan and foreign experts had made this same point in 1969 when reviewing the performance of the Nordic Project for Cooperative Assistance to Kenya: "Single product societies and unions are not capable to provide all the credit at the time most of their members will need it, and only by providing the possibility for refinancing centrally (from the Cooperative Bank) would it seem feasible to increase substantially the supply of credit to smallholder farmers." (23, p. 106)

Planners evidently failed to understand that most peasants in the cash economy can save, while only a few are "credit-worthy".<sup>7</sup> Others may not avail themselves of credit facilities for a variety of reasons. While all members of participating societies have CSS accounts, the proportion of members with

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6. In fairness to Mr. Lindquist, the Scheme's architect, it should be noted that his report which laid the basis for CPCS and CSS notes several examples of rapid accumulation of savings, surpassing loans outstanding, by rural thrift societies, and that while making no financial projections he noted that the proposed scheme should eventually generate funds for the Cooperative Bank. (25, p. 47)

7. Professor Dale Adams made this observation at the US AID Spring Review of Small Farmer Credit Nairobi Workshop in April 1973. For elaboration, see item 1 in the list of references.

CPCS loans outstanding in 1972 and 1973 ranged from less than 10% to an upper limit rarely exceeding 50%. (See Table 5) The above generalisation with respect to the proportion of smallholders who are creditworthy does not apply as strongly to cooperators as to smallholders as a whole, however. As growers of cash crops, cooperators have a certain potential creditworthiness which smallholders without a cash crop do not have. The institutional arrangements for smallholder coffee growers in Kenya also enable most loyal active members of coffee societies to obtain credit at least for the purchase of inputs from cooperative stores. That an increasing proportion have access to credit as the cooperative banking system matures is suggested by data from Machakos Union, an early CSS and CPCS participant, which suggests that 69% of the total membership of affiliated societies had CPCS loans as of June 1974. However, more experience is required to ascertain whether this sort of expansion involves any sacrifice of repayment performance and whether a crisis in the coffee industry will severely upset the system. In any event, even in mature rural cooperative credit systems it appears not unusual to find two types of members: one which borrows frequently while maintaining low savings balances and another which has more substantial savings balances but seldom borrows. (29)

Kenya's financial sector is repressed by the Government's low interest rate policy which is manifested in a commercial bank prime lending rate of 8% and a 10% maximum interest rate,<sup>8</sup> and an Agricultural Finance Corporation lending rate also of 8%. Given the small spread between deposit rates approximating 5% and lending rates, the cost of providing small scale financial services in the traditional commercial banking format

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8. Until the June 1974 budget the prime rate was 7% and there was no maximum rate although banks rarely charged more than 10%. The commercial bank savings deposit rate was 3% before the budget and was subsequently raised to 5%.



cannot be covered by the commercial bank lending rate structure. In fact, the banks have not actively solicited accounts from the smallest savers during the last several years.

Profitable employment of "surplus" CSS balances not needed for funding CPCS loans and for till money, etc., is made difficult by the Government's low interest rate policy because suitable investments allow only a small spread above the 5% paid the CSS depositor. (Table 6 of the Appendix contains a hypothetical elaboration of this point.) The temptation to try to obtain higher returns from speculative and illiquid investments has arisen. The accumulation of funds has also subtly weakened hierarchial control of cooperation which is based to some extent on the expectation that each level, from cooperator through union, would be financially dependent on the next level, and ultimately on the Cooperative Bank, the apex financial organisation. Indeed, not all "surplus" CSS balances are on deposit at the Coop Bank -- most CSS unions keep at least a portion of these funds, in excess of operating requirements, at commercial banks.

The situation with regard to "surplus" balances altered in the second half of 1974 when CPCS facilities for several unions came up for renewal and review and when the programme expanded into medium term lending by extending the maximum repayment term from 18 months to three years and by raising members' credit limits accordingly. This shift created a substantial demand for funds, and several unions supported this expansion through recourse to Cooperative Bank finance.

## 2. Accounting Control

The second criticism concerns control and accounting performance in participating cooperatives, which is grossly inferior to that required in the commercial banking industry. CSS balances are to be used only for CPCS loans, till money and other banking section operating requirements and for

deposits at the Coop Bank's sole office in Nairobi (or at other commercial banks). There is a possibility that CSS resources may have been mingled with or used for working capital in one case without the approval of the Commissioner for Cooperative Development. Reconciliations are frequently not current, interest is not always promptly credited to members' accounts and audits are as much as three years in arrears. (18; 19, p. 16) Consequently, management information is imprecise, funds are not tightly managed and interest income to banking sections and to depositors is foregone, the status of cooperative operations and finances cannot be precisely determined and it is difficult to compute CSS income and expenditure. (11, pp. 170-171; 27) Accounting laxity endangers depositors' funds -- a danger which is easily underestimated. (25, p. 68)

Nevertheless, the Department has demonstrated its awareness of these problems and has taken steps to improve performance and controls. An inspection team was formed in 1973, and in response to differences monitored by this team a Reconciliation Group has been established as a working party to assist in upgrading bookkeeping performance. (16) At the time the Group was formed, the differences between control accounts and members' savings accounts reportedly amounted to 3.3% of the latter and by the end of 1974 half of the differences had been properly accounted for. It appears that there has been considerable improvement in cooperative accounting performance as a result of training activities, the vigilance of Department credit and audit staff, and Nordic assistance. (24, pp. 60-66) However, the state of accounting information, especially operating cost data, still makes it impossible to judge the performance of banking sections on a comprehensive and consistent basis.

### 3. Deposit Insurance

The third criticism is that depositors' balances are not insured against union banking section insolvency, although insurance against theft is maintained. In addition, depositors enjoy no prior claims over other creditors in the event of union liquidation. A union hit by a "run" inspired by false information would probably be supported by the Cooperative Bank, but efforts to establish a deposit insurance fund have remained in the discussion stage for several years. Banking history (some of it distressingly recent) is replete with cases of insolvency and this business risk, compounded by cooperative accounting performance, suggests that CSS enjoys no immunity from the possibility of crises, although none has yet developed.

Another criticism is that CSS, like the cooperative structure of which it is a part, serves primarily the most advanced segment of the smallholder population in Kenya. This argument is largely irrelevant since the real problem consists of finding ways of bringing more farmers into the cash economy by raising their productivity and output.

### 4. Related Aspects of Cooperative Finance

The problems caused by larger-than-expected balances and accounting control imperfections raise a fundamental question concerning cooperative finance: how can the fiduciary function best be filled, given the possibly conflicting priorities of protecting depositors' funds and stimulating cooperatives' ability to promote rural development?

The use of members' deposits as a source of working capital finance illustrates this conflict. This is a normal cooperative practice in many countries (8) and is in fact found in the Kenya Farmers' Association, a country-wide cooperative oriented primarily towards the large farm sector. Members' deposits and deposits from other sources are available



more cheaply than bank credit and hence are frequently an attractive source of funds, assuming that their incremental administrative costs do not cancel out the interest rate differential. However, there are several reasons for limiting a society's access to members' deposits for financing working capital requirements or investment needs within the context of cooperative operations in the smallholder sector in Kenya, justifying the present regulation that the Commissioner for Cooperative Development must approve any union's use of banking section balances for purposes other than CPCS loans, till money, or deposits with specified financial institutions. To date such permission has been requested twice and granted only once.

a) Liquidity

The first is that the continued success of CSS requires sufficient liquidity so that members are always able to convert their deposits into cash, within the specified withdrawal limits. The behaviour of members' demands are not yet firmly established, given the Scheme's recent origin and lack of experience with a declining coffee market. Members' deposits tied up in working capital are not readily available for meeting withdrawal demands on CSS accounts, especially given that the turnover of cooperatives' inventories may be retarded by the same conditions which would prompt members to draw down their CSS balances, i.e., a deteriorating coffee market which would reduce growers' cash incomes and also their incentive and/or ability to purchase inputs.

A mature cooperative banking system could provide considerable protection against illiquidity is a stable cooperative structure by acting as a lender of last resort, allowing societies to borrow against their working capital, other free assets or even on an unsecured basis, if members' withdrawals squeezed their liquidity. However, it may be argued that the Kenyan cooperative structure is not yet truly stable, ..

in spite of its impressive achievements since the institution of strict Government tutelage in the late 1960's. Indeed the need for massive Government intervention is evidence of instability, or at least of a perceived inability to function autonomously on the scale expected by authorities concerned with rural development and export crop performance. (17)

It may also be argued that financial markets in Kenya are not sufficiently well developed to ensure that the Cooperative Bank would always have access to adequate resources available on reasonable terms to meet greatly increased loan demands from societies hit by a substantial decline in the coffee market. Even if the Bank had assured access to resources on favourable terms, it might not be prudent for the Bank to be committed in advance to what could possibly develop into a massive rescue operation, given the high degree of cooperative concentration in coffee. (In 1970 the turnover of coffee societies and unions exceeded Sh 217 million out of a total society and union turnover of Sh 372 million. The share capital of primary coffee societies equalled 40% of total primary society share capital. (19, pp. 46-47))

The realisable value of assets, such as inventories and coffee factories, which societies could pledge as security for Coop Bank loans could easily decline in the event of a deteriorating coffee market, and unsecured lending could involve even greater risks. Once again, the great importance of coffee in Kenya cooperation constitutes a vulnerability. While some diversification in CSS will occur with the addition of dairy and other societies, coffee cooperatives will inevitably remain dominant.

To summarise this point, without alternative sources of funds which could be tapped in the event ordinary operations do not yield enough cash to meet CSS withdrawal demands, a society would be ill-advised to place substantial reliance on members' deposits as a source of working capital finance.

It could be argued that the stable membership of coffee societies and the minimum balance requirement create a very stable body of funds (equal to the number of accounts multiplied by the minimum balance requirement) which could be used for investment in potentially illiquid assets, assuming that controls are adequate to ensure the maintenance of the minimum balance requirement. However, reasons for not allowing this portion of deposits to be invested in such a manner could include the desire to maintain maximum flexibility in increasing CPCS lending, a Government priority for financing cooperation or export crop storage from below, reservations concerning management competence and committee sagacity at the union and society level, etc.

The level of management performance in the cooperative sector militates against allowing societies to finance their trading activities from their own CSS net resources. Separation of CPCS and CSS accounts from a society's trading accounts lessens the probability of an overall breakdown in accounting controls, as accounting staff have the opportunity to specialise and as priority can be accorded the accounts of the banking side of a society's activities. Even if accounts are always maintained efficiently there is still the possibility that trading losses will arise from time to time. With segregation of the two aspects of a society's activities (i.e., trading and banking), a failure on the trading side, short of insolvency, need not impair members' deposits.

The design of CPCS and CSS, although often imperfectly represented in practice, provides an element of protection for members against poor management. To the extent the design is followed, the surplus of deposits over loans outstanding at any given level in the cooperative structure are kept in an account at the next higher level, and ultimately the Cooperative Bank has the use of these surplus resources in the form of a net surplus of deposits from union banking sections relative

to loans outstanding to these sections in support of their CPCS activities. The Cooperative Bank of course supports the trading activities of the Cooperative structure, and it is at this level that members' savings are available for lending back down through the structure to meet the broader financial needs of societies.<sup>9</sup> These resources are thus redistributed through the Cooperative Bank, and centralisation of control at the apex in the financial hierarchy should diminish the possibility that funds are dissipated through unwise management decisions or lagging management performance at lower levels in the structure.

The strategy of pooling deposits and loans is not based solely on considerations of control, however. Its financial logic rests on the probability that differences in the net positions of participating units will tend to offset each other to some extent over time, permitting a more efficient use of capital. Funds which must be kept idle or in relatively low yielding short term investments to meet liquidity requirements can be reduced in proportion to total balances as various units combine. This principle is illustrated by data for 1973/74 for 10 rural cooperatives served by the banking section of the Murang'a Union, as shown in Table 7. The data shows two levels of pooling. The first is the netting of loans against deposits in each of the individual societies. The net balances of the individual societies exhibit quite a lot of variability, with the month-end high points ranging from 236% to 7891% of the month-end low points for the societies. Half of the observations are clustered between 236% and 288%. For the 10 societies as a whole, the second level of pooling, the variability is reduced. The month-end high point is only 196% of the month-end low point. Thus, at the aggregate or banking section level certain economies of resource use can be realised because of the more stable nature of the aggregate than of its parts. At the

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9. CPCS loans, to the extent they are disbursed in kind at society and union stores or to the extent cash disbursements are spent at such stores, do contribute to the trading activities of lending societies.

Coop Bank level, the variations in CPCS and CSS facilities should likewise be proportionately lower than those at the union banking section level.

b) Equity and decentralisation

Another set of considerations which militate against using CSS balances to finance society or union working capital requirements is that the priorities of the membership may be more important. Hence, restricting the employment of CSS funds to CPCS ensures that creditworthy members will have a supply of credit. As members have saved this money, it can be argued that they should have first priority in its employment. The funds are employed within the immediate rural community in which they are accumulated. CPCS credit standards are not that rigorous for loyal members -- not being in default and having delivered one's crop to one's society in each of the last three years are the main requirements which exclude certain elements from obtaining CPCS loans.

In 1973 the Department of Cooperative Development implemented amended credit arrangements. (22) Previously, the credit limit computed under CPCS procedures was frequently made meaningless by cooperators who had a CPCS loan plus numerous accounts payable for inputs purchased on credit at their society or union store, as obligations for credit sales are deducted from payouts before CPCS loan repayments are deducted. Under the procedure presently in force each member has a fixed credit limit at a specified store amounting to 10% in the case of coffee or 5% in the case of pyrethrum and milk, of the average value of produce delivered to his society in each of the previous three years. This credit limit applies to amounts outstanding at any one time. Recoveries are made from each payout, the entire amount outstanding recoverable from each payout. Thus, the member of a coffee society receiving four payouts annually can obtain inputs in any given year amounting to 40% of the average value of his last three annual produce deliveries. At the same time, CPCS funds are available for the expansion or diversification of production.



#### IV. INTERPRETATION OF OPERATING RESULTS

##### 1. CSS as a Stimulant to Savings

What accounts for the growth of CSS? Its expansion beyond the Sh 50 average minimum balance per account (as shown in Table 5) into the realm of completely voluntary savings behaviour suggests that it fills real needs. CSS appears to have decreased the costs of liquidity among its clientele. It offers an alternative which is apparently safer than cash hoards. The minimum balance requirement (an opportunity cost) is well below that of most commercial banks and the rate of interest on CSS balance was until July 1974 nominally 1% above that offered by the banks and the Post Office. The link between CSS and CPCS is also a positive factor. The minimum CPCS loan is Sh 100. The Post Office Savings Bank makes no loans and commercial banks rarely make loans of less than Sh 1000, an amount beyond the creditworthiness of many smallholders. (Few smallholders have current accounts, so overdrafts are out of the question.) Cooperative banking has apparently developed a market for financial services among a clientele of barefoot savers which was previously not served. (24, p. 75)

While increasing access to financial services, cooperative banking has not greatly extended Kenya's financial geography -- with the exception of withdrawals immediately following payouts, most transactions occur at union banking offices in towns which are already served by commercial banks and the Post Office. Payouts for crop deliveries have traditionally been made at local places. In several instances commercial banks have closed facilities in small centres following the establishment of union banking section offices in these centres.

The automatic crediting of crop delivery proceeds to CSS accounts is probably the most important contributor to its growth and has reportedly dampened the orgiastic consumption cycle connected with cash payouts. This provision of institutional arrangements conducive to saving presumably increase

cooperators' propensity to save by making an alternative to consumption somewhat more attractive.

In fact, there is substantial evidence that the provision of savings facilities tends to increase savings in developing countries (32), consistent with CSS experience to date. Chandavarkar, who may be classified as a fairly hard-nosed skeptic on many aspects of rural finance, cites Wai's work when noting, "that savings are responsive to the number, availability and efficiency of financial institutions, instruments, and markets. It is an observed fact that a multiplicity of savings media in the form of different complementary types of financial assets helps to increase net savings." (2, p. 15)

## 2. CSS as an Institutionalisation of Savings and Transfer of Resources to the Cooperative Sector

However, the extent to which the accumulation of CSS balances represents net savings is an unanswered question. Any of this growth which is offset by depositors' depleting commercial bank and Post Office Savings Bank accounts constitutes a transfer of resources to the cooperative sector, which hopefully should increase their impact on rural development. On a dynamic basis, the channelling of funds into CSS accounts which otherwise would have been channelled through the banks or Post Office also constitutes such a transfer of resources. To the extent CSS balances are used as substitutes for cash hoards they constitute an activation of dormant financial resources, increasing their potential contribution to development.

Attempts to obtain some indication of cooperators' behaviour in these respects were made during visits to four union banking sections in July and August 1974. A one page questionnaire was administered to approximately 30 depositors chosen at random from among those waiting to transact business on their accounts.<sup>10</sup> Several patterns emerged from this exercise.

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10. The sample is not random because the depositors waiting to transact business would tend to include a disproportionate number of the most active account holders.

The luring away of some of the commercial banks' clientele by CSS has in fact occurred in many of the prime coffee growing areas where certain unions customarily made payouts to the members of affiliated primary societies through members' accounts with commercial banks. When CSS began, those cooperators who had little other reason to maintain a commercial bank savings account frequently closed these accounts. Many of these cooperators cited the jump in the commercial banks' minimum balance requirements, from around Sh 50 to Sh 300 or more, which was initiated in the early 1970's, as a reason for not continuing their relationship with commercial banks. Others indicated a willingness to give all their business to their union banking section because of the much higher probability of their obtaining cooperative credit than commercial bank credit. Many told the interviewer that through the cooperative banking system the farmers had the use of their own money, reflecting the link between CPCS and CSS -- a line stressed in the promotional and educational activities aimed at cooperators by the Department and by elected cooperative leadership.

Separate discussions with commercial bankers suggested that the loss of numerous small accounts to the cooperative banking system has not affected the banks adversely. These accounts were frequently characterised by small average balances and high turnover, providing the banks with large administrative burdens and a disproportionately small deposit base which could be employed to generate revenue through lending or investment. In fact, the increase in minimum balance requirements was aimed at eliminating accounts of this sort. It should be noted that some union banking sections maintain their CSS balances in excess of loan and till money requirements in commercial bank accounts, with the effect that the commercial banks still enjoy the use of the funds, but in a form more favourable to the economics of their own operations, i.e., one or a handful of rather large accounts rather than numerous small accounts.



Those cooperators with a variety of reasons for maintaining a commercial bank account, such as receipt of a regular wage or salary income, a credit standing which enables them to obtain commercial bank loans, and the use of a range of financial services broader than those offered by union banking sections, responded that they have continued to maintain their accounts with commercial banks since the introduction of CSS. Several noted that CSS was a convenient addition to their range of financial assets and of locations at which they could make withdrawals from accounts, and that it also provided them with a segregated account for income from their coffee crop, useful for management purposes.

While in some cases the growth of CSS has relieved the banks and perhaps the Post Office Savings Bank of numerous small accounts, in other cases the growth of CSS may represent an increase in the extent to which idle cash balances are institutionalised. In cases in which payouts were made in cash rather than through members' commercial bank accounts the establishment of CSS appears to have provided a substantial proportion of members with an institutional savings channel which they lacked. Assuming that these cooperators perceive that a savings account is more convenient and secure than a bundle of bank notes hidden in their house or on their farm, the running down of cash hoards as CSS balances build up can be expected. In fact, cooperators in this category generally responded that they were keeping less money at home at the time of the interview than they were before they had CSS accounts. These cooperators also frequently mentioned the link between CPCS and CSS as a reason for keeping balances with their union banking section.

Practically all depositors interviewed said that they had larger balances on their accounts now than they had in savings accounts and/or on their farm prior to the establishment of CSS. However, given the sample size and selection procedure and the sensitive nature of the subject, it would be wrong to ascribe a great deal of weight to these results, although they do appear logical and in line with expectations under reasonable assumptions.

## V. TOWARD A CONCEPT OF SAVING APPROPRIATE FOR RURAL DEVELOPMENT.

### 1. The Long Run or Institutional View

Under certain definitions it could be argued that a significant portion of the accumulated CSS balances is not really savings. Some cooperators no doubt withdraw their payouts rapidly after they are credited to their accounts and do not keep funds in their accounts for very long periods of time or for any long range purpose. According to this view, the name of the scheme and the fact that certain of its administrative arrangements (such as passbooks for depositors) follow the conventions of savings account services offered by bank and other thrift deposit institutions may be misleading. CSS account turnover may in many instances more closely approximate the relatively high levels associated with current accounts than with the more slowly turning over commercial bank savings, savings bank and building society accounts.

Adherents to this view of savings as a long run phenomenon motivated by the desire for financial security or for the acquisition of a capital asset of considerable value relative to annual income flows, are frequently inclined to argue that long range savings behaviour is beyond the capacity of "poor" peasant cultivators.<sup>11</sup> However, it appears that this concept of savings is a product of certain institutional arrangements in developed economies and of only minor importance to the analysis of savings capacity or behaviour in a rural economy such as that found in parts of Kenya.

A long run concept of savings is useful when the bulk of the labour force can reasonably expect to enjoy a steady (but not assured) and increasing flow of income until compulsory

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11. There is ample evidence in Kenya that smallholders are frequently motivated by long run considerations. However, the burden of the argument developed here is that considerations of peasants' time perspectives are at worst misleading, at best of secondary importance, to a theory of rural savings behaviour.

retirement, where access to higher education yields a perceived positive return but where access is not restricted to limits budgeted by governments, where most of the population have no farm to return to as a last resort, where a variety of financial assets (savings accounts, annuities, etc.) are readily available to individuals who wish to take a long run point of view, and where individual or nuclear family efforts to ensure a financially secure future are perceived as being preferable to informal arrangements involving large groups.

The agricultural sector of a developing economy seldom satisfies these conditions. The individual can expect erratic income flows, reflecting the rhythm and uncertainties of agricultural production and the difficulties in obtaining off-farm employment. Compulsory retirement does not exist, and old people unable to put in a full day's work are provided for by their families as naturally as children are provided for. Within the community, mutual assistance is frequently asked for and given without stigma. The range of perceived long run alternatives may be small and the land provides basic if not always responsive long run security. There may be little tradition of purchasing financial assets as a means of savings, and the financial system of the larger economy may be characterised by uncertainties which endanger the liquidity of financial assets and by chronic inflation and repressed levels of interest rates (frequently negligible or negative in real terms) which render fixed value financial assets an unwise long run investment.

## 2. A Financial View

A much more useful concept of savings in a developing economy is simply that found in those elementary economics textbooks which define savings as deferred consumption. This approach is also consistent with the banker's or financier's preoccupation with what are fundamentally the lags between receipts and disbursements (sources of funds) or between disbursements and receipts (uses of funds). If inflows and

outflows are simultaneous there is little scope for the financial function -- savings and credit do not arise. Most modes of production and consumption, however, involve flows and transaction settlements which are not precisely in balance.

The seasonal nature of agricultural production leads naturally to savings. If it were true that "small farmers cannot save," it is doubtful they could have survived or developed to the level they have achieved. The rural economy would have ground to a halt long ago. While consumption is continuous, harvests may occur only once or twice a year, and hence the concept of savings proposed here is especially relevant to agriculture. School fees are due at specific times, which may not exactly coincide with the receipt of coffee payments or other inflows. Because of thin markets and related institutional configuration and performance, investments may require a good deal of time-consuming organization before implementation -- e.g. the "shortage" of grade cattle means that many prospective buyers with the resources to purchase an animal are not able to obtain one immediately. Acquisitions of land frequently involve lengthy negotiation and delays. Thus, as exchanges are not simultaneous, certain quantities of the medium of exchange become temporarily marooned in the flow of economic activity, at which time another function of money, as a store of value, assumes primary importance.

Attention to the lag between receipts and disbursements, i.e., the length of time for which consumption is deferred, leads naturally to consideration of how this period can be lengthened and how the funds which are idle during the lag might be employed. This approach is amenable to consideration of small increments, days or weeks rather than years of consumption lag, and it would appear that small increments are also appropriate to the nature of the rural development process.

CSS statistics may be analysed from this point of view. The basis or the turnover formula, developed in several ways in the tables, is to compare some measure of the stock of deposits

on hand with some measure of the flow of deposits, and to derive the level of the stock as a function of the flow, expressed in the tables as "days' deposits on hand" as represented by average balance figures. Month-end balance data has been used for reasons of convenience.

Data for twenty-four months from 1972 to 1974 for Machakos (Table 8) shows that total coffee payout "days on hand" increased by 22% from 72 to 88. For individual societies, turnover increased for only two, decreasing for eight which registered increased days on hand of up to more than 100%. Similar data for some Murang'a societies (Table 9) shows generally growing days on hand for the four societies with the longest history in the programme and over 60 days' payouts on hand for the group as a whole.

Data for coffee societies using union banking section services in Embu suggests that total average month-end balances represented 39 days of total deposits during the period from October 1973 to June 1974, up by about 21% from the corresponding period one year previously (Table 10). During 1973 the Machakos Union's average month-end balances equalled almost 60 days of deposits (Table 11).

In answer to the rhetorical question of whether institutional arrangements can be designed to utilise rural financial resources for rural development, CSS performance adds to the evidence which suggests that the mobilisation of small farmer financial resources for the benefit of the immediate and wider community is possible. (1, p. 320)

### 3. The Importance of Saving to Rural Welfare and Development

The growth of CSS balances should be viewed against the performance of the market for smallholder coffee in recent years. The market has been characterised by increasing prices and volume since 1971, as shown below. (13, pp. 64-65)



<u>Year</u>	<u>Smallholder Coffee Production (thousand metric tons)</u>	<u>Average Gross Price to Growers (Shs per 100 kg)</u>
1970	30.4	Shs 747
1971	28.0	636
1972	27.8	779
1973	36.1	910

While these statistics fail to provide information on the margins or net returns earned by smallholder producers, they do suggest that the volume of payments made through growers' CSS accounts has risen sharply.

However, the fact that the growth of CSS balances has been most dramatic during a period of rising producers' receipts does not detract from the accomplishment. Indeed, that may be the whole point -- if farmers do not save a portion of any real increase in their incomes, a valuable opportunity is lost. This point is of special importance not only to favourable price movements but also to situations in which new technologies are introduced which result in a quantum leap in farmers' income.

Farmers whose incomes have risen substantially over a short period of time may not wish to spend incremental income immediately for several reasons. Some may wish to retain liquidity for precautionary reasons -- some coffee farmers may desire to put a little aside as some protection against falling coffee prices in the future. Those who intend to use all of their incremental income for consumption may also choose not to do so all at once. The local marketing system may not offer a wide choice of luxury goods, and in any event prospective buyers may enjoy shopping around a little before making a major purchase. Those who do not wish to spend all of their incremental income on consumption may not perceive a range of investment alternatives. Again, the marketing system

may still be operating at a level appropriate to the previous level of community income, and investment goods may not be readily available locally. Also, investment takes time. Most farmers require time to get organised to make and exploit a new investment. In other words, it may not be convenient or possible to spend incremental income quickly on goods which are not consumed on an everyday basis. If no institutional savings channel is available, farmers may be tempted to spend all incremental income on consumption goods, even if they are favourably disposed to using a substantial portion of that income for investment purposes. The social, psychological, managerial and physical difficulties of keeping a relatively large sum of cash in the home or on the farm may prove insurmountable. With a savings vehicle readily available, however, farmers may be able to resist these types of pressures until they are organised for investing. Those hand-to-mouth cycles which can be broken only by cash investment may be broken more quickly with farmer access to institutional savings facilities than without.

CSS will come of age only after the coffee boom fades in the face of falling prices, crop disease or other adverse factors. As noted before, its overwhelming dependence on coffee and CPCS's similar orientation constitute a vulnerability. Good times for coffee bring an accumulation of savings balances and good loan repayment performance, and bad times will probably see a decline in savings balances, an increase in loan demand and a deterioration in repayment performance. Of course, to the extent that CSS increases rural savings and increases the resources available for investment, depositors will be in a better position to adjust to reductions in their coffee incomes than they would be otherwise, without CSS.

## VI. INGREDIENTS OF SUCCESSFUL RURAL SAVINGS SCHEMES

What lessons for rural savings schemes can be drawn from CSS experience? Several qualifications are required with regard to any attempt to generalise from CSS performance. One is that the scheme is not yet mature. Another is that operating income and expenditure data is not adequate for a comprehensive review of performance on a consistent basis: no one knows exactly what it costs to run CSS, and it is doubtful its financial benefits have been carefully or consistently monitored or calculated by those responsible for its implementation. Also, it is obvious that CSS depends upon certain preconditions which might not be as favourable in certain countries as in Kenya. One is a degree of monetisation of the rural economy and a target group with a cash crop which is generally not consumed on the farm. Another precondition is the existence of institutional channels for employing savings balances by the savings institution. Given these qualifications, it appears that rural savings schemes have the greatest chance of success when:

- 1) they are linked with critical and growing cash income flows (as through cash crop marketing channels) which ensure a stream of deposits as well as involving only an incremental clerical burden, as when produce buyers already maintain accounts for individual producers.
- 2) they are linked with credit, providing an incentive for participants and an avenue for the local employment of funds, harmonising with perceptions of self or small group interest.
- 3) they involve quantities, such as minimum balance requirements (and loan sizes, if linked to a credit scheme) which are consistent with the economics of smallholder agriculture.



- 4) they offer new opportunities to savers by expanding the range of financial services available to the community -- i.e., they do not merely duplicate facilities already offered by mainstream financial institutions such as commercial banks and savings banks.
- 5) they are operated by established organisations capable of undertaking planning, promotion, implementation and control functions.
- 5) they enjoy depositors' confidence. Institutions operating only at the village level may fail to generate the necessary level of confidence. Confidence is demonstrated by the majority vote of society membership required for a society's entry into the Scheme. Majority rule also ensures that at least half of a society's members are willing to participate on a voluntary basis. Forced savings programmes deprive farmers of part of the run of rural development.

STATISTICAL ANNEX

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Table 1. Comparative Statistics for Selected Savings Media, 1970 - 1973.

Savings Medium	Year-end Balance and Growth Data			
	1970	1971	1972	1973
<b>Cooperative Savings Scheme</b>				
Balances (Sh million)	1.1	2.3	12.3	36.9
Increase in balances (Sh million)		1.2	10.0	24.6
% rate of increase		119.2%	433.1%	199.6%
Number of accounts	7,000	n.a.	83,052	112,500
Average balance per account (Sh)	150	n.a.	146	328
<b>Post Office Savings Bank</b>				
Balances (Sh million)	112.5	118.1	130.4	142.9
Increase in balances (Sh million)		5.6	11.7	12.5
% rate of increase		5.0%	10.4%	9.6%
Number of accounts	601,000	618,000	640,000	659,000
Average balance per account (Sh)	187	191	204	217
<b>Commercial bank savings accounts</b>				
Balances (Sh million)	696.1	761.0	841.0	1,009.3
Increase in balances (Sh million)		64.9	80.0	168.3
% rate of increase		9.3%	10.5%	20.0%
Number of accounts <sup>a</sup>	n.a.	n.a.	n.a.	300,000
Average balance per account	n.a.	n.a.	n.a.	3,361
<b>Commercial bank time deposits</b>				
Balances (Sh million)	621.9	693.2	711.0	994.8
Increase in balances (Sh million)		71.3	17.8	283.6
% rate of increase		11.5%	2.6%	39.9%
Number of accounts <sup>a</sup>	n.a.	n.a.	n.a.	40,000
Average balance per account (Sh)	n.a.	n.a.	n.a.	24,870
<b>Private financial institutions:<sup>b</sup></b>				
<b>Time and savings accounts</b>				
belonging to Kenya residents				
Balances (Sh million)	201.8	291.6	244.4	517.5
Increase in balances (Sh million)		89.8	2.8	c)
% rate of increase		44.5%	1.0%	c)
Number of accounts	n.a.	n.a.	n.a.	n.a.
<b>Cooperative savings and credit societies (credit unions)</b>				
Balances (Sh million)	5.4	8.1	16.2	32.0
Increase in balances (Sh million)		2.7	8.1	15.8
% rate of increase		50.7%	100.0%	97.5%
Number of accounts	22,154	23,477	35,745	51,355
Average balance per account (Sh)	244	316	453	623

Sources: Department of Cooperative Development, Central Bank of Kenya, Post Office Savings Bank, commercial banks.

Notes: n.a. = not available

a) Estimated by the author from data provided by several banks.

b) Private financial institutions include building societies, finance companies, merchant-banks, savings and loan companies, etc., registered under the Banking Act.

c) Discontinuity in the data series renders comparison of 1973 figures with earlier years difficult.

Table 2. Cooperative Savings Scheme Balances and Participation, 1970 - 1973.

Participating Unions	Progress Indicators	30 Nov.	- -	31 December <sup>a)</sup>	- -
		1970	1971	1972	1973
Kiambu <sup>b)</sup>	Savings balances (Sh 000)	1,053	2,308	4,514	9,083
	Number of accounts	7,000	n.a.	17,106	17,200
	Average balance (Sh)	150		264	528
Embu	Savings balances (Sh 000)			589	1,469
	Number of accounts			14,471	14,500
	Average balance (Sh)			41	101
Machakos	Savings balances (Sh 000)			2,084	4,500
	Number of accounts			14,000	14,800
	Average balance (Sh)			149	304
Murang'a <sup>c)</sup>	Savings balances (Sh 000)			3,946	13,400
	Number of accounts			20,387	33,000
	Average balance (Sh)			194	406
Kirinyaga	Savings balances (Sh 000)			1,180	5,000
	Number of accounts			17,088	17,000
	Average balance			69	294
Masaba <sup>d)</sup>	Savings balances (Sh 000)				80
	Number of accounts				2,600
	Average balance (Sh)				31
Meru South	Savings balances (Sh 000)				3,370
	Number of accounts				13,400
	Average balance (Sh)				251
TOTAL COOPERATIVE SAVINGS SCHEME	Savings balances (Sh 000)	1,053	2,308	12,314	36,890
	Number of accounts	7,000	n.a.	83,052	112,500
	Average balance (Sh)	150		148	328

Source: Department of Cooperative Development  
Note: n.a. = not available in the files consulted.

- a) Year-end data is not necessarily representative of performance throughout the year because of the bulking of coffee payouts during the last quarter in some unions
- b) All references to the Kiambu Union refer to the Kiambu Coffee Growers Cooperative Union -- separate dairy and pyrethrum unions are also based in Kiambu.
- c) The Murang'a Union absorbed a credit and savings society which began operations in 1967. Pre-CSS statistics are as follows: (Sh 000)

<u>31</u> <u>Dec.</u>	<u>Deposit</u> <u>Balances</u>	<u>Loans</u> <u>Outstanding</u>
1967	103	81
1968	160	243
1969	466	360
1970	2,439	1,339
1971	3,380	1,617

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- d) The Masaba Union consists of primary pyrethrum marketing societies, while the other unions are primarily oriented towards coffee. A sketch of the pyrethrum industry in Kenya is contained in Donaldson and Von Pischke, item 7 in the list of references attached to this paper.

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Table 3. Distribution in Cumulative Percentages of CSS Account Balances at Seasonal High and Low Points in Selected Societies.

Union and Society	Society Member-ship	Sample Size	High and Low Balances (Sh 000)	Month/Year	Account Balances in Shillings											more than 5,000	
					0-50	51-100	101-150	151-200	201-250	251-300	301-350	351-400	401-450	451-500	501-750		751-1000
(Data are shown in cumulative percentages, indicating the proportion of the sample lying below the upper limit of each range.)																	
Societies showing little variation in sample balance distribution between seasonal high and low points:																	
ENBU Gaturi	1,638	48	158 363	10/73 11/73	25	71	78	80	86	92	92	94	94	94	96	100	100
MACHAKOS Kikima	1,238	62	115 301	11/73 12/73	52	69	74	77	80	80	82	84	86	86	90	100	100
MACHAKOS Muputi	220	12	24 85	10/73 12/73	33	58	75	75	75	75	75	75	75	75	83	100	100
MURANG'A Mugoiri	3,363	72	613 1,397	1/73 5/74	42	67	67	84	84	84	84	84	84	84	92	100	100
Societies showing significant variation in sample balance distribution between seasonal high and low points:																	
ENBU Kyeni	2,626	48	232 1,318	10/73 1/74	55	88	88	92	94	94	94	94	96	96	96	100	100
ENBU Murue	852	67	52 132	4/74 11/73	10	22	35	43	47	52	56	61	67	69	78	88	98
KIAMBU Kiambaa	712	31	254 562	1/74 4/74	46	94	97	98	99	99	99	99	99	100	100	100	100
KIAMBU Ndumberi	992	44	433 942	11/73 4/74	32	64	76	91	92	95	95	96	97	97	97	100	100
MACHAKOS Mitaboni	892	40	71 216	10/73 11/73	3	30	44	47	53	59	62	68	74	74	74	84	100
					6	12	22	32	32	42	42	52	55	55	68	81	100
					20	29	36	38	40	45	54	59	68	68	82	84	98
					14	25	30	37	42	44	49	51	55	60	75	82	91
					38	76	86	93	95	100							
					15	53	67	74	84	89	89	89	89	91	98	98	100



Table 4. A Comparison of CSS Balances and CPCS Loans Outstanding, 1970 - 1973.

		(Sh 000)			
<u>Unions</u>	<u>Members' Accounts</u>	30 Nov. 1970	- - 1971	31 December 1972	- - 1973
Kiambu	Savings balances	1,053	2,308	4,514	9,080
	CPCS loans outstanding	<u>2,167</u>	<u>5,081</u>	<u>1,790</u>	<u>3,630</u>
	Net savings	<u>(1,114)</u>	<u>(2,774)</u>	<u>2,724</u>	<u>5,450</u>
Embu	Savings balances			589	1,458
	CPCS loans outstanding			<u>701</u>	<u>688</u>
	Net savings			<u>(112)</u>	<u>769</u>
Machakos	Savings balances			2,084	4,500
	CPCS loans outstanding			<u>561</u>	<u>1,000</u>
	Net savings			<u>1,523</u>	<u>3,500</u>
Murang'a	Savings balances			3,946	13,400
	CPCS loans outstanding			<u>1,916</u>	<u>4,400</u>
	Net savings			<u>2,030</u>	<u>9,000</u>
Kirinyaga	Savings balances			1,180	5,000
	CPCS loans outstanding			<u>796</u>	<u>1,400</u>
	Net savings			<u>384</u>	<u>3,600</u>
Other CSS Unions	Savings balances				3,450
	CPCS loans outstanding				<u>1,050</u>
	Net savings				<u>2,400</u>
TOTAL CSS UNIONS	Savings balances	1,053	2,308	12,314	36,890
	CPCS loans outstanding	<u>2,167</u>	<u>5,081</u>	<u>5,765</u>	<u>12,170</u>
	Net savings	<u>(1,114)</u>	<u>(2,774)</u>	<u>6,549</u>	<u>24,720</u>
Non-CSS Unions	CPCS loans outstanding		<u>3,456</u>	<u>2,299</u>	<u>2,540</u>
TOTAL	CSS savings balances less CPCS loans outstanding	<u>(1,114)</u>	<u>(6,230)</u>	<u>4,250</u>	<u>22,180</u>

Table 5. CSS and CPCS Participation and Average Balances, 1972 - 1973.

Union	Participation Indicator	31 December 1972		31 December 1973	
		CSS	CPCS	CSS	CPCS
Kiambu	Number of accounts	17,106	5,103	17,200	2,900
	CPCS as % of CSS		30%		17%
	Average balance (Sh)	264	351	528	1,252
Embu	Number of accounts	14,471	2,071	14,500	3,300
	CPCS as % of CSS		14%		23%
	Average balance (Sh)	41	339	101	209
Machakos	Number of accounts	14,000	1,878	14,800	7,300
	CPCS as % of CSS		13%		49%
	Average balance (Sh)	149	299	304	117
Murang'a	Number of accounts	27,387	4,072	33,000	6,000
	CPCS as % of CSS		20%		18%
	Average balance (Sh)	194	471	406	650
Kirinyaga	Number of accounts	17,088	3,553	17,000	4,350
	CPCS as % of CSS		21%		26%
	Average balance (Sh)	69	224	294	322
Masaba	Number of accounts			2,600	700
	CPCS as % of CSS				27%
	Average balance (Sh)			31	429
Meru South	Number of accounts			13,400	1,550
	CPCS as % of CSS				12%
	Average balance (Sh)			251	484
TOTAL	Number of accounts	83,052	16,677	112,500	26,100
	CPCS as % of CSS		20%		23%
	Average balance (Sh)	148	340	328	466

**Table 6. Hypothetical Interest Income and Expense Calculations for a Union Banking Section.**

	<u>Amount</u>	<u>Interest Rates</u>	<u>Interest Income (Expenditure)</u>
CSS Deposit Liabilities, . . .	100	5 %	( 5)
Less: 20% liquidity requirement: till money, collection items, etc. . . . .	20		
Resources available for investment	80		
Less: CPCS loans outstanding	40	10 % <sup>a)</sup>	4
Deposits with the Coop Bank or a commercial bank	40	5 %	2
Net Interest Income <u>Before</u> Operating Expenses			<u>1</u>

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a) The interest rate charged by unions on CPCS loans must fall within the 8 - 12% range specified by the Department of Cooperative Development. Within this range unions fix their own rate. Farmers frequently borrow at a rate 1% above the union lending rate, the spread being retained by the borrower's primary society.

Table 7. Month-end Deposit and Loan Balances for Selected Societies Affiliated with the Murang'a Union, October 1973 - June 1974.

Society	(Sh 000)												Highest Net as % of Lowest Net
	Month and Year												
	10/73	11/73	12/73	1/74	2/74	3/74	4/74	5/74	6/74				
Iratii	CSS deposit balances	563	541	865	723	694	623	1,439	894	826			
	CPCS loans outstanding	268	287	286	396	433	473	504	506	482			
	Net	295	254	579	327	261	150	935	388	344	623 %		
Iyogo	CSS deposit balances	635	593	935	800	739	1,474	872	858	1,382			
	CPCS loans outstanding	174	176	285	337	371	426	447	476	464			
	Net	461	417	650	463	368	1,048	425	382	916	285 %		
Kagema	CSS deposit balances	1,360	1,269	1,205	2,436	3,769	2,639	2,412	3,605	3,145			
	CPCS loans outstanding	630	651	700	648	977	613	752	776	664			
	Net	730	618	455	1,788	2,792	2,026	1,660	2,829	2,481	622 %		
Kahuhia	CSS deposit balances	498	448	747	578	843	591	595	100	415			
	CPCS loans outstanding	169	184	282	240	314	284	284	342	291			
	Net	329	264	465	338	529	307	311	358	184	288 %		
Kiangama	CSS deposit balances	123	115	206	159	148	251	203	171	187			
	CPCS loans outstanding	64	65	65	50	74	56	79	117	136			
	Net	59	50	141	109	74	195	124	54	51	390 %		
Kugiriri	CSS deposit balances	1,124	979	2,405	1,698	1,462	1,305	1,163	1,690	1,353			
	CPCS loans outstanding	658	670	669	852	645	1,134	1,141	1,289	1,013			
	Net	466	309	1,736	846	817	171	22	401	286	789 %		
Nginda	CSS deposit balances	76	71	119	96	87	114	103	174	136			
	CPCS loans outstanding	20	20	19	17	23	15	24	28	23			
	Net	56	51	100	79	64	99	79	146	115	286 %		



Table V. (continued)

Mjora	CSS deposit balances	339	317	296	531	471	416	429	379	397	
	CPCS loans outstanding	132	132	132	121	145	182	193	207	184	
	Net	207	185	164	410	326	234	236	172	213	250 %
Thangaini	CSS deposit balances	482	442	401	506	442	426	1,126	668	656	
	CPCS loans outstanding	217	219	263	224	284	304	314	323	357	
	Net	265	223	138	282	158	122	803	445	299	663 %
Methaga	CSS deposit balances	1,026	924	889	980	864	1,066	677	1,084	931	
	CPCS loans outstanding	260	233	282	284	323	326	352	329	280	
	Net	766	691	607	696	541	740	325	755	651	236 %
TOTAL	CSS deposit balances	6,225	5,698	8,068	8,507	9,519	8,906	9,018	10,323	9,495	
	CPCS loans outstanding	2,592	2,667	3,032	3,170	3,588	3,812	4,093	4,392	3,954	
	Net	3,633	3,031	5,036	5,337	5,931	5,094	4,925	5,931	5,541	196 %

Note: The societies included in this table are all those rural societies which are served by the Union banking section office in Murang'a. Balances as of seasonal high points and low points are underlined for convenience in this Table.

Table 8. Members' Coffee Receipts Turnover Calculations for Primary Societies Affiliated with the Nachakos Union, 1972/73 - 1973/74.

Society	July 1973 to June 1974		July 1972 to June 1973	
	Payouts to Members	Total Balances	Payouts to Members	Total Balances
Iveti	2695	8640	1646	3126
Kakuyuni	304	841	160	530
Kikina	619	2352	102	923
Kitajani	926	3105	1028	2739
Kithangatiini	282	1212	152	477
Kithumanj	14	134	16	68
Kivuli	579	1778	386	1203
Katungulu	3363	9	1841	4623
Mojini	1645	4201	1536	3549
Mitaboni	586	1738	315	744
Matsuni	1423	2835	639	1413
Muputi	77	708	52	255
TOTAL	12513	36751	8175	14650

Note: Total Balances is an abstraction obtained by adding together the month-end balances for each period. Payouts divided into Total Balances yields a payout turnover factor, expressed as months (i.e., average months) of payouts represented by balances. This factor multiplied by 30 (days per month) gives the number of (average) Days' Payouts on Hand, or the average number of days for which the average payout remained in an average member's account before being withdrawn.

Days' Payouts on Hand

Days' Payouts on Hand

Payouts to Members

Society

Total Balances

Days' Payouts on Hand

Payouts to Members

Total Balances

Days' Payouts on Hand

Table C. Members' Coffee Receipts Turnover Calculations for Selected Primary Societies Affiliated with the Murangia Union, 1972/73 - 1973/74.

Society	July 1972 to June 1974		to June 1973		Length of Period in Months
	Payments to Members	Total Balances	Payments to Members	Total Balances	
Irati	2000	5041	06		
Iyego	2410	1258	50		
Kagima	6836	11847	62		
Kahula	2315	5917	79	1980	8
Kiangoma	495	1109	73		
Mugolri	1109	18159	68	1476	6
Mginda	191	900	142		
Njora	1255	3180	23	868	7
Thangaini	1440	9127	78		
Wethaga	2184	10820	126	2781	8
TOTAL	25610	62139	60	7010	

Note: Total Balances is an abstraction obtained by adding together the month-end balances for each period. Payouts divided into Total Balances yields a payout turnover factor, expressed as months (i.e., average months) of payouts represented by balances. This factor multiplied by 60 (days per month) gives the number of (average) days' Payouts on Hand, or the average number of days for which the average payout remained in an average member's account before being withdrawn.

Table 10. Members' CSS Account Turnover Calculations for Primary Coffee Societies Affiliated with the Embu Union, 1972 - 1974.

Society	October 1973 to June 1974 (Sh 000)			October 1972 to June 1973 (Sh 000)			October 1972 to September 1973 (Sh 000)		
	Total Deposits	Total Balances	Days Deposits on Hand	Total Deposits	Total Balances	Days Deposits on Hand	Total Deposits	Total Balances	Days Deposits on Hand
Central Njandori	699	1322	57	219	300	41	416	473	34
Gakundu	716	535	23	421	435	31	820	636	23
Gaturl	1356	1957	43	729	390	37	916	1335	42
Kagaar	2769	4154	45	1740	680	29	2297	2391	31
Kapangaz	1712	2362	41	772	1053	41	1260	1663	40
Kibugu	1325	1835	41	512	460	34	601	782	39
Kirukumare	944	1217	39	463	434	28	629	668	32
Kyen	3768	4077	32	1795	1608	27	2490	2269	27
Murue	607	674	33	171	412	72	297	710	72
Thambana	749	1039	42	264	297	34	528	486	28
TOTAL	14645	19172	39	6986	7693	32	10284	11413	33

Note: Total Deposits refer to the total amount deposited to members' accounts (net of loan and credit sale repayments) during each period. Total Balances is an abstraction obtained by adding together the month-end balances during each period. Dividing Total Deposits into Total Balances yields an average account turnover figure expressed in months of deposits represented by balance. Multiplication of this monthly turnover factor by 30 days per month yields the Days' Deposits on Hand figure.

Table 11. Monthly CSS Account Turnover, Machakos Union, 1973.

Month	(Sh 000)				"Outside" <sup>a)</sup>
	Opening Balance	Total Deposits	Total With-drawals	Closing Balance	Deposits as % of Total Deposits
January	2084	516	951	1650	
February	1650	609	442	1816	16 %
March	1816	352	561	1607	33 %
April	1607	597	891	1813	
May	1813	220	419	1613	64 %
June	1613	390	341	1662	20 %
July	1662	100	241	1522	93 %
August	1522	408	327	1602	23 %
September	1602	156	255	1504 <sup>b)</sup>	44 %
October	1545 <sup>b)</sup>	1930	195	5280	6 %
November	3280	5428	4078	4680	2 %
December	4630	3415	3024	5021	6 %

Average Closing Balance 2310  
 Average Monthly Total Deposit 1177  
 Turnover Factor 1.96  
 Average Number of Days' Deposits on Hand at Month-end 59

a) "Outside" deposits are those which do not originate from payouts and consist of deposits made by members or by third parties such as employers on behalf of members. Missing values reflect the absence of data in files consulted.

Table 12. Month-end CSS and CPCS Data, Kiambu and Machakos Unions, 1972 - 1973.

Month & Year	KIAMBU UNION			MACHAKOS UNION		
	CSS Balances	CPCS Loans Outstanding	Loans Net	CSS Balances	CPCS Loans Outstanding	Loans Net <sup>a)</sup>
<u>1972</u>						
January	3037	4678	(1642)			
February	2827	4494	(1667)	b)		
March	2688	4439	(1752)			
April	2442	4416	(1974)			
May	3682	3136	546			
June	3439	3136	303	453	477	(24)
July	3279	3137	141			
August	3084	3024	59	546		
September	3976	2285	1691	497	333	164
October	3532	2263	1269	3620	893	2728
November	4014	2146	1868	2363	563	1800
December	4514	1790	2724	2084	357	1727
<u>1973</u>						
January	5750	1100	4650	1649	336	1313
February	4679	1127	3552	1816	559	1257
March	3947	1351	2596	1607	999	608
April	3728	1938	1790	1813	1084	729
May	5150	2700	2450	1613	1633	(19)
June	4566	2815	1751	1662	1730	(68)
July	4417	2862	1556	1522	1751	(229)
August	10462	2856	7605	1602	1768	(165)
September	7434	2473	4960	1504	1775	(272)
October	6491	2587	3904	3280	1788	1492
November	5900	2600	3300	4630	865	3765
December	9666	3630	6036	5021	853	4168

a) For purposes of comparison the volume of coffee sales by the Machakos Union in 1971 was Sh 3.9 million; in 1972, Sh 7.4 million, and in 1973, Sh 17.0 million. Growers typically receive about 80% of the union sale price.

b) CSS was introduced in Machakos in February 1972. Missing values reflect the absence of data in files consulted.



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