MOBILIZING RURAL SAVINGS IN PAPUA NEW GUINEA: MYTHS, REALITIES, AND NEEDED POLICY REFORMS

NIMAL A. FERNANDO

I. INTRODUCTION

s in many other developing countries, the bulk of the population in Papua New Guinea lives in the rural sector and this will continue to be so for several more decades, despite high rural-to-urban internal migration and the potential for decline in the population growth rate in future. This, among other factors, makes the mobilization of rural savings important for the development process in Papua New Guinea.

However, a review of planning documents, policy statements, and literature on financial markets in, and activities of financial institutions of Papua New Guinea clearly shows that voluntary rural savings mobilization has been a "neglected area" in the country's rural development. Numerous rural development projects that have been implemented since independence (in 1975) in different parts of the country also did not include rural savings promotion components.

The demise of Savings and Loan Societies (SLSs) in rural areas over time provides further evidence of policy neglect of voluntary rural savings mobilization. The SLSs were introduced well before independence, in 1963, and were conceived as an ideal "pre-banking" system to reach rural people [11]. The societies grew in number, geographical spread, membership, and in terms of average deposit size over the 1965–73 period. Yet, over time they have become more urban-biased and those in the rural sector have demised, mainly owing to lack of active support and commitment from the central government. The neglect is further reflected in the type and policies of state-owned financial institutions of the country. For example, the Agriculture Bank of Papua New Guinea (set up in 1967), which is supposed to contribute considerably towards rural development and has legislative powers to "accept deposits," has been operating only as a lender, even since independence [6].

The state-owned commercial bank, the Papua New Guinea Banking Corporation (PNGBC), has made an attempt to establish a link with the rural sector through government and private-sector agencies. At the end of 1988, there were 150 such agencies, with some located in remote rural areas [12]. The agencies provide only passbook savings and withdrawal facilities. However, lack of appropriate incentives and the agencies' inability to grant loans, hence, to offer the strongest incentive for savings mobilization, has made them ineffective in mobilizing rural savings. The interest rate policy on passbook savings accounts, which does not offer a sufficient positive real interest rate, further reduces their effectiveness. Thus, evidence tends to reinforce the hypothesis that rural savings mobilization

has been, in Vogel's [18] terms, "the forgotten half of rural finance" in Papua New Guinea. This has been so despite the fact that about 85 per cent of the 3.8 million population live in the rural sector.

The neglect of rural savings mobilization in developing countries has been explained generally in terms of the low income, hence low savings capacity, of rural households and the high propensity to spend the low income on ceremonial activities, in addition to the basic necessities of life [1]. It is possible that policy-makers in Papua New Guinea have also acted primarily on this popular assumption. Another assumption has been that costs far outweigh the benefits of rural savings mobilization by certain formal financial institutions [6]. The availability of foreign loans to finance rural development activities also may have led policy-makers to ignore the mobilization of rural savings.

Another plausible explanation is the widespread use of "forced savings" mobilization methods, particularly the agricultural price stabilization schemes for coffee, coconut, cocoa, and since 1983, oil palm. As the small holders producing these crops account for a lion's share of the cash income in the rural sector, and they are required, under the stabilization schemes, to pay levies during favorable price periods, policymakers may have chosen to neglect voluntary rural savings mobilization. At the end of 1977, the total deposits in the stabilization funds amounted to 82.9 million kina and this rose to 170.8 million kina at the end of 1986 [9]. Thus, a considerable amount of funds has been "forced saved" through this mechanism in the late 1970s and early 1980s.

In this paper, the author rejects the poverty explanation for neglecting voluntary rural savings mobilization. Evidence supports the hypothesis that rural Papua New Guineans have been regular savers and savings habits have been an integral part of their household economy. Also, it is pointed out that "forced savings" mobilization through agricultural price stabilization schemes in Papua New Guinea has been a poor substitute for voluntary rural savings mobilization.

II. RURAL HOUSEHOLDS DO SAVE

The poverty explanation for neglecting rural savings is weak on theoretical grounds. Von Pischke [20] argues that irrespective of income levels almost everyone saves at least for very short periods as "saving commonly precedes expenditure" and there is no "minimum holding period for funds not spent to be considered as having been saved." Thus, it is incorrect to conceptualize savings as a residual of income after consumption.

Empirical evidence from a large number of Asian and Latin American countries also suggests that the rigid notion of low or zero savings capacity of poor rural households is unrealistic. Rural households have a much greater capacity to save than what is generally assumed by the policymakers [1] [3] [7]. In Papua New Guinea rural households have been not only regular savers but also have exhibited a significant capacity to save.

¹ For details on these schemes, see [8]. For a more recent excellent economic analysis of the schemes, see [9].

Savings in-kind has been a common practice among rural Papua New Guineans, as it has been in many other rural societies. They have been adopting various methods of savings in-kind: one is to save a part of the food production in "yam houses," built specially for the purpose; another has been to defer the harvesting (save in the ground) of kau kau (sweet potatoes)—which is the staple food in many rural areas—for future use; and distribution of surplus production among wantoks (relatives and friends who speak the same language) has been practiced in part as a method of saving due to the significance of reciprocity in the rural society.

Rural Papua New Guineans hoard money in tin boxes in the house or by burying it underground. Sometimes money is hidden between the pages of books. Another practice has been to give money to older people for safekeeping. People in Logofata Village in the Bena District of Eastern Highlands Province practice this method, but they are not an exception. The hoarding of money was a significant problem in the rural sector during the 1960s. According to Lanes [11, p. 167], a "reasonable estimate of hoarded money" in 1967 might be Australian \$2–3 million.

Data on SLSs provide further evidence on the saving habits and capacity of rural Papua New Guineans. Prior to independence, the number of SLSs increased from 4 in 1963 (year of commencement) to 221 in 1969 with the membership rising from 209 to 11,238 during the same period. The total deposits in these societies grew from Australian \$6,256 in 1963 to \$781, 481 in 1969. This growth occurred in a context of very low levels of socioeconomic development, per capita incomes, monetization, and infrastructural facilities.

More recent evidence also shows the rural population's regular savings habits and capacity to save. First, a simple type of Rotating Savings and Credit Association—known as Sande—is a popular informal arrangement of savings and credit in rural Papua New Guinea. The Sandes are found among migrant workers in coffee and cocoa plantations, settlers in oil palm schemes, small-holder growers of cash crops, fishermen, poor women, and more commonly among low-income households [5] [15]. The savings activities carried out by women under the informal arrangement known as Wok Meri groups provide further support to the hypothesis of considerable savings capacity among the rural poor [14]. Members of these women-only groups save for about five to nine years before the collected savings are invested. Also, each of these groups promotes the formation of another group and encourages its members to save by extending them credit for the purpose [5].

Another very common savings arrangement in rural Papua New Guinea is "savings groups." They are set up for different purposes and involve members of a given tribe, village, clan, or sub-clan. Members of such groups contribute savings regularly or irregularly to collect money for a given purpose such as payment of church fees, investment in a truck, or to build some form of common facility. Generally they hand over savings to a leader who keeps the money with him until the predetermined need to use the funds arises [5].

Rural savings capacity is evident from the rapid growth of the small-holder cash

crop sector, particularly coffee and cocoa. The majority of the highland people in Papua New Guinea had no idea of what coffee was in the early 1950s. Yet, by the early 1980s, the economy of the highland provinces was dominated by small-holder coffee cultivation which accounted for about 70 per cent of the total coffee production of the country. Small-holder cocoa cultivation also showed a remarkable expansion during the 1960–80 period. This growth in the small-holder cash crop sector was financed not by bank loans but apparently by rural household savings.

The growth in the small-holder cash crop economy has enhanced the savings capacity in the rural sector. Low cash input use in this sector meant a substantially low financial cost of production. This coupled with the high component of subsistence production by the small-holder cash crop growers, must have led to an improvement in their savings capacity.² This is particularly true in respect of boom years in commodity prices, 1976, 1984, and 1986 in coffee and 1984 and 1985 in cocoa.³ Finally, the ceremonial traditional exchange systems, bride-price payments, and funds mobilized to make compensation payments in the settlement of disputes in cases of homicide or damage to property show that a significant savings capacity exists in the rural sector, even among households otherwise considered to be poor [4] [16]. Evidently, many households which are likely to incur expenses for such ceremonies (except compensation payments) set aside a part of their income or production for future use. Hoarding of currency, both notes and coins, continues to be a common method of savings among rural households, particularly among women [5].

All these factors suggest that the traditional poverty explanation is highly unrealistic, incorrect, and unconvincing. A major problem in Papua New Guinea appears to be not the lack of savings habits and capacity, but lack of appropriate incentives, easy access to appropriate institutions, and measures to mobilize potential savings in the rural sector.

III. ARGUMENTS FOR VOLUNTARY RURAL SAVINGS MOBILIZATION

Mobilization of rural savings by formal institutions would result in an improvement in rural distribution of income provided that such institutions pay positive real rates of interest on deposits and keep transaction costs at low levels. At present, in Papua New Guinea, neither *Sandes* nor the Wok Meri groups, referred to earlier, pay any interest on savings [5]. Such savings and hoarded money are subjected

- ² In 1988, export earnings from coffee and cocoa amounted to 114 million kina and 46 million kina, respectively, while palm oil exports brought another 37 million kina. Small holders accounted for about 70 per cent of the total production of coffee and cocoa, and 50 per cent of the oil palm production.
- ³ Valentine [17] noted that a positive correlation between aggregate savings and exports exists in Papua New Guinea. Though quantitative estimates are not available, one can safely assume a high correlation between exports and rural savings, given the predominant position of small holders in the sector.

to negative real rates of interest, due to inflation. Therefore, formal-sector involvement is likely to provide better returns to the rural savers and thereby improve rural income distribution.

Rural savings mobilization will also improve the resource allocation of the country, particularly because a considerable amount of money saved under informal arrangements is either spent on relatively low-return investments or not made available for investment purposes and hence kept idle for long periods [14]. For example, Wok Meri groups keep their savings idle for about five to nine years before they are invested [5]. Informal arrangements are inefficient in allocating scarce financial resources in the rural economy partly as a result of their inability to harness economies of scale due to information constraints and risk related factors. On the other hand, as informal arrangements do not provide an adequate rate of return, they do not considerably reduce incentives for consumption and ceremonial activities.

Mobilization of voluntary savings by formal institutions enables them to improve their financial viability and overall performance in several ways [18] [19] [21]. This appears to be particularly true with respect to the Agriculture Bank of Papua New Guinea which is faced with serious loan delinquency problems, political interventions, and prolonged and repeated periods of excess capacity resulting from heavy reliance on external funds, something which is common among many specialized lenders in developing countries [6]. Rural savings mobilization will enable the agriculture bank to gather valuable information on its existing as well as potential borrowers, leading to lower transaction costs on loans to the rural sector, and reducing dependency on external funds and room for political intervention. More importantly, it will have a positive effect on loan delinquency and reduce risk premium, hence the cost of lending. Combining rural deposit mobilization with lending activities is likely to reduce the unit cost of operation of the agriculture bank from its currently high levels.

If the formal-sector financial institutions can mobilize a greater amount of domestic savings, the government of Papua New Guinea may be able to reduce foreign borrowings, as the substitutability of domestic savings for foreign borrowings is much higher than what is generally assumed by the policymakers. Also, the commercial banking system will have a greater capacity to accommodate the demand for credit from the private sector, provided that government-sector demand will not result in a greater "crowding-out" effect under the new situation.

A major argument in favor of rural savings mobilization by formal financial institutions in Papua New Guinea is its positive impact on the currently inadequate flow of credit to the rural sector. This is due to a number of related developments. As pointed out earlier, savings mobilization is likely to improve the financial viability of lenders, thus enabling them to assume greater risks in lending. Also, the reforms in interest rate policy that will be necessary to mobilize rural savings will further strengthen the lenders' risk bearing capacity. The lenders may therefore, increasingly look for cost-effective financial innovations as lending to the rural sector now appears to be a profitable rather than a "loss-making" proposition. A financially viable lender will also enjoy a greater capacity to provide attractive

incentives and better training to its employees, who are dealing with rural lending activities. The combined effect of these positive developments would be a greater flow of credit to the rural sector than before, without political persuasions.

Whether the existence of agricultural price stabilization schemes makes voluntary rural savings mobilization unnecessary or less important is another important question. The twin functions of the price stabilization schemes are to stabilize growers' incomes in the face of export price fluctuations and to contribute towards macroeconomic stability [8]. In order to perform these functions, the government imposes "levies" on growers when export prices exceed a predetermined threshold price of the respective commodities. When prices fall below an estimated floor level, "bounties" are paid to growers. The schemes have neither contributed much to macroeconomic stability nor to stabilize growers' incomes [9].4

For several reasons these schemes cannot be considered as acceptable substitutes for voluntary savings mobilization. First, 60 per cent of the levies collected have to be deposited with the Central Bank, and are sterilized. Therefore, a substantial amount of the funds collected is not made available to deficit units. Second, growers do not enjoy any freedom to make use of their savings whenever they wish to do so. Third, growers are contributing to a common fund and therefore, individual growers cannot use their "forced" savings as a basis in building up their borrowing capacity. Nor does the government grant any credit under the schemes. Fourth, the schemes are highly inequitable. A grower may get less than what he contributed, or more. Fifth, considerable uncertainty remains as to whether the bounties paid fully trickle down to growers. Due to market imperfections, a part of the benefits is enjoyed by non-growers in the production-marketing chain. Although the schemes have in effect operated as a forced savings mechanism in the past, more recently they have been faced with serious resource problems and relied on government loans to pay bounties to growers. Thus, the savings character of the schemes has faded already. Moreover, as the schemes apply only to major tree crops, rural incomes generated from other farm and nonfarm sources are not brought under this mechanism of savings. Therefore, the schemes cannot be considered comprehensive, efficient, and equitable substitutes for voluntary rural savings mobilization.

IV. POLICY MEASURES

Although many developing countries continue to neglect rural savings mobilization, a growing body of literature on successful experiences of rural savings mobilization

⁴ It must be noted that a number of other economists has argued that the schemes benefit the small-holder growers and contribute to macroeconomic stability [8]. Yet, their arguments are based on dubious and unrealistic assumptions, and incomplete data. For example, none of them are based on a reliable set of data on actual prices received by the small holders. None of them also compare the schemes with alternative policy instruments and ask the crucial question whether or not more benefits could be achieved at a lesser cost through such alternative instruments. Many conveniently dodge the equity issues.

TABLE I
REAL RATES OF INTEREST ON PASSBOOK SAVINGS, 1982–88

			(%)
Year	Inflation Rate	Interest Rate on Passbook Savings	
		Nominal	Real
1982	6.9	6.5	-0.4
1983	8.5	6.0	-2.5
1984	4.4	6.0	1.6
1985	3.7	3–6	-0.7-2.3
1986	5.5	3–7	-2.5 - 1.5
1987	3.3	3.5-7.0	-0.2-3.7
1988	5.4	3.5-7.0	-1.9-1.6

Source: [13].

in a number of countries now exists [2] [18]. Evidence available from such countries confirms two very significant hypotheses, relevant for the policymakers: rural poor households do positively respond to economic incentives aimed at mobilizing savings; and some of the key policy measures required for the purpose are characterized by a high degree of transferability across different societies and countries, irrespective of their heterogeneity.

Evidence from other developing countries shows that a significant positive real rate of interest is a key policy instrument required for rural savings mobilization. In Papua New Guinea, the financial institutions do not provide rural savers with an attractive positive real rate of interest. Of the commercial bank savings schemes, the most accessible scheme has been the "passbook accounts" scheme of the PNGBC. However, as may be seen from Table I, the interest rate offered for passbook accounts has been either negative in real terms or only marginally above the rate of inflation. When the nominal interest rates are adjusted for transaction costs to depositors, the real rates will look even more unfavorable. Thus, it is not surprising that many rural households have not responded well to the scheme. Hence, a flexible interest rate policy which provides adequate positive real rates of interest on rural savings will be necessary to promote rural savings.

However, as Vogel [18, p. 249] correctly pointed out, a policy of offering adequate positive real rates of interest "is inconsistent with policies of low-interest-rate lending." Thus, if the state-owned banks of Papua New Guinea are to offer attractive deposit rates to rural savers, they will have to adopt market-oriented interest rates on loans. Without such a policy change on lending rates, it is simply not possible for the banks to offer attractive incentives for rural savers.

Attractive positive real rates of interest is a necessary, but not a sufficient condition. Several other measures are required. One such measure is to link savings with credit facilities. The agencies of the PNGBC do not provide credit facilities to the depositors and, hence are unable to provide one of the strongest incentives for rural savings. The Agriculture Bank of Papua New Guinea provides only credit facilities, and therefore is an "incomplete" financial institution. It is

necessary for financial institutions that are serving the rural sector to provide both credit and savings facilities. The extension of the activities of the agriculture bank to cover rural deposit mobilization would, therefore, be a promising policy reform which would bring benefits to both the agriculture bank and some of the rural savers [8]. Similarly, the PNGBC has to introduce innovative, cost-effective ways of reaching rural households with both savings and credit facilities and other financial services.

Accessibility to financial institutions or their agents is also important for the rural people. Accessibility encompasses both geographical closeness of, and the ease with which a person can carry out transactions with an institution. Although, the PNGBC has twenty branches, twenty-two sub-branches, and about 150 agencies, only the agencies are located in rural areas. The majority of rural households does not have easy access even to these agencies. The widespread practice of hoarding is, in part, a reflection of this access problem. Without easy access to financial institutions, a higher positive real rate of interest would not serve a useful purpose to the majority of the rural people in remote areas. Therefore, the spatial spread of institutions to remote rural areas would be of vital importance for the mobilization of rural savings.

However, in a country with a rugged terrain and less developed rural infrastructure, the expansion of formal banking institutions to rural areas would be an expensive and difficult task. This may not be even an economically viable proposition for commercial banks at this early stage of development. On the one hand, this underscores the crucial significance of nonfinancial policies for financial development in rural areas. On the other hand, it illustrates the need for innovative and cost-effective measures to reach the rural households in remote areas which should not be left behind in the development process, if the process is to be meaningful for the majority of the country's population. The issue is how the access can be expanded in a cost-effective way so that transaction costs to both institutions and their clients are kept at reasonably low levels. Establishing links with informal and semiformal groups appears to be one of the effective ways of reaching them cost-effectively.⁵ The existence of various types of self-help groups in the rural society makes this a feasible proposition [5]. These possibilities should be explored and made use of through an active policy of reaching the rural sector.

Promotion of SLSs in the rural sector needs to be made an integral part of such a policy. The SLSs can adopt a more realistic interest rate policy and reach a greater number of households at relatively lower transactions costs to themselves

More recently, there has been a considerable interest and enthusiasm for what may be called a "linkage model" in rural finance. The Third International Symposium on the Mobilization of Personal Savings in Developing Countries, organized by the United Nations in December 1984, for example, concluded in their final resolutions, among others, that "linkages between formal and informal financial institutions seem to be more promising than separate development." The Asian Pacific Regional Agricultural Credit Association (APRACA) also decided on a coordinated programme for the promotion of linkages between banks and self-help groups for rural savings mobilization (and credit delivery) in rural areas, in a regional workshop held in May 1986, in Nanjing. For details on the linkage model, see [10].

and the savers. Also, because they combine savings with credit facilities, they may be able to provide stronger incentives to the savers than institutions which provide only savings facilities, such as the agencies of the PNGBC, or those which provide only credit facilities, such as the Agriculture Bank of Papua New Guinea. Moreover, the fact that SLSs are institutions of the people in the area itself rather than of outsiders (from the point of view of the people) would act as a moral incentive due to the associated feeling of participation and ownership. Profits of the SLSs would also benefit their members rather than outsiders. The agriculture bank as well as the PNGBC could establish links with the SLSs to make them more active and resourceful in both savings mobilization and in channelling credit to the rural sector. Thus, SLSs appear to be a better institutional mechanism for voluntary rural savings mobilization in Papua New Guinea, from the viewpoints of both cost-effectiveness and equity.

Introduction of appropriate savings instruments for rural savers is another measure required in order to promote savings [7, p. 127]. At present, even those low-income rural Papua New Guineans who have access to financial institutions do not enjoy a choice of savings instruments, as only the passbook account scheme is offered to them. Moreover, as there is a minimum balance requirement of 20 kina for the passbook account, it does not appear to be appropriate for many rural households whose average annual cash income is lower than 100 kina. Hence, there is a need for more appropriate savings instruments.

Savings instruments should fit not only the income but also the educational level of rural households. Because many people in rural Papua New Guinea are illiterate (adult literacy is only 45 per cent in Papua New Guinea), simplicity should be an essential characteristic of the savings instruments. Perhaps, savings campaigns combined with a rural functional literacy improvement programme would have a significant positive effect.

V. CONCLUSION

This paper concludes that the assumptions which appear to have led policymakers and financial institutions in Papua New Guinea to neglect rural savings mobilization are incorrect, unrealistic, unconvincing, and refuted by available evidence. The rural Papua New Guineans have been regular savers and they have the capacity and willingness to save. Yet, they have not been provided with adequate incentives for voluntary saving with financial institutions. Another conclusion of the paper is that the agricultural price stabilization schemes cannot be considered efficient substitutes for voluntary savings mobilization measures, on both efficiency and equity grounds. Therefore, their presence should not be an excuse to neglect voluntary rural savings mobilization.

Mobilization of rural savings by formal and semiformal institutions would provide considerable benefits to all parties involved. However, in order to promote rural savings in Papua New Guinea interest rate reforms on deposits as well as lending, improved access to institutions, introduction of appropriate savings instruments, and promotion of rural-based savings and loan societies appear to be necessary.

REFERENCES

- 1. Adams, D.W. "Mobilizing Household Savings through Rural Financial Markets," *Economic Development and Cultural Change*, Vol. 26, No. 3 (April 1978).
- 2. Asian Productivity Organization. Farm Finance and Agricultural Development (Tokyo: Asian Productivity Organization, 1988).
- 3. Bhatt, V. V. "On Financial Innovations and Credit Market Evolution," World Development, Vol. 16, No. 2 (February 1988).
- 4. Feil, D. K. "The Bride in Bridewealth: A Case from the New Guinea Highlands," Ethnology, Vol. 20, No. 1 (1981).
- FERNANDO, N. A. "Informal Finance in Papua New Guinea: An Overview," Paper presented at the Seminar on Informal Financial Markets in Development, Washington, D.C., October 18-20, 1989.
- 6. ———. "Agriculture Bank of Papua New Guinea: Assessment of Performance and Proposals for Reform," Savings and Development (forthcoming).
- 7. FISCHER, B. "Savings Mobilization in Developing Countries: Bottlenecks and Reform Proposals," Savings and Development, Vol. 13, No. 2 (1989).
- 8. Guest, J. "The Cocoa, Coffee and Copra Price Stabilization Funds in Papua New Guinea's Post Independence Macroeconomic Policy Framework," mimeographed (Port Moresby: Bank of Papua New Guinea, 1987).
- 9. JARRETT, F., and Anderson, K. Growth, Structural Change and Economic Policy in Papua New Guinea: Implications for Agriculture, Pacific Policy Paper No. 5 (Canberra: Australian National University, 1989).
- 10. KROPP, E., et al. Linking Self-help Groups and Banks in Developing Countries (Eschborn: Asian Pacific Regional Agricultural Credit Association/GTZ, 1989).
- Lanes, A. R. "Financial Institutions in a Developing Economy: A Study of the Role of Savings and Loan Societies in Papua New Guinea" (Master's thesis, University of Sydney, 1969).
- Papua New Guinea Banking Corporation. Annual Report, 1988 (Port Moresby: Papua New Guinea Banking Corporation, 1989).
- 13. Quarterly Economic Bulletin (Bank of Papua New Guinea), Vol. 17, No. 1 (March 1989).
- 14. Sexton, L. D. "Wok Meri: Women's Savings and Exchange System in Highland Papua New Guinea," Oceania, Vol. 52, No. 3 (March 1982).
- 15. Skeldon, R. "Regional Associations among Urban Migrants in Papua New Guinea," Oceania, Vol. 50, No. 2 (June 1980).
- 16. Strathern, A. "Finance and Production: Two Strategies in New Guinea Highlands Exchange Systems," Oceania, Vol. 40, No. 1 (September 1969).
- 17. VALENTINE, T. J. Some Critical Problems in the Papua New Guinea Financial System, Islands/Australia Working Paper No. 87-7 (Canberra: Australian National University, 1987).
- 18. Vogel, R. C. "Savings Mobilization: The Forgotten Half of Rural Finance," in *Undermining Rural Development with Cheap Credit*, ed. Dale Adams et al. (Boulder, Colo.: Westview Press, 1984).
- 19. Vogel, R. C., and Burkett, P. "Deposit Mobilization in Developing Countries: The Importance of Reciprocity in Lending," *Journal of Developing Areas*, Vol. 20, No. 4 (July 1986).
- 20. Von Pischke, J. D. "Towards an Operational Approach to Savings for Rural Developers," Savings and Development, Vol. 2, No. 1 (1978).
- 21. ———. "Risk: The Neglected Dimension in Rural Credit Projects," Savings and Development, Vol. 13, No. 2 (1989).