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Household Credit for Water and Sanitation

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Acronyms

BKK	Bank Kredit Kecamatan (in Indonesia)
BPD	Bank Pembangunan Daerah (in Indonesia)
BRI	Bank Rakyat Indonesia
CAMEL	capital adequacy, asset quality, management of human resources, earnings adequacy, and liquidity
CDFI	community development banks and financial intermediaries
CHF	Cooperative Housing Foundation (in Honduras)
GNP	gross national product
HUDCO	Housing and Development Corporation (in India)
IBRD	International Bank for Reconstruction and Development (World Bank)
KUPEDES	general credit (in Indonesia)
NGO	nongovernmental organization
O&M	operations and maintenance
OPP	Orangi pilot project (in Pakistan)
PVO	private voluntary organization
ROSCAs	rotating savings and loan associations
SAANA	National Water and Sanitation Agency (in Honduras)
USIT	urban sanitation improvement team (in Lesotho)
VIP	ventilated improved pit (latrine)
WS&S	water supply and sanitation

EXECUTIVE SUMMARY

This paper, directed toward technical professional staff in USAID who are responsible for designing programs and projects, advocates the use of microfinance institutions as an integral part of financing strategies for increasing water supply and sanitation coverage in urban and peri-urban areas.

Policymakers and program designers in nongovernmental organizations (NGOs) and international financing institutions also may find much that is relevant to their attempts to incorporate microfinance within the design of a wide range of activities. The paper addresses the following questions:

1. Is a credit approach superior to grants for supporting on-site peri-urban water supply and sanitation (WS&S)?
2. What lessons learned from microfinance can be incorporated in the design of credit programs oriented toward WS&S and general housing improvement?
3. If credit is a better financing mechanism than grants, should it be narrowly channeled to finance particular types of investment, or supplied in the form of a more flexible housing improvement loan?
4. What types of institutions are best suited to supply household credit to support WS&S initiatives in poor urban and peri-urban areas?

Credit and On-Site Water Supply and Sanitation Facilities

In developing countries most investments in water and sanitation have emphasized water supply plants, wastewater treatment, and mains construction—infrastructure external to the household. As such, these installations have created little beneficial impact on the lives of poor urban and peri-urban residents. For the immediate future the only affordable solutions for many of these households are simple on-site facilities such as water storage tanks, pit latrines, simple plumbing, septic tanks, and small-bore sewers, options ranging in cost from \$68-500 per household.⁸³

Lending support to specialized microfinancial intermediaries supplying the credit households need to implement such options is a promising approach to improving WS&S within poor urban and peri-urban communities. To achieve rapid and efficient delivery, these intermediaries will need to combine good

⁸³ Hardoy, Cairncross, and Swatterthwaite. *The Poor Die Young*.

financial management, judicious use of incentives to align staff and institutional goals, products based on market research, and decentralization of decision making.

The paper examines ten country examples of credit-financed approaches to WS&S development, identifies lessons from general microfinance (loosely defined as loans of under \$500), and draws some conclusions about the characteristics of sustainable credit programs and the institutions that manage them. It recommends that funding agencies adopt a financially disciplined support strategy to help develop microfinance intermediaries whose financial viability depends upon demand for on-site household WS&S improvement loans.

The use of donor funds to provide seed capital and train private voluntary organizations (PVOs), NGOs, and community-level financial institutions such as credit unions in financial management is one way for WS&S programs to achieve higher cost recovery and hence greater coverage. Supporting simple (nonbank) financial intermediaries increases effective demand for up-front, lump-sum investments in household WS&S facilities and at the same time provides an avenue for the PVOs/NGOs who sponsor these intermediaries to become financially sustainable. Where formal financial institutions are flexible enough to adapt their methods to small loans, they could also find profitable markets for consumer credit and housing improvement loans.

A Demand-Led Approach to WS&S in Urban and Peri-Urban Areas

Because peri-urban areas frequently have inhospitable physical conditions and lie relatively far from established population centers, conventional WS&S infrastructure is expensive to install, and it is unusual for municipal institutions to accept responsibility for providing services. Yet the demand for such services is large and growing in many developing countries. It is the argument of this paper that investments in household WS&S facilities are attractive to many poor urban and peri-urban residents and generate personal economic benefits for which consumers are both willing and able to pay. If financial markets are undeveloped, then providing access to credit and savings services will increase people's willingness and ability to pay by opening up new opportunities to manage cash flow over time.

The existing market for housing improvements, including on-site WS&S, is shown by the private savings invested in incremental extensions and improvements. Examples presented in this report provide evidence of such demand in countries as diverse as Ghana, Lesotho, Honduras, Pakistan, and Indonesia. While the high returns to investment in domestic water supply are uncontroversial, the proposition that demand likewise exists for sanitation at the household level is frequently treated with skepticism. However, experience suggests that cultural attitudes toward privacy (especially for women), public

hygiene education, perception of the costs of vector-borne diseases, and the positive effect of sanitation facilities on property values all increase the demand for on-site facilities.

Like shelter renovation, WS&S improvement often takes place incrementally rather than as a result of a "one-off" investment in a full range of facilities. The first stage, often the only option available in peri-urban areas, is for a household to establish basic water storage facilities and a pit or bucket latrine. The next stage might be a well, connection to mains water where this is available, or investment in a large storage tank so that the household can obtain water at bulk rates from a truck. (High prices paid for vended water mean that such investments will generate substantial cash flow in the future to service debt.) Sanitation can be upgraded from a pit latrine to a flush latrine and connection to an individual or communal septic tank. Since peri-urban residents who can work usually put in long hours in the formal and informal cash economy, these investments often make use of purchased materials and contractors rather than family labor. Unless the contractor provides credit, however, such improvements require a significant "up-front" payment, which is a source of demand for short- to medium-term credit.

The provision of water, alone, will often exacerbate sanitary conditions as wastewater is discharged to the street, creating a community-level demand that households cannot satisfy individually. It is only when basic household facilities are established, however, that residents are likely to incur the costs of community mobilization and coordination to obtain the additional facilities and services they need from local and national government.

The Role of Household Credit as a Financing Mechanism

The rate of investment in on-site WS&S in peri-urban areas can be accelerated by development of innovative financial institutions serving a niche market the formal banking sector does not currently consider profitable. PVOs, donors, and governments have an interest in ensuring that these institutions are properly regulated and managed, to protect the interests of both clients and loan providers without imposing high transaction and regulation costs. Such institutions or intermediaries can be owned by PVOs, individuals or private companies, communities, or even governments, depending upon the regulatory environment and local circumstances.

While PVOs/NGOs are experienced in disbursing money and subsidizing both extension and physical investments, they are also increasingly looking to cost recovery from service users to finance expansion. The appropriate division of disposable household income between consumer payment of service fees to organizations and loan repayment for

personal loans to finance household improvements depends on the nature of the costs to be covered and on which mechanism consumers prefer.

Financial Sustainability of Credit Institutions

Experience in microenterprise lending has demonstrated that cost recovery should be central rather than peripheral to the design of sustainable financing mechanisms. To sustain and increase the supply of credit for WS&S consumer credit, intermediaries must be able to supply small short- to medium-term loans (six months to three years) at interest rates attractive to borrowers. To achieve financial sustainability, the interest rate borrowers pay should cover the cost of funds, administrative and labor costs, loan-loss allowances, a margin for inflation, and any return on capital the owner requires. (In conditions of high inflation and/or overregulated financial markets, it will be very difficult to achieve financial sustainability as the interest charge to cover inflation risk will be very high.)

The essence of microbanking is to replace sophisticated credit-evaluation techniques and collateral requirements with lower-cost procedures. Since tenure in informal settlements is often weak, collateral from property value is not available to secure loans. Although tenure issues can be addressed by legal reform, such remedies take time. Meanwhile, other innovations can replace the requirement for formal collateral. The basic problem for a lender is gaining accurate information about the borrower's character and ability to repay; equity (in the form of compulsory savings contributions), solidarity groups, communal pressure, and the incentive of continued access to credit reduce transaction costs and increase the cost of default. The examples in chapter 5 indicate that general credit programs using such methods and also specialized credit programs working with a WS&S "mission" have been able to supply small-scale credit on a sustained basis.

For loans of \$200 to \$300, repaid over a period of six months to a year, real margins of 15 to 25 percent over the cost of funds may be required to cover intermediation costs and a return on capital. This may appear high when compared with commercial money market rates, but it has been shown repeatedly that the problem for low-income borrowers is access to credit rather than the interest they must pay.

The microfinance approach uses consumer demand and the lenders' hard budget constraint to create conditions in which good loans will be made. Good investments in household WS&S meet consumers' expectations and lead to good credit recovery. If they are to stay in business, microfinance institutions must be flexible enough to respond to changes in incomes and tastes and evolve with their clients or customers. For example, experience in Honduras with demand-based approaches shows that consumers in peri-urban areas demand a wide range of technical solutions to on-site WS&S needs

rather than being content with a "one size fits all" design prepared by project authorities on the basis of "affordability."

In many circumstances, it may not make sense to overdetermine the types of investments that credit programs may finance. There is a complementarity between housing improvements in general and water supply and sanitation facilities, and there may often be economies in combining housing improvement and WS&S loan programs within a single institution. Although the sources of funding for housing improvement programs and WS&S are often different, this distinction is of little relevance to a market-oriented financial institution; customers and contractors who do the improvements are likely to be the same for both categories of investment. Since access to further credit is a major incentive to repay, a client-centered approach starting with a short/medium-term loan for on-site WS&S provides a graduated path to longer-term loans for more-comprehensive housing improvements (such as walls and roofs).

Financial intermediaries often develop skills as contract-enforcement agents, standing between efficient (but not always honest) private contractors and peri-urban borrowers. Experience in Honduras, Lesotho, and Pakistan confirms the important role loan officers play as a source of technical advice and construction supervision. For example, they can condition disbursement of the balance of loan proceeds to contractors upon performance standards. Using bonded contractors to control standards is another way to maintain quality and reduce the information and enforcement costs of administering credit.

WS&S programs that try to deliver both credit and construction using the same organization usually end up doing neither very well. Use of the private sector to provide construction services/equipment, but with quality control and supervision by the lending intermediary, appears to be a more sustainable approach than a supply-led construction project with a credit program grafted on.

Institutional and Strategic Issues

Water and sanitation have usually been treated as public services, supplied to users for a fee and requiring government subsidies justified on social and environmental grounds. Municipal or state-owned utilities are often inefficient, overregulated, and unable to supply even the formal sector with adequate services. Subsidies through tax transfers and foreign aid/borrowing are becoming more difficult to secure. Addressing the needs of peri-urban areas through a projects/program framework is complicated by overlapping sectoral responsibilities for finance, housing, public health, and WS&S. Effective interventions must address issues in all of these sectors, which have traditionally been the responsibility of largely independent and centrally financed ministries. Projects and programs often lack effective horizontal integration across these sectors and are also

sometimes burdened by inefficient bureaucratic management. For this latter reason, many developing country government agencies can be inappropriate vehicles for delivering either sustainable credit services or WS&S.

Governments or parent organizations do, however, have an important role to play in regulation of financial institutions such as microfinance intermediaries. Chartering, to establish initial standards, and some level of regulation are necessary to control corruption and imprudent risk taking. By satisfying known regulatory standards and establishing a track record, microfinance intermediaries can increase the confidence not only of potential funders in the formal sector but also of local savers. Some low-income housing lenders in India and Honduras have even been able to access funds from commercial capital markets.

While the development of branch networks of financial institutions to serve the lower-income urban market is desirable, both scale and financial independence in microfinance have proven difficult to achieve. Banks often think they can make no money from small loans and prefer to serve what appear to be more-lucrative markets for much larger commercial loans. Most microcredit programs that have been able to sustain and even increase their level of services enjoy high but not always visible subsidies from external funders; this is the case with many PVO-supported programs, where the number of people reached is often small. Only those credit programs that have used a coordinated corporate approach to branch banking have established a large client base. NGO-initiated efforts such as the Grameen Bank in Bangladesh and Banco Sol in Latin America, as well as formal institutions such as the Bank Rakyat Indonesia, are some of the few organizations that have achieved significant coverage.

For more immediate impact (and because of the demonstrated ineffectiveness of many formal-sector programs), pioneering approaches by PVOs, NGOs, and credit unions deserve support. Strong financial management skills support NGOs in expanding their programs and help community-development finance intermediaries sustain delivery of financial services. Assistance is most effective in the form of technical support, training, and capital injections rather than cheap loan funds that blunt the motivation to mobilize deposit savings or tap commercial sources of funds. To maintain incentives to make good loans, lenders or investors should release funds in tranches contingent upon satisfactory credit recovery as well as delivery.

A long-term goal for a credit-based strategy is to scale up or replicate intermediaries serving small borrowers and savers, but this will not be accomplished quickly. The development of a capacity to deliver financial services and a wide range of financial products requires sophisticated management and corporate governance. Unlike many larger financial institutions, microfinance intermediaries rarely enjoy economies of scale in systems and product design, supervision, and training; as well, they seldom achieve broad

1

INTRODUCTION

1.1 Overview

Despite large subsidies, water supply and sanitation (WS&S) infrastructure supplied by public utilities and government agencies often represents poor value for money expended, while operations and maintenance (O&M) are done badly or not at all.¹ Delivery mechanisms established through government budgets and private contracts are frequently subject to irregularities and poor service levels. At the same time the WS&S needs in densely populated and growing areas, whether urban slums or unplanned informal settlements (peri-urban areas), are expanding exponentially. Although often unserved and sometimes even unacknowledged, these large and rapidly growing areas are becoming increasingly significant politically and economically. Such areas present particular problems for the improvement of water and sanitation facilities. Given the frequent absence of secure tenure, neither landlords nor individuals have strong incentives to invest in improving on-site facilities or contribute to public/community environmental management. As a result residents often look to the government for WS&S solutions. Financially overburdened governments, however, are increasingly imposing the responsibility for providing such solutions onto municipalities that are often equally overburdened.

Although the debt crisis in some developing countries has combined with slow economic growth in the industrialized world to reduce the flow of funds for new WS&S projects, the shift to projects emphasizing locally based demand, community participation, sustainability, and cost recovery is motivated not only by funding constraints but also by the search for a “better way.” User fees to finance operations and maintenance of water supply can be an effective way to secure consumer involvement and sense of ownership, and can lead to the demand for a better product.²

Whether water and sanitation services are supplied through private or state enterprises, and on a large or small scale, servicing loans for new investments will increasingly have to come from the cash flow generated from consumer payments. Alternatively, households will have to raise capital themselves. As it stands, the lack of appropriate credit instruments and institutions limits poor consumers’ ability to pay lump sums for up-front costs such as water and sewerage connection fees, or for on-site water and sanitation facilities such as household storage tanks, latrines, septic tanks, and plumbing.

The lack of appropriate credit instruments and institutions limits poor consumers’ ability to pay lump sums for up-front costs.

¹ “Memorandum to the Executive Directors and the President: Water Supply and Sanitation Projects—The Bank’s Experience, 1967-1989.”

² Ibid, chapter 5. “The principal lesson is that progress and continuing success depend most on responding to consumer demand. A program’s designers and managers must understand they are selling a product, not providing a service” (v).

In succeeding chapters, this paper will address four key questions:

- Is a credit approach superior to grants for supporting urban and peri-urban on-site WS&S programs?
- What lessons learned from microfinance can be incorporated in the design of micro-financial institutions to supply credit for small-scale housing improvements such as on-site WS&S facilities?
- If credit is a better financial mechanism than grants, should it be narrowly channeled for particular activities or given in the form of general household credit with less restriction on its use?
- What types of institutions are best suited to supply household credit to support WS&S programs and projects?

The answers to these questions will vary depending upon the particular situation; no “universal” approach will be viable in all or even most circumstances. This paper will argue that a microfinance institutions approach to supporting home-based water and sanitation development in urban and peri-urban areas is an option that should be considered, and that enough experience with this mechanism now exists to draw some conclusions about what is likely to work and what is not.

1.2 The Audience

This paper is aimed primarily at technical professionals in USAID responsible for designing programs and projects that reflect the principles contained in USAID’s statement of “Strategies for Sustainable Development.” Policymakers in NGOs will also find much of the discussion relevant, not only for using credit as a tool in the WS&S sector but also for incorporating financial sustainability into the design of a wide range of activities.

Rather than write a “cook book” manual of how to do credit, the author has chosen instead to elaborate general principles derived from both theory and practice. Thus, while the paper focuses on factors affecting the financial sustainability of intermediary institutions, an attempt has been made to contain technical discussion and explain the major concepts for a wider audience. Although some effort may be required, the major principles and conclusions should be understandable to nonspecialists. A glossary of financial, economic, and banking terms is contained in Appendix A.

1.3 Report Outline

Chapter 2 explains the rationale for targeting households as the market for loans, and then goes on to describe ways in which urban and peri-urban markets differ from those in rural areas. Sections 2.3 and 2.4 discuss the shift in water and sanitation programs from a supply-led approach to one based on demand, distinguishing

between on-site facilities that households are willing to pay for and sewage and wastewater disposal, which may require subsidies on externality grounds as private benefits underweigh social benefits.

Chapter 3 provides an overview of credit, cost recovery, and water supply and sanitation, and discusses changing views about the role of microfinancial services in supporting economic and social development. In the past credit allocation and pricing as well as provision of savings services have been based on poor peoples' needs as perceived by planners. This "traditional" planning perspective contrasts with contemporary views of a growing microfinance consensus that views household credit services not as a vehicle for subsidies to low-income groups but as a way to satisfy demand in low-income market segments for simple and appropriate financial products.

Chapter 4 summarizes a number of institutional frameworks and credit programs that might support efforts to develop improved water supply and sanitation facilities. Chapter 5 then presents country experience of credit approaches targeted at low-income groups; some of the examples indicate where credit delivery may also have indirect effects on WS&S and health outcomes. Because of the dearth of specific examples of household credit in urban and peri-urban areas, several other programs incorporating relevant lessons are also discussed. The examples are classified by country and have not been presented as case studies due to the uneven availability of data.

Chapter 6 offers some conclusions about the general characteristics of successful credit schemes, drawing upon experience both within and outside the WS&S sector. More-specific recommendations regarding development of a financing mechanism based on household credit are summarized.

Household credit services are seen not as a vehicle for subsidies to low-income groups but as a way to satisfy demand in low-income market segments for simple and appropriate financial products.

2 BACKGROUND

This paper explores the provision of credit to individuals or households rather than to a community, as is often the case in WS&S finance. The debtors apply for loans and enter into a legal agreement to make repayments according to a schedule. Depending upon the regulations governing the institution they borrow from, the borrowers may or may not provide collateral. Often, the legal framework for making individual loans is clearer than that for lending to nonprofit organizations or entities with limited assets to offer as collateral. In fact, some countries allow loan agreements only with individuals.

The paper also focuses on urban and peri-urban water supply or sanitation investments by the poor. Without a narrower scope of discussion, conclusions already dependent upon generalizations would become nearly meaningless through qualification.

2.1 The Urban and Peri-Urban Setting

Of grave concern to national policymakers and donors is the rapid urbanization taking place in third world cities, where invasions of the desperate have led to vast areas of densely populated urban and peri-urban settlement—unserved and in many cases legally unrecognized.³ Although the term “peri” carries the spatial connotation of being at the margin of settlement, a more-flexible definition would also encompass central city areas that often share the characteristics of being unplanned, unserved, and inhabited by the poor and disenfranchised. But the appalling environmental conditions in many of these areas are tempered by their residents’ evident dynamism and capacity for improvement. As long ago as 1975, Schwartz, when presenting the results of a study of ten Caracas slum areas, observed that the poor “showed an ability to defer gratification through reinvestment in their homes, encouraged education of their children, lived in nuclear families, discouraged mutual aid to relatives, participated in the economic structure outside the *barrios*, and demonstrated positive feelings toward government and police officials.”⁴

Peri-urban areas are characterized as being unplanned, unserved, and inhabited by the poor and disenfranchised.

It is a mistake to assume the populations of poor urban and peri-urban areas are homogenous economically.

It would be a mistake to assume the populations of poor urban and peri-urban areas to be homogenous economically, as households differ widely by income, assets, education, and age structure. Many areas are in a process of rapid economic development, supplying labor to formal-sector manufacturing and services as well as to small-scale manufacture for both export and domestic markets. Much of the restaurant, transport, and small retailing sector is informal and most of the informal sector live largely in peri-urban areas.

³ Hogrewe, Joyce, and Perez. *The Unique Challenges of Improving Peri-Urban Sanitation*, WASH Technical Report No. 86; Tova María Solo, Eduardo Perez, and Steven Joyce. *Constraints in Providing Water and Sanitation Services to the Urban Poor*, WASH Technical Report No. 85.

⁴ Schwartz. “A Further Look at ‘Culture of Poverty’: Ten Caracas Barrios.” Hernando de Soto. *The Other Path: The Invisible Revolution in the Third World*.

The potential cash flow available for purchasing and storing good-quality piped water is enormous.

As a general rule, the private sector supplies water in peri-urban areas; vended water is convenient and delivered at high cost per unit of volume in comparison with household incomes.⁵ Studies of vendor water prices and willingness to pay show that residents allocate substantial resources for paying for these services.⁶ Thus, the potential cash flow available for purchasing and storing good-quality piped water is enormous.

In urban and peri-urban areas, most residents are involved in the cash economy, although often in low-paying jobs.

The greater private demand for sanitation at a household level in urban areas is a consequence of density of settlement, convenience, cultural attitudes toward privacy,⁷ and a growing awareness of the medical costs of WS&S-related illnesses. Tenure is a major determinant of demand for such facilities; when legal title is secure, on-site WS&S facilities increase property values. An undetermined proportion of urban and peri-urban housing is rented from landlords, who will also be an important part of the market for on-site improvements in WS&S facilities.

In urban and peri-urban areas there is far less subsistence production than in rural areas, and most residents are involved in the cash economy, although often in low-paying jobs or as informal-sector traders and producers of goods and services. Consequently, there is less scope for contributions of labor to community projects, and many households prefer to pay someone else to do household improvements and construction. These areas also differ from rural areas in their lack of stability and cohesion—although community organizations do sometimes evolve in response to perceived needs.

Microfinance efforts include the use of alternative and often indigenous informal financial innovations.

Compelling as certain arguments may be for a single urban authority charged with responsibility for the WS&S sector, such institutions are unlikely to develop in the near future. Many, for example, can scarcely serve their existing customers. The proposal to shift efforts to community-based development using NGOs⁸ as intermediaries is a second-best solution imposed by the manifest failure of existing institutions to tackle or even acknowledge the problems. This neglect is paralleled in the illegality of many economic activities supporting peri-urban residents, as the costs of complying with commercial law and regulation would be prohibitive.⁹ The incompatibility of commercial laws and regulations with available economic opportunities for the poor has spawned informal institutions and norms that substitute for formal-sector equivalents performing the same functions. Much microfinance work in urban and rural locations is an attempt to develop financial institutions that use alternative and often indigenous informal financial innovations within an appropriate framework of

⁵ It is not uncommon for peri-urban families to spend from 10 to 20 percent of their cash income for vended water. In Hardoy et al., *The Poor Die Young*, "Zaroff and Okun found [vended water] to be prevalent in rural and urban areas throughout Asia, Africa, and South America, and to serve an average of 40 percent of the households in the 12 low-income communities which they studied in detail. In half of these communities the cost of water amounted to 20 percent or more of the income of a typical household. Briscoe has estimated that water vendors serve 20 to 30 percent of the urban population of the Third World."

⁶ Whittington et al., 1993.

⁷ "A village woman came up and hugged me a few days ago saying that before she got her loan, she would wait all day in the house in order to relieve herself after dark. Her new latrine has spared her from that torture." Muhammad Yunus, quoted in David Kinley, "Matching Technologies to People's Needs and Means."

⁸ In this paper PVOs are identified with developing-country and international humanitarian organizations, while NGOs are local.

⁹ A research institute in Peru, for instance, estimated that 39 percent of Peru's GNP and 61 percent of hours worked in 1984 were a result of informal-sector activity. In J. Jenkin (ed.), *Beyond the Informal Sector*.

supervision and rudimentary prudential regulation.¹⁰

2.2 Why Household Credit?

This paper concentrates on household credit because obligations can be made fairly clear under such arrangements, and there is a body of banking principles, practices, and experience that can be applied. Focusing on the household demand for WS&S services will probably never become a comprehensive strategy for the sector because of remaining issues relating to central provision of water supply and sanitation services as well as to urban environmental management.

Informal financial institutions such as rotating savings and credit associations (ROSCAs) have already demonstrated their effectiveness as a means of economic empowerment in both urban and rural areas. The current enthusiasm for microenterprise lending stems from a growing awareness of the plentiful supply of resourceful people among the poor, and from abundant evidence that they are not a bad credit risk. When high arrears do occur, they are often a result of badly designed programs and products. Credit as a tool of empowerment has become a rallying cry for NGOs, women's groups, and even the World Bank (IBRD). At a recent IBRD-sponsored conference on overcoming hunger, of the twelve cases presented as successes in overcoming poverty, three involved individual credit and one was a savings scheme.¹¹

High arrears are often a result of badly designed programs and products.

2.3 Lessons Learned from Past Efforts in Rural WS&S

In the past, governments and donors have largely adhered to a needs-based approach to water supply and sanitation, underpinned by the assumption that most members of rural communities—where the bulk of WS&S projects have taken place—were too poor to afford the full costs of water supply. Economists classify goods and services according to their characteristics, which are not exclusive. Although both water and sanitation have “private,” “public,” and “merit” good characteristics, water supply subsidies have been justified largely on merit good considerations while sanitation has been treated more as a public good. Merit goods are those for which a private market may exist but for which society deems a certain minimum level of consumption to be a basic right of individuals, regardless of willingness to pay (for example, basic health care in West European countries). Public water supply investments have generally been financed by governments from some combination of general taxation and tied foreign aid loans. This pattern of financing has been justified by the judgment of “need” and its corollary that water supply should be treated as a merit good and hence provided at a subsidized price by the state. For investment purposes consumers of water supply services, at least in rural areas, have generally been

Merit goods are those for which a certain level of consumption is deemed a right.

¹⁰ Mabogunje. “A New Paradigm for Urban Development Strategy in Developing Countries.” National Board for Community Banks. “The Community Banking System in Nigeria.”

¹¹ World Bank. *Overcoming Global Hunger, A Conference on Actions to Reduce Hunger Worldwide, Lessons of Experience Case Studies.*

treated as beneficiaries rather than as investors, customers, or consumers. Users and local government-controlled water supply institutions have been required to take responsibility for operations while project-implementing agencies specialize in construction and development.

The results of applying “needs-based” methodologies have been very disappointing when the sums expended and debts incurred are compared with the quantity and quality of WS&S services in developing nations. This is particularly evident in the evaluations of the 1980-90 Water Decade, which have occasioned much questioning of the traditional needs-based and supply-driven approach to WS&S projects. According to conventional wisdom, financial self-sufficiency and sustainability of rural community water supply require only that users pay the O&M costs.¹² That government should be responsible for providing capital was rarely questioned in earlier decades. Usually, capital finance came in the form of a grant, although there might be a loan component that the agency or community organization was expected to repay.

Rarely if ever has a household-credit mechanism with formal contracts been used to recover costs. If repaid at all, capital and loan service fees have been collected mainly through user/usage fees, with individual borrowers rarely evaluated as credit risks. Credit to communities to finance water supply and sanitation are usually in kind; it is less common for loan funds to be disbursed in cash. Similarly, the community contribution may be in the form of materials and “sweat equity.” Although much progress has been made in community organization and hygiene education, achieving sustainability in the sense of maintaining benefits and extending services to new communities has remained an elusive goal.¹³ In the present fiscal climate, sustainable systems will have to make provision for covering capital as well as operating costs or be very confident of the continued supply of subsidies for replacement.

Sustainable systems will have to make provision for covering capital as well as O&M.

2.4 Public Water Supply and Sanitation in Urban Areas

Despite a different set of institutions and a nonrural setting, similar issues have arisen in the development of urban water supply and sanitation services—usually through publicly owned utilities and authorities. Strong arguments, based on the historical experience of industrialized nations, have dictated central planning and management of water resources within the context of public health and social objectives. The population density in urban areas makes the linkage between water supply and sanitation much stronger and the economics of centralized collection of wastewater more favorable. Also, the absolute size of communities creates a need for government responsibility for higher-level water and environmental management. Governments, donors, and lenders have made large investments in modern urban WS&S infrastructure modeled on municipal systems of the industrialized world. Despite these investments, however, publicly owned WS&S enterprises have often rendered poor service.

Privatization, or at least “corporatization,” of public water enterprises is one of the few solutions proposed to solve problems of poor management, inappropriate pricing, corruption, and political interference that bedevil the sector.¹⁴ Not only are many enterprises

The historical experience of industrialized nations has dictated central planning and management of water resources within the context of public health and social objectives.

¹² For an exception see McGowan et al., 1991.

¹³ Yacoob, Braddy, and Edwards. *Rethinking Sanitation: Adding Behavioral Change to the Project Mix*, WASH Technical Report No. 72.

¹⁴ Roth. *The Private Provision of Public Services in Developing Countries*, EDI Series in Economic Development.

inefficient as measured by low-output and high-input indicators, but they also lose money through large quantities of unaccounted-for water, poor collections, and a pricing structure that is often politically rather than commercially dictated. Although there have been notable successes in this specialized aspect of urban management, the consensus appears to be that services are generally of poor quality and coverage largely limited to middle- and upper-income groups. Even those fortunate residents with water and sewer connections frequently incur substantial indirect costs from trying to overcome intermittent and low-pressure water supplies. Those unconnected to piped systems are forced to pay the very high costs of vended water and to dump wastewater in their backyards or elsewhere in the community.

On-site water and sanitation investment has usually remained a household responsibility with choice about cost and quality adopted being exercised in the market. A typical range of capital costs per household for alternative sanitation systems is shown in the following table.¹⁵

Although the merit good and needs arguments have been used to justify ongoing budgetary support of public enterprises, there is also a recognition that problems within the sector are largely managerial and institutional rather than technical or economic.

Type	1990 \$US
Twin-pour flush latrine	75-150
Ventilated improved pit latrine	68-175
Shallow sewerage	100-325
Small-bore sewers	150-500
Conventional septic tank	200-600
Conventional sewerage	600-1,200

Aggregate and individual willingness to pay for water in urban areas is often high enough to cover the costs of both water and sanitation, as demonstrated by the prices people pay for vended water. Given the close relationship between increased domestic water usage and wastewater production, the attempt to link sewage costs to water use is a common practice. However, there appear to be severe institutional constraints to making this demand for water lead to an efficient supply response.¹⁶ Making householders pay for the incremental capital

Those unconnected to piped systems are forced to pay the very high costs of vended water and to dump wastewater in their backyards or elsewhere in the community.

Problems within the sector are largely managerial and institutional rather than technical or economic.

Willingness to pay for water in urban areas is often high enough to cover the costs of both water and sanitation.

¹⁵ Hardoy, Cairncross, and Satterthwaite. *The Poor Die Young*.

¹⁶ Coolidge, Porter, and Zhang. *Urban Environmental Services in Developing Countries*, Working Paper No. 9, The Environmental and Natural Resources Policy and Training Project. Porter. "Providing Urban Environmental Services in Developing Countries." *EPAT/MUCIA Policy Brief*, No. 4.

costs of establishing connections has been seen as a way of creating an alternative channel for sectoral finance. Under this type of credit, based on an agreement with each household, the utility receives up-front costs from the financier (state or donor) and then acts as a collection agent. Although a formal bank credit agreement may be adopted, the burden of collection usually falls upon the utility. However, because water supplies are such a political issue and collection procedures often inadequate, the threat of water cut-offs is rarely used to enforce repayment. Some governments even connive for political reasons in tolerating a culture of nonpayment. As a consequence, the credit recovery from schemes splitting responsibility between a bank and public utility may be low. Also, there is little selection of borrowers, as the credit is often treated as an entitlement and applied across an entire service area.

2.5 Recent Changes in the International Development Environment

In many developing countries disappointment with the results of existing approaches has coincided with changing financial circumstances. A combination of economically unfavorable movements—in terms of trade, recession, maturing debt, and reduced flows of aid and finance to the developing world—have caused the supply of funds for new projects to fall drastically. Investment cutbacks in rural water supply and sanitation have ensued, as have drastically reduced subsidies to loss-making urban public enterprises. Although in earlier decades cost recovery was pursued, albeit unenthusiastically, as an ideological objective, it is now motivated by more-pragmatic considerations. Indeed, cost recovery may be the only major source of financing for increasing coverage. At the same time there is increasing recognition that the way in which loan funds are channelled has had a profound effect upon the effectiveness with which they are used and the likelihood they will be repaid.

A demand-led approach implies less control over the final outcomes of interventions.

The fashion has swung from “supply-led,” grant-financed projects to approaches characterized as “demand-led,” which make cost recovery a core rather than a subsidiary objective.¹⁷ A demand-led approach implies less control over the final outcomes of interventions. Reinforced by the shift toward market-based solutions and the transformation of previously socialist economies, there is an increased commitment to paying more than lip service to ideas like participation and democracy.¹⁸ Success is measured by the extent to which locally based demand at individual and community levels becomes a major factor in allocating resources. In the financial sector the emphasis is moving toward sound financial management and solvency as a foundation for efficiency.

¹⁷ Fox. *Strategic Options for Urban Infrastructure Management*.

¹⁸ U.S. Agency for International Development. *Strategies for Sustainable Development*.

3

THE ROLE OF MICROFINANCE IN WATER SUPPLY AND SANITATION

3.1 Credit, Cost Recovery, and Water Supply and Sanitation: An Overview

As WS&S projects become more focused on issues of both sustainability and recovery of O&M and capital costs, innovative schemes using conventional marketing and financial management tools are providing unsubsidized credit to the rural, urban, and peri-urban poor. Enough successes in Latin America, South Asia, and Indonesia have taken place for a new field, loosely dubbed “microenterprise credit,” to become established.¹⁹ Although the Grameen Bank in Bangladesh is one of the most quoted of these successes, it is by no means the only model to have proven viable, nor the most suitable for all conditions. While such lending typically services microentrepreneurs, many of the lessons learned from microfinance apply as well to general microfinancial institution development and the design of credit products to promote household asset accumulation.

Social investment funds and revolving credit schemes—some sponsored by NGOs, others more directly by governments or international donor agencies—have also enjoyed some success. Assuming margins and intermediation costs to be estimated accurately, success in credit schemes correlates closely with good collection performance. For lenders success means that revenues exceed costs, while for borrowers it means that they value the stream of benefits from the investment over the cost of ongoing loan repayments. High recoveries indicate good credit decisions, which in turn imply that borrowers attain the expected benefits from use of the loan funds. To be financially sustainable, a lending institution must be able to continue making new loans and accessing funds to finance expansion.

Innovative new financial institutions, oriented primarily but not exclusively to microenterprise lending, vary widely in scope of products, size of loan, and population served. Many of them have secured high recovery rates while serving a clientele previously considered unbankable. Typically, loans run anywhere from \$50 to \$400, a range covering the likely per-capita costs of simple improvements in on-site water supply or sanitation. Most are short-term loans for periods of months to several years. Despite their practicality and considerable success, however, lending services for the poor have so far been little used as a means of improving WS&S facilities. Mechanisms that have been used include savings schemes to “economically empower” the poor, and credit aimed at supporting small-scale providers of WS&S services.

For lenders success means that revenues exceed costs, while for borrowers it means that they value the stream of benefits over the cost of ongoing loan repayments.

¹⁹ Otero and Rhyne. *The New World of Microenterprise Finance*.

An artificially low cost of loanable funds discourages institutions from mobilizing their own financial resources by developing savings products.

In designing household credit-financing mechanisms to support WS&S development, planners face a particular challenge: how to make some transfers to poor target groups on a wide scale (justifiable on public good and equity grounds) without creating the distortions and perverse incentives that have characterized targeted, subsidized approaches in the past. For instance, heavily subsidized interest rates often create excess demand that may result in a form of rationing that takes place through under-the-table transactions between clients and bank/agency officers. In general, concessionary loan funds (low or interest-free) are unlikely to be sustainable sources of finance for expansion; in fact, an artificially low cost of loanable funds discourages institutions from mobilizing their own financial resources by developing savings products. Why pay depositors market rates on savings accounts when alternative sources of loanable funds are available at little or no interest cost? Subsidies in the form of seed capital, extension, training, and technical support have a less-distorting effect on financial market prices and do not require indefinite funding. Another important consideration in introducing new "low-technology" financial intermediaries is their effect upon the viability of existing informal institutions that may already provide more appropriate and flexible services. In many cases, successes in credit delivery come about from no more than the application of sound banking principles within institutions whose mission is to serve lower-income clients or customers.

Special difficulties in designing appropriate credit instruments and financial institutions to support individual WS&S investments should be expected, given the wide variation in investment costs and in the preferences and income levels of target groups and communities. Many such investments require longer payback periods, but unlike many other activities supported by small banks (such as petty trade, cottage industry, and housing improvements), the full benefit of sanitation and wastewater disposal can be realized only with wide community participation. Intensive marketing of the product (WS&S) may be needed to create enough demand to cover targeted supply levels.

The private-good benefit from improved water supply is often so high that it may also be sufficient to cover the cost of waste disposal, which imposes costs upon the entire community. To the extent that wastewater and sanitation problems are a consequence of increased household water consumption, loading water costs with sewerage charges can be justified by the principle that people who benefit should pay the incremental costs of providing that benefit. Although this linkage is most useful where municipal or community organizations supply water, there is also a link at the household level.

The first element of a credit-based strategy should be to exploit and increase the private demand for on-site water and sanitation facilities.

Household credit strategies for peri-urban areas will usually be based on the assumption that formal-sector institutions have not yet developed but will eventually do so in response to a demonstrated market potential. The first element of a credit-based strategy should be to exploit and increase the private demand for on-site water and sanitation facilities. This is not a substitute for the development of mechanisms to handle higher-level problems of environmental management or to improve the performance of state-owned utilities. However, household credit can also be used to finance connections to mains facilities, and can be coordinated with community development approaches that allow neighbors to cooperate with each other in solving group problems. If a strong community association arises for handling water supplies (either autonomous sources or by access to water mains), this association could become a client of a community-based financial intermediary. Recovering loan costs through the service fee would thus be simpler and could be piggy-backed onto O&M fees. The community may also benefit from the capabilities established in negotiating WS&S issues.

3.2 Credit Needs: The Traditional Approach

Although over the last three decades vast sums have been disbursed through credit programs targeted at the poor, nearly all of these programs—whether aimed at households or at institutions supplying services to the poor—have proven financially unsustainable. High loan arrears and low borrower interest rates have led to rapid decapitalization of the supplying institutions. Much of this experience has occurred in agriculture, but many of the reasons advanced for poor performance apply equally to credit targeted to other sectors.

Three terms need to be defined because they are often interpreted in different ways. “Targeted credit” has come to mean that credit recipients should satisfy certain criteria usually related to socioeconomic status, residence, and/or gender. Hence, programs may be targeted at the poor, at peri-urban areas, or even at poor women within a particular area. “Channeled credit” means that the loans are supposed to be used only in a particular way. Thus, loan funds might be used only for the purchase of raw materials, say, or the cost of building a pit latrine or septic tank. “Subsidized credit” means that a loan is granted with a borrower interest rate too low to cover the cost of funds and the intermediation costs of supplying the loan.

Some people think a loan is unsubsidized if the rate charged is equal to commercial bank lending rates. For small loans this comparison is invalid because the intermediation costs of a small loan typically account for a much larger percentage of the loan. Thus, a charity may establish a loan fund to channel 0% interest funds to a local NGO for on-lending. Although the final household borrowers must repay the principal sum, the charity may insist that no interest be charged. However, unless the NGO wants to subsidize the borrowers, additional interest payments or a service fee must also be charged to cover the NGO’s intermediation costs (labor, loss provisions, administration, overheads) as well as an allowance for inflation, or the real value of the loan fund will diminish over time.²⁰

In evaluating the use of credit in the WS&S sector, it is important to distinguish what is meant by a credit approach from what has been *represented* as a credit approach in the past.²¹ The “credit-need model” is most common in agriculture but occurs in other sectors as well. For example, a project design is prepared introducing a new technology to increase smallholder agricultural yields and hence incomes. The technology requires a set of inputs and produces a projected output under certain conditions. However, since the producers are poor smallholders, they cannot afford or will not pay for the inputs. Thus, the “credit constraint” prevents the project from attaining its potential output. Although the representative farmer has for planning purposes an estimated disposable income, it is too low to pay for the required inputs and hence he/she “needs” credit; the cutoff is an arbitrary affordability parameter measuring loan payment as a percentage of average disposable income over the same period. A similar methodology is applied in WS&S affordability analysis: an average consumer’s income is

“Targeted credit” has come to mean that credit recipients should satisfy certain criteria usually related to socioeconomic status, residence, and/or gender.

²⁰ Rhyne and Otero. *A Financial Systems Approach to Microenterprises*, GEMINI Working Paper No. 18. Otero and Rhyne. *The New World of Microenterprise Finance*.

²¹ Von Pischke. *Finance at the Frontier: Debt Capacity and the Role of Credit in the Private Economy*. EDI Development Studies.

compared with a user charge, and “affordability” is indicated when the computed fee is below 5 to 8 percent of income. If loan repayments are over the amount allowed by the affordability index, a subsidy on the interest rate or a larger grant element is introduced.

As in many development planning models, finance under the credit-needs approach is an input, much like any other, and the way in which an activity is financed is not recognized as having a significant impact on the performance of that activity. Failure to repay a loan will frequently be explained in terms of inability to achieve anticipated yield levels or willful loan delinquency. Attention to failures in the project’s institutional and technical design is diverted by blaming loan delinquency for poor repayment. High arrears may also be tolerated by arguing that since the beneficiaries are poor, it is appropriate that they be forgiven the loan. This is not what is meant by a household-credit approach in this paper: if there is no expectation that loans will be repaid, the same objective of transferring income can be achieved by a grant without the costs of contract enforcement and multiple repayment transactions.

If those responsible for selecting borrowers were also held responsible for collecting payments, there would be a stronger incentive to make better loans.

The meager resources and lack of seriousness with which government agencies often address collection can be explained in many ways, but one obvious explanation is that the government officers—often technical extension staff—suffer no adverse consequences when loans go bad. However, if the funding of future projects depended upon loan recovery and project staff could otherwise become unemployed, there would be a stronger incentive to design projects that attain better cost-recovery performance. Similarly, if those responsible for selecting borrowers were also held responsible for collecting payments, there would be a stronger incentive to make better loans.

One of the main lessons learned is that what really matters to poor people is not the interest rate but access to credit.

One of the main lessons learned from giving small loans (roughly in the range of \$25 to \$500) is that what really matters to poor people is not the interest rate but access to credit. Many of the activities they finance with microloans have a short production cycle so that nominally high annual interest rates are not at all onerous. An example is a food vendor, who turns over his working capital every few days purchasing ingredients. The relevant comparison here is not the prime lending rate of the commercial money market but the cost of alternative credit to poor people whose usual alternative is to pay informal market rates that are high multiples of the “money market” rate.

Another characteristic of traditional credit approaches is that debt capacity (the ability to repay the loan) is not a major selection criterion since the affordability analysis previously described is supposed to ensure that debt capacity is adequate. Because of low cost recovery and uneconomic pricing of loans, coverage rates for subsidized credit schemes are limited by the initial capital financing. Invariably, low-cost funds are made available for targeted credit schemes on the assumption that final borrower rates should also be low. Even if market rates are charged this often means they are merely the same as commercial bank rates for much larger loans, rather than being at the same level as alternative sources of loans available to these borrowers in local financial markets.

One attribute of cheap money is that its supply is subject to the vagaries of the political budgetary cycle—when fiscal conditions become tight, government borrowing is cut back and projects are postponed or cancelled. Artificially low interest rates also encourage resourceful entrepreneurs to borrow for the stated purpose but to

either use the funds for other purposes or on-lend them at a market rate and pocket the difference. For this reason loans are often made in kind, forcing the borrower to adopt the “one size fits all” technical solution proposed by the project. Many classic subsidized credit schemes push money on borrowers because bureaucratic functionaries in international financing institutions, project implementing agencies, and local governments are rewarded by disbursement performance—success being measured according to the amount disbursed and the number of people who receive credit, rather than by the profitability of the lending operation or the success of the borrower’s investment. This disbursement mentality reflects an implicit distributional goal of helping poor people, rather than delivering credit services. As a result, borrowers accept debt obligations under pressure, either in response to threats or to promises that they will not be expected to repay. Alternatively, they may sign on to obtain in cash the small proportion of the loan distributed as a cost-of-living allowance. Later, finding they must repay the loan, they may be forced to sell what assets they have or flee.

Although a preoccupation with coverage is understandable, in the absence of good credit decisions the number of people receiving credit will not indicate the success of the program. To be successful, a credit program must attach at least as much importance to loan recovery as it does to disbursement.

3.3 The New View: Credit as a Financial Service or Product

An alternative view of credit is that it should be treated as a service or a financial product rather than as a handout to those too poor to afford the outright purchase of some service, good, or asset. In this view the credit transaction is one allowing the borrower to substitute future consumption or investment for consumption or investment in the present. By its nature a credit transaction is always subject to some uncertainty about completion (the loan terms being fulfilled by the borrower).²² The borrower not only receives credit but also incurs a reciprocal obligation to repay according to the loan repayment schedule.

For poor people the “technology” of lending that works for regular banking is prohibitively expensive for small loans. The following diagram illustrates a fundamental relationship between loan size and transaction costs. If the interest costs of funds are more or less proportional to the loan size, but the intermediation or transaction costs are relatively invariant, the cost-of-credit curve (the interest rate that would have to be charged for the institution to break even) will slope downward.²³ A microfinance institution has to adopt a much cheaper technology and move the curve down to a point at which the break-even rate is low enough to represent an attractive proposition for a borrower.²⁴ Although this rate may still be quite high for poor people (consumption now is much more valuable than consumption later), it would not be high enough to cover the cost of making small loans using commercial bank procedures.

In the absence of good credit decisions, the number of people receiving credit will not indicate the success of the program.

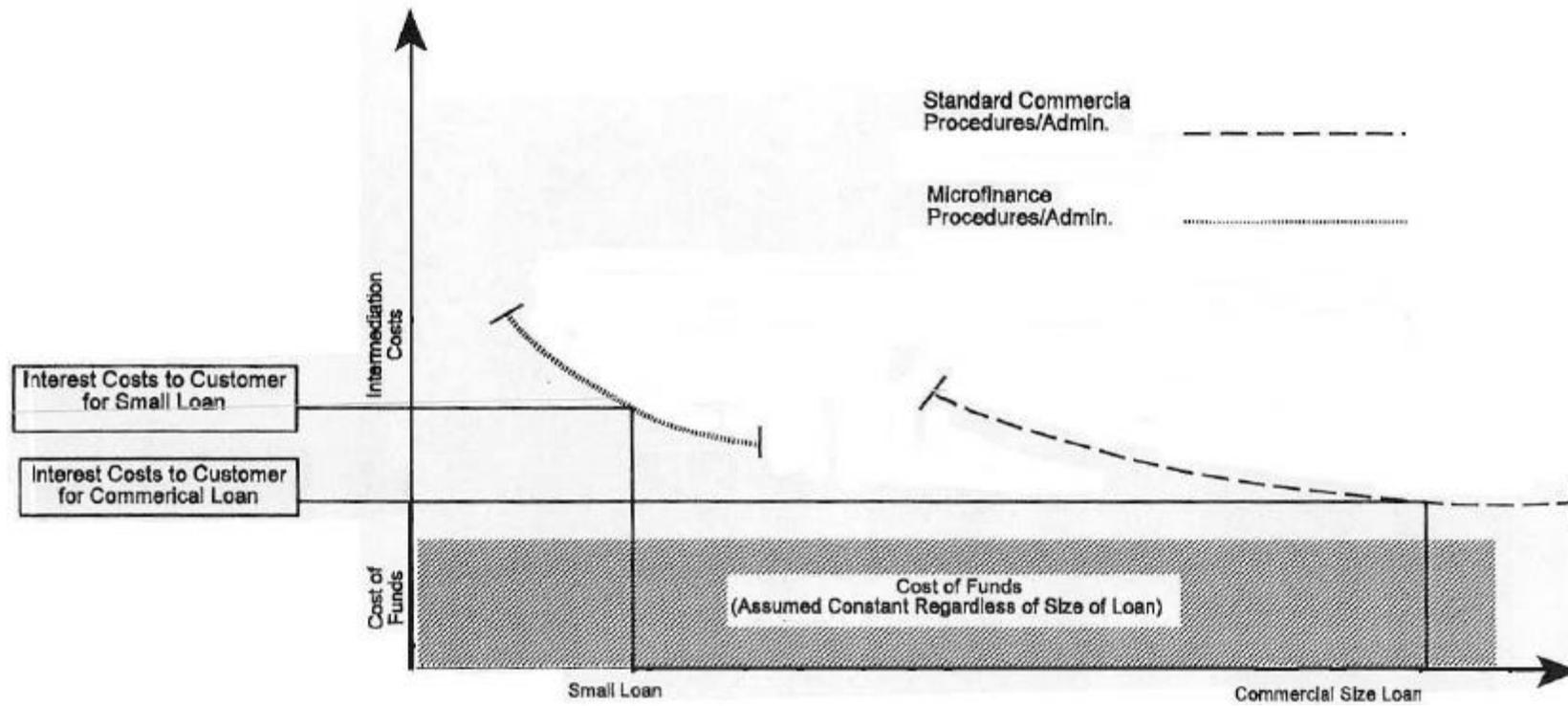
The “technology” of lending that works for regular banking is prohibitively expensive for small loans.

²² Bhatt. “On Financial Innovations and Credit Market Evolution.”

²³ Feekes. “Extending Small Credits Profitably in Indonesia.”

²⁴ Stearns. *Interest Rates and Self-Sufficiency*.

Figure 1



A financial intermediary measures the success of its credit operation by the efficiency with which it uses its assets and by how much those assets grow over time. To maintain a constant or increasing level of new-loan delivery, the institution must make enough profit to at least cover the cost of funds and administration and also maintain an allowance for unavoidable loan losses and any additional margin needed to compensate for the loss of the real value of its capital through inflation.

If a lending institution is to increase the number of clients it serves, the operation itself must generate cash flow to relend, or funds must be obtained elsewhere. Other more-formal government lines of credit and commercial sources of funds will not be forthcoming unless the credit program is financially sound and the risk of default low. An institution that cannot obtain such external funding can be sustained only through continuing grants, access to specialized government lines of credit, or reliance on philanthropy.

A characteristic of the financial-services approach is that the lending operation is run like that of a bank, with an operating budget and financial plan, while the goal of the organization owning the financial intermediary/institution is defined in terms of social and political objectives. Thus, trade-offs can consciously be made between profitability and organizational goals. By choosing low-income markets the institution is evidently not seeking the greatest money-making opportunity. Nevertheless, if the operation is to be financially sustainable, the institution must treat the community it serves as a market—facing trade-offs between coverage (determined by the size of the loan fund, loans made, and staff productivity in loan disbursement) and resources devoted to marketing, client support, extension, and training. The financial management approach forces a recognition of the trade-off between loan quality, costs, and coverage.

From a borrower's point of view, credit is successful if the flow of benefits resulting from the financed activity is valued more than the loan payments. For a loan to be sound it is not necessary that there be an incremental cash flow associated with the activity being financed. Whether a borrower chooses to repay by working more to earn extra cash, by reducing consumption, or by selling other assets should be the borrower's decision. However, it is a reality of aid that donors measure borrower success relative to specific outcomes that are measured by a range of quantitative and qualitative indicators such as income, morbidity, infant mortality, and empowerment. In that case channeling loans for particular activities and targeting specific groups lead to additional compliance costs and limit the market choices available to borrowers acting as economic agents. In addition, the attempt to channel credit is easy to circumvent. If loans are given in cash, the borrower may not use it for the purpose the lender intends. For instance, intending to make an investment anyway using his/her own funds, the borrower obtains the loan to finance some other activity such as buying materials or paying school fees. If given materials for housing improvement, some households may choose to sell those materials to meet immediate and urgent wants. The property of the fungibility (interchangeability) of money also complicates the impact assessment of credit programs.

Poor households, just like rich ones, cannot be neatly divided into surplus and deficit units. Commonly, households incur debts and acquire assets in response to a wide number of factors that are probably better understood in terms of a lifetime (and

If the operation is to be financially sustainable, the institution must treat the community it serves as a market.

The fungibility of money makes it difficult for lenders to ensure that borrowers use the loan funds in the way lenders wish.

Most households want an ongoing relationship with an institution which they can trust and which can provide a range of both loan and savings products to match their changing needs.

beyond) strategy for family survival and growth. Rather than treat credit as something used for a single clear purpose, it may be better to think of individual loans contributing to a pool of relatively liquid assets the household can use to take advantage of opportunities as they arise. A loan adds to that pool, and the incremental effect on activities will depend upon how much control the lender can effectively exercise on household spending decisions. The household may also have savings held in a variety of assets of varying liquidity including investments in education and health. Savings are a source of equity, and many poor people are not only risk averse but have objections to debt in principle. Rather than looking for a single loan, most households want an ongoing relationship with an institution (a bank of some sort) which they can trust and which can provide a range of both loan and savings products to match their changing needs.

3.4 Factors Affecting Willingness/Capacity to Repay Loans

The relationship between the needs of lenders and borrowers leads to mechanisms for screening out bad investments.

The role of finance in development is to intermediate between borrowers and lenders, as well as to pool risk and provide a medium of exchange that facilitates transactions. If a borrower cannot make the repayments and loses his/her collateral or access to future credit, the credit transaction is not completed. The relationship between the needs of lenders and borrowers leads to mechanisms for screening out bad investments. Through their technical knowledge and/or assessment of borrower abilities, good lending officers are able to match the size and terms of a loan to a borrower's ability to repay. This technical and advisory role is a strong argument for financial institutions specializing in particular types of loans. From a theoretical perspective there is a role for a specialized financial institution which, for instance, targets the market for loans to finance urban and peri-urban water supply and sanitation. Whether that market can be supplied at an economic cost is largely an empirical matter.

An essential feature of a market economy, the credit mechanism allows trade to take place between different time periods: borrowers want to consume now and pay later. For trade to take place they must find savers who want to defer present consumption in return for a promise to receive a specified sum of money in the future. In the absence of a credit market, people who wish to purchase an expensive investment good or consumer durable must save until they accumulate enough cash to pay for it; this is inefficient, however, if the funds lie idle. Also, while accumulating money for purchase of the capital/durable asset, a potential borrower cannot enjoy the services produced by that asset. In the case of housing improvements and simple WS&S investment, such a saver may purchase materials and build incrementally. This too is inefficient, as he forgoes economies of scale in construction and discounts he could obtain on larger purchases of materials. However, an advantage of incremental investment using one's own savings is that no debt is incurred because the investment is financed completely by equity.

The nature of good credit is that it creates value for both borrower and lender.

The nature of good credit is that it creates value for both borrower and lender: lenders must cover their costs including capital, and borrowers must feel that the value of the incremental benefits made available by the loan exceeds the repayment cost. To create value for both borrower and lender, poor proposals, unfit applicants, and low-return investments must be filtered out so that funds are allocated only to high-return investments.²⁵ This is true whether or not the investment to be financed is in infrastructure, consumer durables, housing, small-scale manufacture, or trade.

²⁵ Von Pischke. *Finance at the Frontier*, especially Chapter 4.

A common criterion applied to a loan decision is that the loan must generate a cash flow to pay the loan installments. This is not the same thing as requiring evidence that the borrower be able to repay the loan. But if the direct cash-flow argument is accepted, loans should be made to poor people only for “productive” or “income-earning” purposes. Home-based water supply and sanitation, however, does not automatically generate cash income (although it is a principle of national income accounting that the services provided by owned dwelling units as well as rentals are part of national income).

These are other factors that need to be considered:

- Does the borrower want continuing access to credit? If the lender can offer new loans for increasing amounts, there is an incentive to repay in order to gain access to that credit.
- What is the effect of the investment on household cash flow? In the case of loans for water supply, consumers already incur high costs in cash for vended water and/or in time spent in carrying water from distant sources. Time spent carrying water can also be translated into lost work that would otherwise produce cash and into reduced food expenditure from lower work levels. From a welfare point of view it is not even necessary for borrowers to increase their total cash earning, although they will usually choose to do so. The loan payment could also be made by cutting back on some other category of expenditure.
- Few households can be categorized simply as net lenders or borrowers because most households both incur debt and save within the context of a household financial strategy. In peri-urban areas that financial strategy is defined by the family’s stage of settlement. A major priority is to acquire housing, which first of all requires land. Title to land is a further stage, and incremental improvement to the home will accelerate in proportion to security of tenure. Not only is the home a base for income-earning activities, it may also be the main form of saving.²⁶ The addition of on-site water supply and sanitation may be considered a real estate investment, and whether it is financed by equity, debt, or some combination is a question determined by the household’s overall financial position and attitude toward risk. This in turn is influenced by household size, kinship relations, age composition, number of income-earners, savings accumulated, and many other constraints and opportunities the family perceives. Credit is an option that increases the household’s flexibility of response to these opportunities, and the ability to repay the loan should be evaluated in terms of the household’s ability to repay from all sources of cash.
- Do the borrowers perceive the relationship between sanitation and health? Akhteer Hameed Khan, the designer of the much-acclaimed Orangi slum project in Pakistan, believes that the inhabitants of Orangi did not have to be persuaded of the benefits of sanitation; they were quite aware of the high proportion of their incomes (as much as 50 percent) they spent on health bills for sanitation-related diseases.²⁷ Others, however, have stressed the need for hygiene education.

As a household financial strategy, the addition of on-site water supply and sanitation may be considered a real estate investment.

²⁶ Serageldin. *The Use of Land and Infrastructure in the Self Improvement Strategies of Urban Lower Income Families.*

²⁷ Personal communication.

To the extent there is a relationship between quality of sanitation and illness, there is also a potential source of cash to repay loans—both from increased earnings through a reduction in days lost by illness and from savings in treatment costs.

- In many cases potential borrowers for on-site sanitation investments will be landlords, who are not necessarily the economic elite and may even have below-average incomes. Landlord investments that increase the supply of housing services available will also benefit renters, some of whom may be renting only part of a house in which the landlord and his family live as well. Hence, it would be shortsighted to exclude landlords from access to credit on the ideological grounds that they are not part of the target group of the poorest of the poor.²⁸

3.5 Intermediation Costs

A major factor inhibiting the extension of formal financial services to clients who wish to save and borrow in relatively small amounts is high transaction costs—staff, materials, rent, utilities, transport, supervision, promotion, market research—which must be covered by interest charges on loans (the earning assets) and up-front service fees. Although loanable funds may be made available at concessionary rates, the percentage margin required to cover these intermediation costs will eventually exceed the cost of funds, when the on-lent loans are small enough. (The numerator for noninterest percentage costs is relatively fixed, while the denominator increases in direct proportion to loan size.) The main cost to the lender is labor, closely related to the number of loans made. One of the advantages of urban and peri-urban markets for credit is that the relative concentration of population eliminates some of the transport and labor costs that would be required to reach dispersed borrowers.

Minimalist products such as the KUPEDDES general credit product marketed by the Bank Rakyat Indonesia (BRI) keep costs down by having simplified procedures and a large number of loans—usually about 500—per loan officer.²⁹ If the detailed procedures pertaining to regular commercial and retail loans are applied to microloans, the resulting lending rate (estimated on a cost-plus basis) will be very high. It may be so high, in fact, that the supply curve for loans never intersects the demand curve; hence, there is no market. The fundamental problem is that the intermediation costs of a given type of credit are largely fixed and invariant with respect to loan size.

Channeling and targeting incur additional compliance costs, and prudential regulation dictates sophisticated reporting procedures: both factors make microloans an unattractive market segment for commercial lenders. Although political pressure may force banks and other intermediaries to allocate sums to small loans, such attempts at command allocation almost inevitably lead to distortions that are more damaging to the system than the problem being addressed.

The detailed procedures required in formal-sector banking reflect the need to protect the credit provider from unacceptably high risk of losses. Microfinance institutions will have to produce substitutes for banking practices that have arisen to address these risks—not only of willful default, but also of moral hazard and adverse selection that lead borrowers and lenders to make decisions increasing the likelihood of loss. These concepts are central to understanding the nature of the credit mechanism and the proper role of finance in promoting economic growth in the informal sector. Moral hazard arises from the asymmetry of losses and returns to a

It would be shortsighted to exclude landlords from access to credit on the ideological grounds that they are not part of the target group.

The main cost to the lender is labor, closely related to the number of loans made.

The fundamental problem is that the intermediation costs of a given type of credit are largely fixed and invariant with respect to loan size.

Microfinance institutions will have to produce substitutes for banking practices that have arisen to address the risks of willful default, moral hazard and adverse selection.

²⁸ See also L. Macharia, *Sanitation Options for Kibera Low-Income Area in Nairobi*.

²⁹ Patten and Rosengard. *Progress with Profits*.

borrower with limited or no liability in the event of loss. The possibility of adverse outcomes is not limited to business ventures, and borrowers often take on more risk than they would if using their own capital. Borrowers financing an investment purely by loan, for example, can go on increasing the riskiness of their ventures and the expected returns because their downside risk is zero. They have no equity to lose. To prevent this, banks insist upon some combination of equity and collateral that will more closely align the interests of the borrower with those of the lender. Adverse selection results from the tendency for lending rates incorporating high loan loss contingencies to attract only high-risk investors.³⁰

To overcome these problems and establish a cost structure compatible with small loans, successful microfinance institutions have employed various combinations of the following innovations:

- Since the fundamental problem is one of trust in the borrower, lenders can invoke various mechanisms to increase the costs of default. A common method is group lending, whereby the group either guarantees the individual members' payments or all members lose access to further credit in the event of individual default. The group also provides a supportive environment for making business decisions; this is called "solidarity lending."
- Social pressures from the community can increase the cost of default. An example is supplied by informal rotating savings and loan associations in which a group of people contribute a fixed payment at regular intervals for a number of periods equal to the number of members in the group. There are varying ways of choosing the person who takes the accumulated funds, but all except the last taker get some return from intermediation. The first taker gets an interest-free loan with repayments over the rest of the cycle. To deter defection, those who win early in the cycle have to face heavy costs either from social disapproval or loss of access to future participation. Solidarity lending also utilizes social pressure. Administration costs are minimized as the ROSCA meets both to collect and distribute money; there are no holding costs.
- Regulatory regimes may be far more flexible, or even nonexistent in the case of pure informal finance. Credit unions are a good example of microfinance institutions that take savings and make loans but are not subject to the reserve and reporting requirements of regular depository institutions such as banks. They are, however, subject to some government supervision and self-regulation through associations.
- A major reason why banks have to evaluate a borrower's character and obtain further security in the form of collateral is that they have no other means of access to information on the borrower. By contrast, microfinance institutions that serve a small community can substitute their access to local knowledge for formal procedures in selecting loan applicants.

In assessing risk, microfinance institutions that serve a small community can substitute their access to local knowledge for formal procedures.

³⁰ Chaves and Gonzalez-Vega. *Should Principles of Regulation and Prudential Supervision Be Different for Microenterprise Finance Organizations?* GEMINI Working Paper No. 38. Otero and Rhyne. *The New World of Microenterprise Finance*.

There are diminishing returns to borrower evaluation, and the optimal expected level of default is not zero. Rather than avoiding all risk, a successful financial intermediary finds ways to price it correctly. As stated by Khan, referring to microenterprise lending by the Orangi project:

*We find there are three kinds of defaults: willful default due to dishonesty; default caused by misfortune; and default caused by foolishness. We will have to bear with the misfortunes and foolishness of our clients patiently. But we will try to eliminate or pursue the dishonest defaulters by consulting our loyal clients about selection and mobilizing them for recovering defaults.*³¹

Thus, the resources devoted to ensuring good collection rates should also be subject to some kind of economic calculus of costs and benefits. For example, a marginal increase in collections from 96 to 97 percent may mean excluding a large number of borrowers who are not dishonest. Furthermore, the larger the market served, the more that fixed costs can be spread.

According to the new view of microfinance, one should not mix distributional considerations with interest-rate setting and product design. This is not to say that subsidies cannot be delivered in the form of seed capital, technical advice, and social marketing, but that great care should be taken not to interfere with the function of the interest rate.³² When grant funds are available they should be used as capital for a loan fund or as a source of finance for support activities, but not as a device to reduce interest rates that are supposed to reflect the relative value of present and future consumption. For poor people in capital-starved economies these rates are naturally high.

3.6 Concluding Remarks

Proposals to finance any activity with channeled and/or subsidized household credit should be treated with caution. Subsidies should only be given in a way that minimizes distorting effects on incentives to save and borrow. There may also be indirect effects on the viability of informal suppliers of financial services, and clumsy attempts at innovation may destroy effective indigenous financial institutions. Fortunately, since the demand for credit is so high the impact on existing credit sources will be minimal, provided interest rates are set with respect to costs.

*An important issue in setting up a credit programme is the relationship between existing formal and informal institutions and any new credit scheme. All three may coexist happily; they often service different needs with only limited competition between them. A number of case studies refer to the shortage of sources of credit in low-income communities, suggesting that the introduction of a new source of funds is unlikely to threaten existing lenders.*³³

Subsidies should only be given in a way that minimizes distorting effects on incentives to save and borrow.

³¹ Khan. *Orangi Pilot Project Programs*. Second edition.

³² Otero and Rhyne. *The New World of Microenterprise Finance*.

³³ Arossi, Bombatolo, Hardoy, et al. *Funding Community Initiatives*.

4

ALTERNATIVES FOR SUPPLYING CREDIT SERVICES

The addition of credit to the armory of intervention strategies in the WS&S sector should be approached cautiously, as experience is still very limited. The lessons learned in other sectors, as well as fears of undermining general financial institutional development and existing informal institutions, argue for a systematic and cautious approach in any recourse to household credit as a financing mechanism:

If possible, donor agencies, including NGOs, should keep clear of hurriedly introducing new financial systems. They might do better providing organizational and institutional support for savings mobilization and management and support for informal financial systems. Credit without savings can be distorting.³⁴

The following discussion of possible institutional vehicles for credit summarizes the advantages and disadvantages of each one in an attempt to structure the examples presented in the next chapter. Much of the material discussed in relation to specific models is also generally applicable to all models. The typology should not be interpreted too rigidly, in part because categories overlap.

4.1 Loans from Central Service Providers

Offering household credit that enables consumers to finance connections and make use of main system facilities is one way in which authorities can seek to intervene in peri-urban areas. The extent to which they do so, however, will be a reflection of politics as much as anything else. In more-democratic societies the peri-urban areas may be assiduously courted, particularly by politicians with no established base.

When utilities in industrialized countries offer household credit, they may be motivated by a need to increase service usage or may be charged with limited social responsibilities for ensuring basic services at the household level. Loans for connections or even the purchase of on-site consumer durables (e.g., cookers, furnaces) and other goods are common. It seems unlikely, however, that very many public utilities in developing-country urban environments will be able to run this type of operation in the immediate future. Almost by definition peri-urban areas are underserved by public utilities, and credit markets are relatively immature and unsophisticated. On the other hand, major retailers serve as a common source of household credit for consumer durables in developing-country cities. These operations are usually well organized and frequently use door-to-door collection by store representatives.

Where utilities are well managed, loans to households for connections will be justified if more-efficient utilization of capacity is attained. To secure repayment using the threat of water cut-offs will be difficult in environments where informal-sector residents routinely tap into services illegally. Regardless of the source of funds (the

Almost by definition, peri-urban areas are underserved by public utilities, and credit markets are relatively immature and unsophisticated.

³⁴ Abugre. "When Credit is Not Due—Financial Services by NGOs in Africa."

utility's own or a channeled source for household connections), it may make more sense to entrust a credit operation to a community-based water supply/sanitation group or to a NGO program such as the Cooperative Housing Foundation (CHF) in Honduras.

Loans channeled through utilities or water and sanitation authorities, with the objective of supporting on-site WS&S facilities and household connections, have been tried in Latin America. For instance, UNICEF in Honduras has financed a scheme through the country's National Water and Sanitation Agency that lends money to community water and sanitation cooperatives. The types of investments financed straddle the areas between on-site, block, community, and main system, encompassing community/block septic tanks, piped water from a communal storage tank (supplied by tanker), and water and sewer connections from particular neighborhoods to mains and from households to neighborhood collection and distribution points. In the case of loans to community WS&S organizations, the success of credit schemes is synonymous with the financial sustainability of the community-based supplier organization. This organization will, for example, have a broader mandate than that of simply supplying WS&S hardware and will require expertise in pricing and planning for operation, maintenance, and replacement.

In cases involving water supply, where public supply is the major element in the WS&S technology most suitable for a particular peri-urban area, the community organization supplying water and sewer services will be the appropriate institution to receive credit. The greater the extent to which peri-urban areas lack social cohesiveness, and environmental/topographic conditions suit on-site solutions, the more appropriate is a household credit mechanism. In practice, a community WS&S organization could also act as on-lender for household credit. The skills needed to run a successful household credit program should not be underestimated, however.

4.2 Specialized Loan Funds Managed by Other Formal-Sector Government Institutions

In countries where peri-urban areas have a political voice, it is not unknown for government departments to be charged with addressing peri-urban WS&S problems. The urban sanitation improvement team (USIT) loan program in Lesotho, described in Chapter 5, involves a state bank but the management of the credit program is shared with the WS&S authority. Similarly, in Kumasi (Ghana) the credit scheme is managed by a combination of WS&S authority and community/local government functionaries. The community water supply and sanitation project in Indonesia is managed by the regional government, which in turn makes arrangements with regional financial institutions.

Perhaps the most common examples of specialized loan funds managed by formal-sector (usually government) institutions supply housing finance. Although many of these schemes have been criticized for serving relatively better-off urban dwellers, some have succeeded in making housing loans to groups whose average income is little above the minimum wage. The most common mortgage loans depend upon titling to provide legally secure collateral. This can automatically exclude many in peri-urban areas who lack titles; thus, credit to finance titling is another potentially viable loan product. Loans can be made directly to borrowers or via some refinancing agreement with a microfinance intermediary. Examples of direct financing to households by a formal-sector institution are not common; however, the community mortgage program in the Philippines and the Fund for the Urban Poor in Thailand do lend directly.³⁵ Indonesia's commu-

In the case of loans to community WS&S organizations, the success of credit schemes is synonymous with the financial sustainability of the community-based supplier organization.

³⁵ Arrossi, Bombarolo, Hardoy, et al. *Funding Community Initiatives*.

nity WS&S project is an example of a specialized credit scheme for households, one managed by a government institution which then transfers loan administration responsibilities to lower-level community/local government functionaries.

In general, when responsibility for making loan decisions and collecting repayments rests with separate organizations, incentives to collect and repay weaken. Another problem with arrangements such as those in Kumasi, Lesotho, and the community WS&S project in Indonesia is that many of the costs of administering credit are not charged to the credit operation and hence not recovered.

When responsibility for making loan decisions and collecting repayments rests with separate organizations, incentives to collect and repay weaken.

4.3 Channeled Loans Through Existing Formal-Sector Financial Institutions

In developing countries, the commercial banking sector is often dominated by state-owned institutions that may be used to channel credit to particular sectors. Qualifying activities may include small-scale credit for specific purposes and are administratively linked to programs of other government agencies. Often, these credit programs are not even profitable in principle because the designers have not applied basic costing principles but have instead set the borrower rate at what they think the borrower *should* pay. In addition, administration costs are high because these programs mimic procedures used for regular commercial loans (legal certificates as collateral, financial pro-forma, character references). As these nationalized banks seldom face “hard” budgets and operate with tenured civil servants, they have few incentives to make good loans and collect repayments. And because the funds for lending are channeled to the banks at little or no interest cost, the banks have no real incentive to lend savings funds attracted through commercial interest rates. If borrower selectivity is exercised at all it is likely to be of limited effectiveness since the banks typically lack technical knowledge of WS&S projects. Hiving off functions (such as borrower selection) to external parties (implementing agencies) is not a recipe for good credit recovery either. Ideally, the technical counsel for the borrower should be the loan officer, who also should be held accountable for the quality of the loan.

Hiving off functions to external parties is not a recipe for good credit recovery.

A more suitable function of formal depository institutions and development banks is to become a refinancing source for microfinance institutions that can demonstrate their creditworthiness. The formal-sector institutions make larger loans to intermediaries and can apply more-conventional credit evaluation procedures that would not be viable for smaller individual household loans.

4.4 Specialized Loan Funds for Household Credit Managed by NGOs and/or Community Organizations

Many NGOs have adopted a strategy of cost recovery through fee-based services. The booming microenterprise credit movement reflects a preference for credit over grants,³⁶ as the credit mechanism imparts a greater sense of ownership than do grants. Also, a grant recipient has weak contractual grounds or practical mechanisms for objecting if a service provider fails to perform. On the other hand, someone who is paying a fee or is servicing a loan that has been “sold” by a program will be more

The credit mechanism imparts a greater sense of ownership than do grants.

³⁶ Calkins and Coughlin. *Credit Schemes for Home Improvements and Sustainability Mechanisms for the Chagas Disease Control Project, Bolivia*. VBC Report No. 82235.

Someone who is paying a fee or is servicing a loan that has been "sold" by a program will be more likely to pressure suppliers to fulfill their obligations.

A financial management/services approach involves marketing a niche-credit product rather than channeling financial assistance to target beneficiaries.

likely to pressure suppliers (NGOs, financial intermediaries, or utilities) to fulfill their obligations. Cost-recovery schemes based on effective credit administration can also make "new loans continually available to new families, whereas subsidy programs are finite and closed to future arrivals."³⁷ In some cases a mature international PVO may use credit as a means of providing capacity-building institutional support to local NGOs, but this is not necessarily accompanied by any particular expertise in financial management. The PVOs may be intermediaries for the purpose of accessing donor funds, while the NGOs act as intermediaries between PVOs and client borrowers.

Some critics have charged that PVOs are often uncritical in their enthusiasm for the credit mechanism:

There are NGO [or PVO] staff running large credit funds who do not know how to prepare a balance sheet let alone know how to monitor loan performance and balance portfolios. . . . Greater caution may need to be expressed against the donor promotion of the newest donor obsession, that of linking formal with informal systems and the uncritical replication of financial models developed under different environments. . . . These programs are donor-driven and donors have the tendency to extricate themselves from failure. It is also an indictment of consultants; it is they who design the programs based usually on patchy information and snappy tourist-type visits.³⁸

Effective credit delivery requires a reasonably sophisticated financial management system and the pricing of loan products on a cost-plus basis. In some countries a credible PVO/NGO intermediary may be able to access formal-sector banks for payment and credit-disbursal services. However, the interest charged to the final borrower must cover the cost of funds, administration, inflation, and any target return on PVO/NGO capital. A financial management/services approach involves marketing a niche-credit product rather than channeling financial assistance to target beneficiaries.

To have any chance of scaling up credit delivery, the parent PVO (whether based locally or overseas) must develop management structures relying on well-designed products and procedures, management education, and an alignment of staff and organizational incentives. The process must create an organization that can become financially independent from government and donor support, a position only achievable if the operation demonstrates its financial health to formal financial institutions and thereby creates a secondary or refinancing market for loans. That such a goal is feasible is indicated by the beginnings of the development of secondary mortgage markets for low-income housing loans in India and by CHF's success in Honduras (see Chapter 5). It is, however, a far from normal state of affairs.

One criticism frequently leveled at PVO/NGO credit operations is that they fail to understand how financial markets work and lack the accounting and management systems required to run even a small organization efficiently. PVOs traditionally have regarded themselves as service providers and have become aware of the empowering potential of the market only in recent years:

From a hands-off credit attitude in the 1950s and '60s, based partly on some ideological objection to the ethics of profit and belief that interest-earning credit was usurious and therefore unethical, the 1970s represented a major u-turn. Increasing production and incomes were perceived as the means by which the

³⁷ Brand and Bradford. *Rainwater Harvesting and Water Use in the Barrios of Tegucigalpa.*

³⁸ Abugre. "When Credit is Not Due—Financial Services by NGOs in Africa."

poor would provide for themselves in the future (sustainability), enabling the donor NGO [or PVO] or organization to build in a “withdrawal” timetable. . . . Credit became a center plank of this approach, together with skills training, and organization and marketing support, thereby reversing an earlier skepticism about the ethical correctness of credit, based on the idea of the malignant moneylender.³⁹

PVOs have an advantage over formal-sector organizations because they have demonstrated an ability to reach areas where governments and donor institutions do not.⁴⁰ Such organizations share other strengths, as well:

- They have a greater capacity to enforce financial control at the implementation level.
- They can acquire intimate knowledge of local demand and offer a flexible range of appropriate water supply and sanitation loan products to match the diversity of demand.
- They can create demand by promoting hygiene education.
- They can act as mediators. Both PVOs and NGOs can play this politically advantageous role. As NGOs grow in importance to the community, they can use their upward linkages to PVOs, donors, and higher levels of government to act as negotiators with local government as well as municipal and regional water and sanitation authorities. These upward linkages can be avenues for exploring longer-term access to other lines of credit and formal-sector financial markets.⁴¹

There are also disadvantages to PVOs, in some cases including overreliance on key staff, limited program replicability, lack of standardization of best practices, poor coordination, and a bias toward short-term emergency assistance rather than development work. Any of these could hinder the effectiveness of a credit program. Growth may become an issue, as well. Some critics have argued that when and if PVOs and NGOs scale up they will become so large they begin to assume the characteristics of privately owned corporations rather than charities. This may not be such a bad idea; the Grameen Bank, for example, has a corporate culture with many similarities to that of the Japanese. In the United States an initiative linking community development with financial institutions illustrates that it is possible for a financial institution to have a social mission while adhering to conventional standards of financial performance.

4.5 Credit Unions and Savings and Loan Associations

A fundamental constraint on the ability of formal-sector nonbank financial intermediaries, development banks, and depositary institutions to serve low-income households is the cost of intermediation. Elaborate loan-appraisal systems requiring specialized expertise do not provide a viable basis for microfinance operations in an urban or peri-urban market. While most innovations adopting simpler financial technology have taken place in recent years, one form of less-complex financial institution which has a longer track record is the credit

PVOs have demonstrated an ability to reach areas where governments and donor institutions do not.

When PVOs scale up, they can become so large they begin to assume the characteristics of privately owned corporations rather than charities.

Elaborate loan-appraisal systems do not provide a viable basis for microfinance operations in a peri-urban market.

³⁹ Ibid.

⁴⁰ Lintz. *Support Strategies for Informal Production of Housing and Urban Services.*

⁴¹ “A major weakness of the financial systems of developing countries, namely resource mobilization, is related to the poor linkages between the formal and informal components of the financial system.” V. D. Lall. “Financial Strategy for the Urban Poor.”

union. Credit unions are well known in the United States, where they act as depository institutions specializing in consumer credit; credit unions have also been established in developing countries. The estimated credit union membership worldwide is over 100 million and there are many similar non-affiliated (to the World Council of Credit Unions) movements probably equalling these in number. The basis of these credit institutions is customer ownership; at the board level officers are elected by one member one vote. Loans are generally small and access to credit often defined by savings/share contributions.

Over the years credit union performance has been variable. They have not been conspicuously successful when used as conduits for external funds, as the control of arrears tends to be much stronger when the source of funds is the members' own deposits and/or shares. Although credit unions may not be the magic-bullet vehicle for WS&S loan funds, the possibility of their broader use should be investigated more systematically. They have, for example, already been used for WS&S funding (in addition to housing finance). Savings and loan associations in Bolivia have been used as channels for a water supply loan fund.⁴²

Certain varieties of credit unions have been changing, as interest-bearing savings accounts begin to replace share capital and retained earnings as a major source of their loan capital. Credit unions and S&Ls offer at least four possible advantages over the creation of new institutions as vehicles for specialized WS&S loan funds:

- The principal-agent problem has already been partially addressed with both democratic control of the board and the existence of established and easily auditable financial management systems. Prudential regulation, although not as comprehensive as that for depository institutions, is usually enshrined in cooperative or other legislation, and some external protection of depositors is assured.
- Historically, credit unions were founded as thrift institutions. Most of the loans made tend to be short-term, with credit access related to savings/share contributions. Many microfinance experts think that effective savings services are as important as credit products in empowering households financially. Although credit unions are evolving to more closely resemble conventional depository institutions, the community's perception that borrowed money carries social and moral obligations is important. Indeed, a strategic element of microloan programs is the use of "warm money" with moral ties of obligation to repay; government and donor funds are "cold money" with only a legal contractual obligation to repay.
- By providing a broader range of services a credit union is able to subsume specialized products such as home and WS&S credit within a broader, more-diversified portfolio. Share capital rather than deposits is also a way of extending the term of loan products by matching them with liabilities of similar duration.
- Across a wide range of sectors credit-recovery performance is poor when a group or institution is established purely for the purpose of receiving and channeling credit. On the other hand, if the members have some existing bond or the institution already has a successful record in providing financial services, the prognosis for loan recovery is better.

Unfortunately, the credit union movement as a whole has a tarnished image due to its association with cooperatives. Externally funded loan programs to support productive

Effective savings services may be as important as credit products in empowering households financially.

Credit-recovery performance is poor when a group or institution is established purely for the purpose of receiving and channeling credit.

⁴² Requeña and Arboleda. *Final Evaluation of the Bolivian Savings and Loan System Water and Sanitation Project.*

activities through cooperatives have in the past sometimes suffered from maladministration and corruption, with bureaucratic politics guiding much of the allocation of funds. This is not an innate weakness of credit unions but rather reflects the particular context in which they are additional victims of supply-driven subsidized credit and needs-based financing.⁴³ The weakness of a credit union in comparison with a specialized PVO-sponsored loan fund for WS&S financing is the difficulty of integrating the extension, technical advice, and political factors upon which a successful long-term strategy depends.

4.6 Minimalist Credit Programs

A minimalist credit program is one that incurs relatively low costs in training or educating its clients, concentrating instead on the business of making sound loans to a low-income client base. This approach is often contrasted with so-called poverty lending programs. Minimalist programs emphasize low costs and economies of scale as they attempt to reach as many people as possible. These programs are willing to sacrifice accuracy in targeting and channeling in order to simplify procedures and reduce costs. To keep funds circulating, they may use such devices as increased future loan size for those who maintain good credit and direct interest reimbursements for prompt repayment. Savings accounts are also encouraged and provide a source of funds for relending. Ideally, the institution will have links to other financial institutions, enabling intermediation to take place between units that have a surplus or deficit in net savings. An overriding goal is to substitute profit and other sources of loan funds for grants and subsidies. Efficiency is also maintained by making each separate unit a profit center for accounting purposes and demanding that the unit break even.

Although many poverty lending programs exist, there are fewer minimalist credit schemes. Yet, while the latter have reached a significant number of people, poverty lending has not. Few, if any, poverty loan programs are financially self-sufficient, and the smaller the loans and the more frequent the repayments, the higher is the interest rate required to cover costs. The Grameen Bank is something of an exception because it has reached 1.6 million borrowers, and the model has been replicated in other countries with up to 30,000 clients.⁴⁴ Despite its strong targeting of women and the poorest of the poor, and its extensive client education, Grameen sees itself as a financially viable minimalist institution.⁴⁵ Grameen has a strong corporate identity as a bank that serves the poor, rather than as a PVO/NGO.⁴⁶ Grameen claims to be financially self-sufficient, although the Grameen Foundation has made extensive use of grants and the published Grameen accounts are less than transparent.

In contrast, many smaller programs are clearly not financially self-sufficient, and the subsidies in terms of extensive support and supervision do not show up in the accounts of the credit operation. Frequently, PVO/NGO-sponsored organizations

A minimalist credit program is one that incurs relatively low costs in training or educating its clients, concentrating instead on the business of making sound loans to a low-income client base.

Few, if any, poverty loan programs are financially self-sufficient.

⁴³ Marion. *Building Successful Financial Systems: The Role of Credit Unions in Financial Sector Development*; Magill. "Credit Unions: A Formal Sector Alternative."

⁴⁴ Otero and Rhyne. *The New World of Microenterprise Finance*, p. 17-21.

⁴⁵ Shams. *Designing Effective Credit Delivery Systems for the Poor: The Grameen Bank Experience*; Otero and Rhyne. *The New World of Microenterprise Finance*. Yaron. *Successful Rural Finance Institutions*, World Bank Discussion Paper 150.

⁴⁶ Fuglesang and Chandler. *Participation as Process—What We Can Learn from Grameen Bank, Bangladesh*.

A minimalist institution should be able to develop a product aimed at a specific market such as loans for on-site WS&S.

have a particular sectoral focus, although the overall trend is to widen the financial strategy to address savings needs and develop a broader range of credit products. There is no reason why a minimalist institution should not develop a product aimed at a specific market such as on-site water supply and sanitation. In fact, as shown in chapter 5, this is precisely what Grameen has done, although only for selected borrowers. The Bank Rakyat Indonesia also allows its KUPEDES loan product to be used for household improvement.

Studies indicate the methodological and practical difficulties of measuring the impact of credit. Due to the fungibility of cash, loans given for one purpose (such as working capital, probably a number-one priority for a household) may have the effect of allowing another lower-priority investment—in WS&S facilities or other house improvement, for example—to be financed with the borrower's own capital previously invested in the enterprise.⁴⁷

4.7 Community Development Financial Intermediaries (CDFIs)

There are no developing-country examples of this type of institution supporting WS&S projects. However, the Clinton administration actively supports the concept of a fully commercial financial intermediary to promote the development of deprived communities in the United States. Lending activities are usually focused on housing and microenterprises, liberally borrowing concepts and experience acquired in microfinance in developing countries.

If a developing country CDFI is profitable, it could influence WS&S outcomes in several ways:

- The organization could finance expenditure on community WS&S infrastructure. The capital accumulated from operating profits would be used to fund community investment.
- A specialized consumer loan program for housing improvement, including on-site WS&S projects, could be offered as a loan product. This could be reinforced by licensing bonded contractors to do the work.
- Working capital loans to local building contractors would increase the supply of construction services.

One of the few examples from developing-country experience to capture the essence of the CDFI concept are community banks in Nigeria.⁴⁸ These banks combine some of the features of credit unions with a regulatory structure which, while not overdemanding in regulatory reporting, pays close attention to sound financial management. The government provides a small amount of start-up seed capital that must be repaid. In addition, no community bank can be chartered without matching participation from various community parties. Community banks are subject to audit and must report basic financial information both to the Nigerian Central Bank and to an oversight board. The crux of the regulatory approach is summarized in the acronym CAMEL—capital, asset quality,

⁴⁷ Sutoro. "KUPEDES Impact Survey."

⁴⁸ National Board for Community Banks. *The Community Banking System in Nigeria: An Introduction*.

management, equity, and liquidity. The government does not interfere in the setting of lending and savings rates nor does it set policies on lending and product design.

The ownership structure is designed to maximize local participation by involving various influential groups as owners, among them ethnic “development associations” comprising local sons and daughters who have made it in the cities and have set up associations to continue their links with home communities. These development associations, while based in the big cities, have a tradition of funding community infrastructure in the native rural towns of their members. The structure of ownership and voting rights of community banks may inhibit the rise of corrupt boards that make loans to themselves or to cronies. Because the funds are largely those of the community and countervailing power can be exercised, banks have an incentive to make good loans. The Nigerian community banks are trying to solve *the agency problem*⁴⁹ by a combination of centralized regulation (of chartering and financial reporting), balancing local power elites on the board with outside development associations, and making reporting more transparent. It is anticipated that these banks will initially concentrate on short-term agricultural production loans. If profits are made, one alternative to distributing dividends or increasing loan funds would be to finance urban infrastructure such as water supply and sanitation—either through outright grants for infrastructure or an extension of loan products to include home improvement. Once again, the relationship of credit to water supply and sanitation is indirect but still one of support.

Agency theory uses the economics of producer and consumer self-interest to explain behavior in organizations. (See glossary)

4.8 General Factors Affecting the Viability of Microfinance Intermediaries

An intermediary’s ability to continue supplying loan products geared to household water supply and sanitation will depend upon the following factors:

- The liability structure of the intermediary must support longer-term lending—from one to five years appears to be the appropriate range. High rates of inflation and/or an underdeveloped financial sector can inhibit such lending, however. In unfavorable macroeconomic environments, programs must limit themselves to shorter-term loans and/or incorporate some form of indexation to maintain a viable spread between earnings and costs.
- Market research is required to assess potential demand and provide a basis for justifying extra costs in providing the product, such as those incurred in employing loan officers with enough technical expertise to advise borrowers on appropriate on-site solutions to water and sanitation problems and ensuring that marketing in the form of hygiene education extension is available to promote demand. Since an intermediary would not usually want to enter the field of hygiene education itself, institutional arrangements would be needed to acquire the appropriate services elsewhere.
- Also important is an intermediary’s ability to make strategic local-level business and political connections that might support the growth of demand. For example, a bank may be able to negotiate favorable fees for connections to main-

In unfavorable macroeconomic environments, programs must limit themselves to shorter-term loans.

⁴⁹ See glossary.

Local small contractors have an incentive to provide good value for money.

line water and sewer services for its clients. Local small contractors have an incentive to provide good value for money if future business depends not only upon customer recommendations, but also upon those of the bank.

- The scale of the organization is another factor. With only a few exceptions, microfinance organizations tend to be too small to achieve significant development impact.⁵⁰ Since the growth of healthy financial institutions takes time, there may be an inevitable maturational lag before significant diversification of loan products is possible. In the early stages, microenterprise finance may be a more suitable product for strengthening financial management capacities. Similarly, a graduated expansion from ROSCAs, to managing savings, to short-term credit may be a better strategy than moving directly into the more difficult enterprise of making good loans.

Condominial sewers are an example of very affordable technologies.

- The availability of appropriate technologies needs to be considered. Innovative designs such as condominial sewerage can lower costs to a point at which loans are feasible for a significant proportion of the population or can even mitigate the need for credit altogether.

⁵⁰ Glosser. *BancoSol: A Private Commercial Bank—A Case Study in Profitable Microenterprise Development in Bolivia*, GEMINI Working Paper No. 35; Otero and Rhyne. *The New World of Microenterprise Finance*.

5

COUNTRY EXAMPLES OF CREDIT FOR WATER SUPPLY AND SANITATION

The following examples of credit and WS&S projects are the result of a literature search for material linking credit and water and/or sanitation. From this search it became clear that few instances exist of the direct use of *household* credit instruments, or at least few that have been documented. Some examples of the experience of credit in other contexts are also discussed because they contribute to our understanding of the advantages and limitations of the credit approach. For example, home-improvement loans and low-income mortgages are products that overlap the subject of this paper.

In some cases, credit may be extended to community organizations rather than individuals.

Some examples of credit turn out to involve loans to community organizations rather than to individuals. If the community or municipal systems can effectively enforce payment for services, it will be more appropriate for the funder to recover the loan repayments through the service fee than make loans to individuals. Where this option is not available and improvement must first take place at the household level, individual loans are appropriate. A flexible general consumer credit product can be used for home improvement and investment in on-site WS&S projects, as well as for connections to community or municipal systems.

As much as anything, success in loan recovery rests on common sense, good market research, prudent financial management, attention to detail, and a realistic time horizon. Most of the following pilot efforts at lending to households for WS&S projects have reached only a small number of people.

5.1 Lesotho: Low-Cost Urban Sanitation

In Lesotho, 1,000 VIP latrines were installed in a small credit program; loans ranged from \$50 to \$300.

Initiated in 1980 as a pilot component of a larger urban development project, this program provided credit for household investment in ventilated improvement pit (VIP) latrines as one of its features; loans were in the range of \$50 to \$300.⁵¹ The launching of Lesotho's credit program was a response to the needs of some households for extended payment. Repayments with interest were meant to assure that householders accepted full responsibility for sanitation, increasing the probability of proper cleaning, upkeep, and use. Between 1988 and 1990, one thousand domestic latrines were constructed, with 10 percent financed under a revolving loan scheme. The information available on this credit scheme suggests an attention to detail that often makes the difference between success and failure.

There was no means test for the loans; hence, credit was accessible to those most likely to want it. Instructions for getting the credit were clear and simple. Initially, borrowers had to put some equity into the project by digging the pit and providing a deposit of 30 to 40 percent of costs. They paid a normal rate of interest on the funds they borrowed.

⁵¹ Ramonaheng. *Lesotho's Urban Experience on Loans and Cost Recovery*.

Care was taken to make the credit a legally binding agreement with a formal financial institution, the Lesotho Bank. The bank administered the loans using clear reporting and audit procedures. The fact that the government supplied the funds was not advertised because it was viewed as lenient in prosecuting defaulters and inefficient at collecting debts. The Loan Application Committee was responsible for collecting arrears on loans it approved.

The urban sanitation improvement team (USIT) helped locate a builder, but funds were not disbursed to pay the builder until USIT issued a completion certificate and the borrower signed a certificate of satisfaction. Repayments were not expected during December and January, when everyone had the costs of Christmas and school fees to pay. The loan was to be repaid in 20 installments over 20 months.

In 1990 it was reported that, of the 600 loans approved in response to 4,500 inquiries, 252 had been set up and 81 percent were paid up. Defaults were reported at 12 percent. In common with the performance statistics on many programs, this information is difficult to interpret because the measures of collection performance were not defined. What is also unclear in this case is whether the defaults represent a percentage of all loans made, or of loans still outstanding.

Administrative costs for these loans have been high compared to the monetary value of loans made. These additional costs for promotion, management, and reporting to donors are not charged to borrowers.

In the end, few loans were made relative to latrines built, which may reflect high borrower transaction costs or sufficiently cheap investments that can be financed from income, personal savings, and short-term retailer credit. About 80 percent of the latrines were constructed through private initiatives outside the scope of the project. Nonetheless, the program characteristics and lessons learned have broad applicability. Here are some general conclusions and recommendations drawn from one author's excellent summary of the Lesotho experience:⁵²

- Get the design of a credit program right by making sure it is both affordable and technically adequate. The availability of credit expands the range of what is affordable and regarded as adequate.
- Do not subsidize because "the user should finance, using appropriate credit mechanisms and employing trained local builders. . . . Once subsidies are offered it is very difficult to discontinue them. . . they intrinsically contradict the policy of sustainability. . . the justification is distributional but it is difficult to exclude the well-off." Ms. Blackett even goes as far as to say that "experience in Lesotho has shown that communal latrines are not appropriate and that it is better to lend money for the construction of latrines than to give it away."⁵³
- Focus on promotion. Great attention should be paid to marketing using a variety of media: "Good sanitation can be viewed as a product which needs to be marketed to the public. It is likely to be quite low among their priorities, and it is the job of the community workers, public health workers, health assistants, sanitation teams, etc., to create a demand for improved sanitation."

Administrative costs were high compared to the monetary value of loans made.

Good sanitation can be viewed as a product which needs to be marketed to the public.

⁵² Blackett. *Low Cost Urban Sanitation in Lesotho*.

⁵³ Ibid.

- Ensure proper institutional arrangements with carefully selected staff. Use a few committed expatriates who have a long-term commitment. Localize gradually and keep running costs low. “Setting up a successful long-term sustainable sanitation program cannot be done in a hurry.”

Although the program design showed admirable attention to detail, it seems doubtful that this approach could be scaled up. Because none of the program’s overhead costs are charged to the borrowers (who pay only for the cost of funds, not for the USIT overhead and full bank intermediation costs), the program is not sustainable financially and the Bank of Lesotho has no financial incentive to make new loans.

5.2 Honduras: Cooperative Housing Foundation

Honduras has been the location of several innovative experiments in using financial services to provide institutional support for NGOs operating in peri-urban areas.⁵⁴ The Cooperative Housing Foundation (CHF) program, for example, has a direct sanitation loan component for the capital of Tegucigalpa; this is an extension of an ongoing national program to provide loans for housing improvement. The addition of on-site sanitation and water supply was a natural progression for the program. As of 1993, the shelter program had disbursed around \$4 million to Honduran NGOs for onlending to some 4,000 households, with loans averaging roughly \$1,000. After a niche for a specific sanitation loan was identified, additional funding of \$350,000 was used to make 1,300 smaller loans (averaging \$330 each) specifically for sanitation. UNICEF provided a grant to establish a revolving fund. The sanitation loan program evolved from the desire to get away from grant-based solutions through the Ministry of Health that appeared to have very limited coverage potential.

CHF’s major goal was to develop local NGO capacity to a point at which they could obtain funds from other formal governmental lines of credit and, eventually, from the private banking sector. To do this the NGOs needed to establish a track record of making and recovering loans successfully. Thus, credit was the vehicle chosen for building up the institutional capacity of local NGOs, which entered into 57 separate loan agreements with CHF. The 4 percent spread between an onlending rate of 19 percent and a cost of funds of 15 percent was supposed to cover hygiene education and NGO overhead costs; a 5 percent up-front fee covered loan application and set-up costs. Given the relatively low inflation of 6 to 8 percent during the period when most loans were made (1992-93), this represented a real interest rate of about 15 percent, which is low compared with alternative sources of informal finance available through money-lenders and retail credit. For sanitation loans the term extended up to three years, with payments monthly (to enable a close monitoring of arrears).

Although data using standard measures of credit performance are unavailable, recovery rates were high in the early years according to former CHF staff, with 95 percent of clients paying on time. Default and arrears were commonly due to misfortune rather than to willful default. Some NGOs have succeeded in gaining access to other govern-

A national program in Honduras recently added on-site WS&S loans to its housing improvements program.

Credit was the vehicle chosen for building up the institutional capacity of local NGOs.

⁵⁴ Cooperative Housing Foundation. “Supporting Shelter and Community Improvements for Low-Income Families in Central America.” UNICEF. *Urban Example—Prospective for the Future: Water Supply and Sanitation to Urban Marginal Areas of Tegucigalpa Honduras.*

In the case of CHF loans, default and arrears were commonly due to misfortune rather than to willful default.

ment lines of credit because they have demonstrated a credible performance record. If CHF's overhead subsidy to development and extension is only an up-front cost to develop NGO capacity to perform these functions, the NGOs should be able to scale up their operations. Generating profits and accessing other lines of credit are the foundation for a financially sustainable system.

Prospects for further integration with the formal sector are encouraging because the National Water and Sanitation Agency (SAANA) is also addressing the needs of the 32 percent of Tegucigalpa's population who as yet have no access to a safe water supply. UNICEF has been financing credit-supported approaches, with SAANA providing the infrastructure. Independent sewerage and water supply associations were established, which are responsible for collecting fees for operation and maintenance as well as covering loan repayments for the capital cost. In Honduras credit is an important part of a government strategy to achieve greater coverage through cost recovery.

These are some significant features of important lessons from the CHF experience:

- Lenders offered a wide range of options including flexibility over the type of improvement, the loan term, and the quality of improvement financed. The high-cost option would often be adopted if the incremental increase in property value were considered to be high. Because extension officers were recruited from technical backgrounds in contracting and construction, they could match solutions closely to the needs of individual households. And, because local private contractors carried out the construction, the "one size fits all" approach to on-site WS&S projects was avoided. The most common package financed was a sanitary facility, water storage tank, washbasin, and shower. "Pour-flush latrines⁵⁵ and VIP latrines were often the technologies of choice—they provide good service (privacy and few odors) at reasonable cost (typically about \$100 to \$200 per unit), and their installation and functioning does not depend on the municipality or other organization."⁵⁶ However, there were a wide range of quality-cost combinations reflecting both preferences and debt capacity. Some borrowers used loans to establish connections to existing water and sewer mains, where they were reasonably accessible.
- No collateral was required, but the backgrounds of applicants were closely investigated and loan officers were responsible for collecting arrears. As an effective substitute for collateral, co-signers guaranteed payment. Each loan carried a formal legal contract, and the NGOs were willing to exercise legal sanction in appropriate cases of default. Of the 3,000 improvement loans made, however, the staff recalled only one case of a guarantor being called in.
- Lending flexibility allowed the more-cautious borrower to take on a smaller, shorter-term loan at first. The lender was also able to test questionable borrowers at lower risk. Initially the maximum loan size was designed to cover full construction cost, but in practice borrowers frequently contributed additional funds to obtain a higher-quality installation. Eventually, as inflation eroded the real value of the ceiling loan size, this equity contribution became essential. Many borrowers with small loans paid off early and then obtained larger loans for more-extensive construction.

Loans were made without collateral being required; co-signers guaranteed payment.

⁵⁵ These were not necessarily discharging to sewers, with consequent deleterious effects on environmental conditions.

⁵⁶ Ocasio. Draft WASH Project Note.

- The provision of reliable technical advice and help in negotiating construction contracts was a key factor in attracting borrowers with plans to upgrade WS&S facilities. Low-income households sometimes do not have all the information necessary to make a decision or the proper choice, particularly in a field such as sanitation where innovative new technologies are available. A prime function of the loan officer was to monitor construction quality for the customer and use the ability to refuse disbursement to keep contractors in line. (The NGOs released funds for construction incrementally, building in safeguards for the final borrower.)
- No contributory labor was required, in recognition of the inefficiency to many potential borrowers of contributing labor rather than cash. Women might make better incomes in other activities, while the employed might be unable to provide the time and/or be employed in more-remunerative occupations.
- Accounting and planning were conducted in terms of cash budgets, both from NGO to final borrower and from CHF to NGO. The ability of NGOs to borrow further funds depended on loan disbursement and collection performance, with CHF advisors stressing capital adequacy, asset quality, human resources management, earnings adequacy, and liquidity rather than collection performance alone.
- Although there was a large and significant subsidy built into the loan program (the technical support from CHF), there was also provision in the financial planning for CHF to get a sufficiently close-to-market rate from NGOs to preserve the value of the fund's asset base. When NGOs take over the CHF function, the cost of expert staff will be much lower.

Contributory labor is sometimes a less efficient use of recipients' time than cash from employment activities.

5.3 India: Kerala WS&S Project, Tamil Nadu Low-Cost Sanitation Project, SULABH International, and Asha Sadan

The Kerala project, funded by the World Bank, and the Tamil Nadu project, aided by the Indian government, both contain credit provisions for households and individuals interested in constructing low-cost latrines. In Kerala, part of the cost is covered. A 75 percent grant is available in rural areas and 50 percent in urban areas. The Kerala loans are administered by local governments or municipal bodies whose experience of loan recovery has not been satisfactory; there are substantial arrears in collection. In Tamil Nadu, the Housing and Development Corporation (HUDCO), a Government of India financing institution, provides the loans and municipalities administer them. According to World Bank sources credit recovery has not been high.

In India additional credit is supplied for infrastructure investment through the intermediation of PVOs. USAID and HUDCO have cooperated in arranging money-market finance and loans from industrial interests for low-cost housing loans to below-median-income groups rather than the poorest of the poor. Microenterprise lending and credit for women's groups have also been widely developed in India but with a more targeted focus on women and the poorest groups.

Perhaps as many as 500,000 households gained access to credit through both formal and informal mechanisms in urban slum areas in India, according to SULABH International.

One NGO, SULABH International in India, is a “foundation” employing 20,000 people that is headed by an entrepreneurial philanthropist, Dr. B. Pathak. Inspired by Gandhian ideas of liberating night-soil collectors, the foundation has marketed low-cost, twin-pit latrines in urban slum areas with such success that Dr. Pathak has been dubbed the “Latrine King.” It is estimated that as many as 500,000 households gained access to credit through both formal and informal mechanisms, the latter making use of agents who market loans and collect from purchasers on flexible terms. SULABH sets target collection rates for these collectors, but burdens them with no formal bookkeeping. Although SULABH has received grants, the extent of the latrine program indicates that it is financially viable and reaches the poor. The nontransparency of loan terms may reflect the use of truly informal systems based on price discrimination and minimal record keeping.

The government, also, provides some credit through subsidized loans, but details are not available. According to a former union minister for Labour and Welfare, Ram Bilas Paswan, “for those too poor to afford the new technology the government will help financially.” No details about credit recovery were available.

A PVO called Asha Sadan is reported to have established a revolving fund for the purchase of latrines on credit in the area outside Delhi. Although costs and coverage are unknown, full cost recovery has reportedly been achieved from loans, with monthly payments in the range of \$4.50 to \$9.00.⁵⁷

5.4 Ghana: Kumasi Sanitation Project

The Kumasi project, well known for its pioneering work on willingness to pay for sanitation in urban areas,⁵⁸ set an overall goal of providing an implementation strategy for urban sanitation programs that would be replicated in other Ghanaian urban centers. The guiding design principle of this strategy was the sharing of costs between projects and household users. Many loans have been granted to cover shared sets of latrine units, primarily for tenanted households. These loans, formally made by the project to landlords, cover installation costs for the latrines. Repayment takes place over a period of two to three years, with obligations mixing formal and informal commitments. Either the tenants must commit initially to the landlord, or the landlord must undertake to repay the loan from rent proceeds. In practice, the collection method has proved cumbersome because of the *ad hoc* way in which the project defines obligations. A weakness of the system is that it is not transparent to tenants, who have no access to loan documentation and can thus be overbilled by their landlords. Although a regular payment schedule exists, responsibility for delivery rests with the landlords who are supposed to hand over the money to a community treasurer. Even a 2 percent incentive paid to the treasurer has failed to speed up tardy collections, however. Some landlords retain the funds and wait until all tenants have paid before depositing collections with the treasurer; others cannot resist the temptation to use the funds as working capital.

The disbursement of funds from the World Bank (sole financing source for the project) was administered by transfer to special petty cash accounts at a commercial bank. Borrowers of these funds were required to make a 10 to 20 percent in-kind contribution for materials,

⁵⁷ Hardoy et al. *The Poor Die Young*, 139.

⁵⁸ Whittington, Lauria, Choe, et al. “Household Sanitation in Kumasi, Ghana: A Description of Current Practices, Attitudes, and Perceptions.” World Bank. *World Development Report 1992: Development and the Environment*.

Loans have been granted to cover shared sets of latrine units, primarily for tenanted households.

depending on the size and cost of the installation. Although interest was set at a concessionary rate of 10 percent and inflation of nearly 100 percent over the past four years eroded the real value of the debt, loan recovery has not been an easy task. New loans and loans for more costly installations are now made on longer repayment schedules of three years, as incomes have failed to keep pace with rising costs.

Collection is problematic: because the responsibility does not lie with a single financial institution, project staff and members of the community steering committees have had to coordinate time-consuming visits to households to follow up on arrears. Despite these difficulties, an innovative proposal to leverage the intermediary skills of the informal indigenous Susu collectors was never implemented. The Susu is an institution of informal intermediaries who make regular visits to collect savings from clients and also provide short-term loans to traders; in essence, they mop up liquidity. Susu collectors may deposit surplus funds in commercial banks and may even be able to access credit. It is said to be a stable system although not without risk. Susu collectors are reputed to have detailed knowledge of the household financial status of clients and are usually local residents of good character. (Schoolteachers reportedly find this ideal after-work employment.⁵⁹)

As of May 1993, nearly 40 percent of 224 loans disbursed were in arrears in the three pilot areas. Unfavorable financial conditions—combining inflation and distorted credit markets—have undoubtedly compounded the difficulties of establishing sound credit facilities. More fundamentally, the combination of project and community steering committee responsibilities for credit decisions and collection imposes high administrative costs. At this early stage of high overhead support costs, it seems unlikely that any sustainable capacity yet exists to finance household sanitation investment. Funding is not being raised from commercial sources or even the national government.

Using the existence of what appears to be an efficient informal local intermediary such as the Susu collector is a subject worthy of further examination. One way of improving the credit product and the disbursement and repayment procedures would be to involve those with experience of microfinance and informal financial markets at the design stage. However, attempts to institutionalize traditional financial forms uncritically may have negative effects. “Institutionalizing ROSCAs, if not carefully considered, could increase operating costs, modify the terms of the contract, introduce new norms, insert mediators between savers and borrowers, and bureaucratize behavioral relationships.”⁶⁰

The Susu is an institution of informal intermediaries who collect savings from clients and also provide short-term loans to traders; in essence, they mop up liquidity.

One way to improve disbursement and repayment procedures is to involve those with experience of microfinance and informal financial markets at the design stage.

⁵⁹ Aryeetey. *The Relationship between the Formal and Informal Sectors of the Financial Market in Ghana*, AERC Research Paper No. 10. Aryeetey and Steel. *Incomplete Linkage between Informal and Formal Finance in Ghana*, Industry and Energy Department Working Paper.

⁶⁰ Abugre. “When Credit is Not Due—Financial Services by NGOs in Africa.”

5.5 Bolivia: Water and Sanitation Project/Savings and Loan Associations

By March 1989 when this USAID-supported project ended, it had loaned \$1.2 million to indigenous chartered Bolivian savings and loans institutions, which in turn on-lent them to community water associations. (As far as can be ascertained there was no sanitation component.) Eventually, 16,500 families benefited at a cost of \$72 per capita.⁶¹

The loans were channeled through established quasi-formal, microlevel financial institutions (known as *mutuales*), which then entered five-year credit contracts with water supply cooperatives. Although no evaluation report is available, a telephone interview with the manager of the central office of savings and loan associations indicated that four out of five sub-projects had repaid in full. He attributed the nonpayment of the fifth to municipal refusal to allow water rates to rise to the level necessary to cover operating and loan service costs. Although not directed at household credit, this particular experience should be followed up because it is an example of using already-established intermediaries serving the types of urban and peri-urban communities targeted for water supply and sanitation improvements. In some circumstances channeling credit to community water associations will be cheaper and more easily administered. However, the preconditions are established financial institutions, such as credit unions, and an effective community water association able to collect service fees and unencumbered by political interference.

5.6 Kenya, Philippines, Indonesia, and Honduras: Revolving Funds for Rainwater Collection Systems

The use of revolving-credit funds for financing of rainwater collection tanks has not been well documented. The term *revolving fund* is used in two senses, one of these describing a revolving fund mechanism used by informal ROSCAs. In Kenya such a system helped finance several thousand water tanks. Under this scheme, a small group of a dozen or so households each makes a monthly contribution of \$10 to cover the cost of raw materials.⁶² The first month's collections purchase materials for one tank, which the householders construct themselves, and by the end of the year 12 tanks have been constructed—one for each household. This revolving fund approach involves outside funds only for technical support and advice. Any attempt to institutionalize informal ROSCAs should be undertaken carefully as they seem to work efficiently already. The phrase *revolving fund* also describes a loan fund, usually capitalized by a donor, that lends out money and then uses repayments to fund new loans. To increase the coverage rate the terms of loans to final borrowers must cover administration costs, inflation, some allowance for loan losses, and a profit element to finance the expansion.

Solutions appropriate to peri-urban areas may require a more sophisticated intermediation mechanism than this approach and will not be able to rely on voluntary labor such as that used to construct the water tanks in Kenya. CHF and UNICEF in Honduras have considered extending home-improvement loan programs to include a targeted loan program specifically for rainwater-collection water systems. These schemes would be along the lines of

A revolving fund can be based on small donations from several households, or it may describe a loan fund set up by a donor.

⁶¹ Requeña and Velasco Arboleda. *Final Evaluation of the Bolivian Savings and Loan System Water and Sanitation Project*, WASH Field Report No. 315.

⁶² de Vrees. *Machakos Diocese Rainwater Tank Programme*.

those described in Section 5.2.⁶³ The idea of using rotating savings and loan associations for infrastructure investment has been proposed in other contexts as well, such as for rural sanitation.⁶⁴

5.7 Bangladesh: Grameen Bank/Housing and Sanitation Loans

The Grameen Bank offers home-improvement loans to long-term clients in its best-performing groups, although this program is peripheral to its main mission of providing banking services—microenterprise credit and savings facilities—to poor women in rural Bangladesh. A condition of these loans is that the borrowers form a solidarity group, to gain mutual support and also create social pressure for repayment. The home loans program has a direct impact on sanitation because house designs must include sanitary facilities. There is also a loan available to finance construction of only a latrine; the loan is for \$14 and must be repaid over a year.⁶⁵ However, a more interesting linkage among enterprise credit, sanitation, and health outcomes occurs due to its indirect effects. Although cited as an example of a minimalist approach,⁶⁶ Grameen educates and supervises its solidarity groups very carefully. Members commit themselves to 16 principles that include latrine use and the boiling of drinking water. Health messages are delivered as part of normal group activity at hardly any cost. For example, the inside page of savings passbooks contains a “saline poem” giving the instructions for oral rehydration therapy. The health of Grameen Bank members is significantly better than nonmembers of similar socio-economic status.⁶⁷

Among public health specialists there is a growing movement to affect health by targeting microenterprise investment as a means to “economic empowerment.” According to a former First Lady of Nigeria:

What can financial institutions do to uplift the health status of our vulnerable groups? There is a lot they can do because financial empowerment opens the doors to personal development, education, health, and access to other essential services. Financial empowerment is therefore the single most important factor today for the economic upliftment of the vulnerable groups. Indeed, financial powerlessness has been the major obstacle to improving their health status and quality of life.⁶⁸

Credit is a powerful means of economic empowerment, and increased income leads naturally to more consumption of health products and services as well as access to information. There is a subtle question of causation here; one view is that demand for water and sanitation is a consequence rather than a cause of economic development.

The Grameen Bank program for household loans also promotes health education.

Credit is a powerful means of economic empowerment.

⁶³ Brand and Bradford. *Rainwater Harvesting and Water Use in the Barrios of Tegucigalpa.*

⁶⁴ Egunjobi. “Promotion of Rural Environmental Sanitation through Traditional Intermediaries.”

⁶⁵ “Through the Grameen Bank, we are trying to get people toilet-minded.” M. Yunus, quoted in Kinley, “Matching Technologies to People’s Needs and Means.”

⁶⁶ Buechler. “Grameen Bank.”

⁶⁷ Ranck. “Grameen Bank and Its Impact on Health and the Environment.”

⁶⁸ Babangida. “Viable Economic Ventures: Health and the Role of Banks and Financial Institutions.”

On the other hand, the effect of improving sanitation in urban areas is to increase property values and act as a catalyst for small business development.⁶⁹ Any attempt to use credit mechanisms to support the WS&S sector must do so within a planning context that recognizes these broader urban economic development strategies.

5.8 Pakistan: Orangi Slum Sanitation in Karachi

Although the Orangi pilot project (OPP) has never used a household credit mechanism to finance sanitation and sewerage investment in this Karachi slum, it is nonetheless noteworthy because it suggests alternative methods of approaching the problem of developing WS&S services in peri-urban areas. The Orangi approach has facilitated “help yourself” solutions through community organization and political mobilization.⁷⁰ The initial step taken by OPP organizers was to spend several years supporting efforts to persuade municipal authorities to do something about the acute sanitation problems in the district. The failure of these efforts led the community to resolve to tackle the problem itself. Patient community organization and a sustained focus upon three key principles over a 14-year period facilitated OPP’s success, according to OPP’s eminence grise, Akhteer Hameed Khan:

- Lowering costs by modifying technology and avoiding the high costs imposed by a corrupt and uncompetitive contracting system. (Charges for services provided by local authorities were sometimes nine times the cost of labor and materials.) The revolutionary low-cost condominal small-bore sewer design involved close and extended cooperation among engineers, project staff, community members, and engineers. The cost—an average of \$66 per household—is estimated at one-quarter of what city authorities would have charged to provide the same service.
- Providing technical support officers to help householders make suitable choices, a service that was in much demand.
- Distinguishing clearly between internal (household and block) responsibilities, which could be handled by householders themselves, and the lane and main trunk sewers, which were the responsibility of municipal authorities.

The Orangi approach shows that if a product—in this case a sewer system—is attractive enough, people will find some way to pay for it. Local understanding of the costs of poor sanitation, as well as the extended period over which the approach developed, helped reduce the importance of having a credit component. It also helps when, as in Orangi, the residents are a resourceful group of recent immigrants.

The Orangi community approach recognizes that development takes place over time and not at a rate that can be dictated by external assessments of need and disbursal targets. According to Khan, there is a natural evolution of household demand: water supply is the first priority, followed by on-site sanitation, block-level sanitation, and eventually the public provision of mains.⁷¹ He claims that on-site and block costs of sanitation account for 80 percent of the

The Orangi approach has facilitated “help yourself” solutions through community organization and political mobilization.

As shown in the Orangi experience, development takes place over time and not at a rate that can be dictated by external assessments of need and disbursal targets.

⁶⁹ Serageldin. “Financing Infrastructure Upgrading Programs”; Serageldin. “The Impact of Investments in Urban Infrastructure on Municipal Revenues and the Integration of Informal Sector Activities: The Abidjan Experience.”

⁷⁰ Hasan. “Community Groups and Non-government Organizations in the Urban Field in Pakistan.”

⁷¹ The World Bank. *World Development Report 1993: Investing in Health*.

total costs in Orangi. The OPP also focused on the community as a whole rather than concentrating narrowly on the WS&S project, sponsoring parallel educational subprograms for women and selective microcredit to help the most disadvantaged develop income sources.

5.9 Indonesia: Community Water Supply and Sanitation Project

In Indonesia, PVO- and government-sponsored WS&S projects that provided grants for construction have enjoyed varying degrees of success in maintaining service after assistance is withdrawn.⁷² Generally, the credit mechanisms used to support investment were directed at community water supply cooperatives. Although comprehensive data are unavailable, a 1991 evaluation showed that in many cases communities were able to establish *ad hoc* arrangements with state banks.⁷³ In turn, these arrangements sometimes served as a catalyst for broader credit-supply relationships between the village organizations and the formal sector. When evidence of successful repayment of bank loans existed, further finance was sometimes channeled through the community organization for other purposes. However, because of regulations requiring a single individual to be liable and provide collateral, the loans would be taken out in the name of the water cooperative chairman or village association. Even some merchants were willing to supply credit for equipment to community operations with a sound credit history. Many details of these pragmatic marriages between formal-sector institutions and informal intermediaries who on-lend loans are by their nature undocumented.

The World Bank's current community WS&S project covering outer urban areas has a more explicit role for household credit. Administered by the local government, which is in turn responsible to the Ministry of Home Affairs, the project operates in the pilot areas of East Java and Bali. These two provinces represent favorable cultural environments for loan programs, and arrears in the Bank Rakyat Indonesia (BRI) loan programs have been low in both.

The loan program provides credit for the construction of household latrines. Although government regulations prohibited the provincially owned regional development bank (Bank Pembangunan Daerah, or BPD) from providing credit for "nonproductive purposes" such as a twin-pit, pour-flush latrine, an agreement was reached whereby the first set of latrines was constructed by contractors who were paid from budgetary allocations. The borrowers signed a loan agreement, however, and repayments from these loans are to provide loan capital for a revolving credit program. With principals of \$100 to \$300, these first-generation latrine loans carry 12 percent interest per annum; this percentage is close to current commercial deposit rates (although containing a large overhead subsidy). Repayment terms are a flexible one to five years. Future loans from the fund will be available on terms that allow borrowers to choose their own contractor and/or supplier of materials. The project, executed by the World Bank but financed by the United Nations Development Programme (UNDP) and the Dutch Government, allocated some \$500,000 to the loan program for the whole of East Java. As yet, however, only 200 loans have been made.

⁷² CARE's rural WS&S project was notable for its assumption that communities could finance all their costs, including capital.

⁷³ Sukarmadijaya, Wright, and Iddings. *Community Water and Sanitation Project (INS/88/005): Report of the Evaluation Mission*.

When communities were able to establish ad hoc arrangements with State banks, sometimes broader credit-supply relationships evolved between village organizations and the formal sector.

This model requires extensive involvement of local government officials and program staff, and it may not be appropriate for replication on a larger scale. There are underlying problems in having too few experienced credit personnel and relying on supervision and political power to support repayment efforts. It remains to be seen whether the program can be scaled up.

5.10 Indonesia: KUPEDES

Although in Indonesia KUPEDES is an acronym for general rural credit, in practice the unit banks also serve urban areas. Much of the program's original intent was to finance microenterprise. Although "consumption" loans were never excluded, there was nonetheless a strong bias toward lending to traders for the purpose of gaining investment working capital. KUPEDES illustrates the fungible nature of credit and how difficult, and possibly undesirable, it is to demand too rigid a compliance with covenants concerning the use of credit.

KUPEDES is a product delivered by the unit bank system of Bank Rakyat Indonesia. Apart from being the largest provider of small loans in the world, the BRI is also a formal institution (a state owned bank). More than 3,600 units are located nationwide, managed through a hierarchically organized system of unit managers, branch supervisors, regional supervisors, and national-level personnel and funding. The unit banks (usually staffed by five people) supply credit and a range of savings products so popular that savings deposits amount to over twice the value of outstanding loans. KUPEDES is a product that cannot be considered independently of the institution supplying it.

The unit banks have been successful—thus far making over 10 million loans averaging less than \$400 each, with cumulative arrears of 3.2 percent. BRI delivers services on a wide scale using standardized products and procedures. For example, a recent estimate of the relative size of worldwide microenterprise lending (by development banks, poverty-oriented banks, affiliational networks, and NGOs) put the BRI KUPEDES share of total loans at about 40 percent and its share of dollar value of funds loaned at 76 percent. According to this estimate, small-loan programs are defined as those averaging less than \$500 per loan. (Credit unions are excluded.)

KUPEDES lending rates have been set at a cost-plus rather than a market-rate basis (current market rates for small loans are much higher than the 33 percent per annum that KUPEDES customers in good standing pay). The BRI unit banks are profit centers reporting individually to supervising branch bank staff; receiving no subsidy, they have provided a major source of profit for their parent bank.⁷⁴

Successful repayment of a loan entitles the borrower to a larger loan, and since the most popular term is one year, customers quickly build up a history of repeat loans. Investigation of the impact on individual borrowers, however, revealed that the incremental effect of KUPEDES funds on borrower activities has been very difficult to identify.⁷⁵ Bank lending officers often have not spent much time scrutinizing repeat applications or monitoring the precise impact of new loans; once customers establish their credibility as borrowers, they are usually regarded as capable of handling their financial affairs. At one time, a loan might be

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The unit banks supply credit and a range of savings products so popular that savings deposits amount to over twice the value of outstanding loans.

Once customers establish their credibility as borrowers, they are usually regarded as capable of handling their financial affairs.

⁷⁴ See also E. Rhyne. *The Microenterprise Finance Institutions of Indonesia and Their Implications for Donors*, GEMINI Working Paper No. 20.

⁷⁵ Sutoro. "KUPEDES Development Impact Survey."

taken out for house improvements, school fees, a new bathroom, or a domestic water well yet be recorded as a loan for working capital. Borrowers might or might not have microenterprises. If they did, they could argue they were using the loans to finance their businesses, while their own funds, tied up in working capital, were freed to fix the roof, pay the school fees, or even finance a pilgrimage to Mecca. The sectoral breakdown of loans the central bank demanded has not been meaningful. Fluctuations in sectoral lending statistics seemed to be responses to central bank exhortations to lend to particular sectors rather than a reflection of the impact of new KUPEDES loans. In reality the bank has had limited control over the allocation of loans to different activities, and this is probably a very good influence on the productivity of investment.

5.11 Concluding Remarks

The definition of productive investment can be extended to include housing, education, health, and even consumption, but that would miss the point. The BRI units, for example, are the single most successful example we have of a mass delivery system for credit and savings services to lower-income groups. However, they do not train their clients or supervise them closely. Despite these gaps the system is evidently sustainable and has expanded small-scale credit operations. Short loan terms (one year is the most popular term) and regular monthly payments enable a close monitoring of portfolio quality, while the incremental nature of many investments means that a succession of smaller short-term loans can finance a capital investment. In contrast, many poverty-lending programs operate on a much smaller scale with great attention to educating their clients, teaching entrepreneurship, and influencing many aspects of their lives.

A reasonable hypothesis would be that a minimalist⁷⁶ approach to credit provision, one avoiding the excessive compliance costs of channeled and targeted credit, is a more effective means of catalyzing the economic development of peri-urban society. However, advocates of this approach must face the fact that loan and grant funds for development will likely be tied to a particular agenda—whether that of a donor sectoral constituency, a PVO, or an institution. These providers of capital may not be satisfied with evaluating credit by a borrower's ability to repay, instead demanding targeting of the very poorest and evidence of particular outcomes such as disease reduction and/or measured increases in income and consumption. Under a minimalist approach targeting is implicit in the organization's mission to help poor people and in the locations it chooses to provide services. However, once established in an area, a policy of excluding better-off residents from access to services is neither necessary nor desirable. Indeed, the larger loans can subsidize the smaller loans as the spread is higher.

Any PVO concerned with health could either target it directly with channeled finance for WS&S investment or develop a more-general approach based on the provision of credit and savings services to peri-urban areas with an income-creation focus. Over an extended period of time the synergistic effects of improved infrastructure and income-earning capacity would affect education levels, hygiene, and health. Some would argue that this sequence is more natural than tackling health and hygiene problems first.⁷⁷

A minimalist approach to credit provision, one avoiding the excessive compliance costs of channeled and targeted credit, is an effective means of catalyzing the economic development of peri-urban society.

⁷⁶ Biggs, Snodgrass, and Srivastava. "On Minimalist Credit Programs"; Ashe. "A 'Minimalist' Strategy for Reaching Scale while Reducing Costs for Microenterprise Programs in North America."

⁷⁷ Stomberg and Walker. *Macroeconomic Limits to Extending Water Supply Coverage*, WASH Working Paper No. 102.

6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

Providing household credit for on-site investment in WS&S infrastructure is not the complete answer for improving environmental conditions and economic welfare in poor urban and peri-urban areas. It can, however, be an effective component of a broader strategy addressing the sequential nature of locally based demand.

Although an exception to almost every generalization can be found when one attempts to induct the secrets of successful financial-institution development from experience, there are common themes associated with sustainable credit programs. Some of these are of wide relevance to all development efforts—a realistic time frame, adequate political support, a stable national financial system, adequate planning and management systems, a realistic assessment of local demand, and other institutions that can act as effective partners. The lessons from microfinance center around two program/project design features: the credit products themselves and the institutions supplying them. Although it is not valid to draw conclusions about the specific design of products in terms of repayment periods, interest-rate pricing, and loan-administration procedures, it is possible to summarize here the characteristics of demand and supply that should guide those designs.

An intermediary's financial sustainability depends upon two factors: one of these is good credit-approval decisions; the other is correct loan pricing (interest rate charged to the borrower). Thus, the lender must evaluate borrowers carefully and then charge them a high enough interest rate to cover the cost of funds, loan losses, compensation for the effect of inflation on capital, and any required return on assets. When both of these requirements are met, borrowers obtain the benefits of the investment and can pay back their loans, and the intermediary is able to stay in business.

The remaining sections discuss some conclusions drawn in the report. Section 6.2 draws together observations about the characteristics of demand for credit from low-income clients. In 6.3, the characteristics of supply, expressed in terms of the costs of delivering credit, are highlighted. The more general questions of how institutions should be designed and operated are presented in 6.4. Recommendations drawn from these conclusions appear in 6.5.

6.2 Design of Credit Products: Demand Characteristics

- In most peri-urban and rural communities where financial services are poorly developed, lack of access to formal credit, rather than the rate of interest, is a problem for the poor. This credit gap comes about when existing formal-sector intermediaries either cannot or will not supply such services for small loan amounts.

- Interest rates of informal lenders are so high that any reasonably efficient institution able to scale up to a point at which it serves thousands of clients could undercut these rates.
- Sound credit is based upon a relationship between borrower and lender, not upon the borrower's entitlement; that is, a contract is made in which both parties incur obligations. It is important that microfinance institutions pitch their approach commensurate with clients' level of education and understanding so that these contracts serve the interests of both parties.
- Credit is not a silver-bullet solution and will not always be viable or even necessary. Credit addresses only the latent demand that is not expressed when people lack the option to spread payment over time; it is not meant to directly address income distribution or externality issues. A demand-led credit approach is unlikely to be compatible with 100 percent coverage, and lower quality/price communal facilities may be needed to maximize environmental benefits.
- Regularity of loan payments is an important part of learning financial discipline. The problem of income variability can be solved by such devices as more, but regular, payments (expensive in time) or the requirement of a buffer savings stock before credit is approved.
- Financial incentives and the promise of continuing access to credit through repeat loans are two effective ways of encouraging prompt repayment.
- An ongoing banker-client relationship whereby an institution meets the changing needs of a client for financial services is easier to manage than "one-off" credit agreements associated with a particular program activity.
- Transparent loan terms are essential, and it is better to simplify procedures at the expense of equity or elegance than to make things complicated. Thus flat-rate loans under which each installment comprises equal payments of principal and interest on the whole loan amount are easier to administer and understand than declining-balance loans.
- Since the ultimate demand for credit is derived from the services provided by WS&S investments, demand will be maximized when a variety of suitable options reflects the range of demand as it actually is rather than the options planners think the poor need. Although technical innovation to reduce costs is desirable, the imposition of a "one size fits all" technical solution will drastically reduce the pool of potential urban and peri-urban borrowers.

6.3 Supply Characteristics of Credit

When designing loan products, planners should take into account the following lessons of experience:

- Loans to individuals may be easier to manage and collect than those to groups. In group lending agreements, although the leader may have a contractual relationship with the intermediary, members do not. Group loans must be distinguished from those involving solidarity groups, where loan repayment is an individual responsibility but the peer group applies sanction if members break trust and willfully default.

- Where conditions support the establishment of a community organization for supplying WS&S services, a loan to that organization, recoverable through service fees, is more appropriate than loans to individuals. Nonetheless, investment in on-site facilities of varying quality should remain individual household decisions.
- The shorter the loan term and the more frequent the repayments, the easier it is to monitor and maintain portfolio quality. However, frequency of payments leads to higher noninterest intermediation costs.
- A smaller average loan size means that a higher interest rate must be charged to cover both intermediation costs and the interest on loaned funds. As loan size declines, intermediation costs (expressed as a percentage of amount loaned) will eventually exceed pure interest costs on funds.
- Progressing from smaller to larger loans (e.g., from sanitation to full house improvement) is a less costly way for an intermediary to assess a client's debt capacity than by making a single large long-term loan.
- It is difficult to operate sustainable credit programs when inflation rates are high, macroeconomic management is weak, and financial markets are undeveloped.⁷⁸

6.4 Institutional Design, Strategy, and Operating Principles

Although the following conclusions overlap the previous discussion of supply and demand characteristics, they stress the principles that must be recognized if institutions are to become financially sustainable:

- Microfinance institutions are most effective where they identify niche markets unserved by the formal sector and use innovative approaches leveraging knowledge of local conditions and culture to replace collateral and reduce the costs of managing risk.
- The technical and financial expertise to match customer preferences to available technical options and loan terms is a highly marketable service. If loan officers are trustworthy and motivated to make good credit decisions, clients will look to them for help and protection from efficient, but not always honest, private-sector contractors.
- A trade-off exists between minimizing costs and targeting the poorest customers. By allowing larger loans (which have intrinsically lower costs per unit of money lent), it is even possible to cross-subsidize many smaller loans by adopting a single interest rate for all loans.
- Although compliance costs may be incurred to ensure that the funding organization achieves its objectives, these can also be attained indirectly by providing a general credit line to households and relying upon prosperity to create

⁷⁸ Patten and Rosengard. *Progress with Profits*, 13-15.

demand for WS&S and health improvements. General minimalist programs that increase household financial management capacity and the financing of income-creating enterprises may offer the best returns vis-à-vis the eventual impact on economic development and, ultimately, welfare and health. “The real question is simple. How do you get the biggest bang for the loaned buck in poor countries?”⁷⁹

- The practice of targeting levels of credit disbursements and rewarding quantity, not quality, of loans generally results in poor credit recovery. By making profit a major indicator of success and relating reward to that success, institutions can increase the efficiency of their credit services. Such a policy is also compatible with a socially inspired institutional mission to service the needs of disadvantaged communities.
- Savings programs can be as empowering financially as credit. Savings programs in turn lead the depository institution to search for opportunities to lend depositors’ money both safely and productively (i.e., earning a high return). Savers reveal their personal characteristics and their cash flow to the depository institution; such information then becomes a basis for later loan decisions about that individual/household.⁸⁰
- Contrary to commonly held belief, the poor have significant capacity to save and are forced to do so to provide some level of security in the event of illness or economic catastrophe. Savings are the initial source of equity both in the home and in an enterprise. Savings accounts work just like flexible lines of credit to businesses, except that one is financed by client’s equity and the other by debt.
- At least tacit approval and, preferably, active support from political authorities including the central bank are almost essential for sustainability.⁸¹

6.5 Recommendations

The following recommendations are based on the conclusions of preceding sections. For reader convenience these are loosely grouped within three categories: general recommendations, program design, and program management.

6.5.1 General Recommendations

- Credit (rather than grants) should be used to support on-site WS&S investments in peri-urban areas. However, a grant is preferable to a badly thought-out credit approach, and likely to be less damaging.
- Funds available from WS&S, housing improvement, and health budgets should also be available to support intermediaries that are even more diversified. Serious efforts should be made to coordinate activities and address all the financial needs of lower-income groups through minimalist general credit programs.

⁷⁹ M. Farbman quoted in Kidder, “Perspectives: Bigger Bang for Loan Bucks.

⁸⁰ M. Robinson in Otero and Rhyne, *The New World of Microenterprise Finance*.

⁸¹ Gibbons (ed.). *The Grameen Reader*; Patten and Rosengard. *Progress with Profits*, 97, 101-2.

- Although minimalist credit programs are probably the most efficient, the absence of appropriate institutional vehicles means that, in the medium term, the support of credit unions and specialized PVO credit programs is needed. The ability to nurture technical and social knowledge specific to a particular market is another factor favoring more channeled and specialized WS&S/household-improvement credit programs.
- All credit and savings programs should be subject to some system of prudential regulation and monitoring.
- Where such regulation is available, savings schemes should be promoted as a way of preparing for future intermediation by a financial institution supplying loan products.
- A more detailed and comprehensive set of case studies of the most promising approaches should be compiled over a long enough period, and with adequate resources, to support firm conclusions on guidelines for developing specialist and general financial institutions in urban and peri-urban areas.
- Resources should not be expended on extensive microfinance development in countries lacking sound macroeconomic management (balanced budgets, monetary stability, and a liberal trade regime) now and in the foreseeable future.

6.5.2 Design Recommendations

- Credit programs should be designed carefully, based upon market research of locally based demand, appropriate financial and accounting systems, and a thorough understanding of both borrower and intermediary capabilities.
- Interest rates should be based on the cost of funds, administrative and labor costs, loan loss allowances, a margin for inflation, plus any return on capital that is required by the owner (individual or private- or public-sector organization).
- Governments and donor agencies should not be allowed to impose an agenda of rigid disbursement targets to match their own programs of direct or supervised construction.
- Specialized financial management skills should be used to design and manage credit programs. If credit is adopted without adequate provision for acquiring the necessary skills, a great deal of time and effort may be spent in reinventing the wheel.⁸² It makes more sense to buy experience than to acquire that wisdom by making expensive mistakes.
- Proposals for credit programs should take full account of the nature of existing financial markets and the impact of new credit schemes upon them.

⁸² For a good example of available materials, see Robert Peck Christen, *Financial Management of Micro-Credit Programs: A Guidebook for NGOs* (Cambridge, Mass.: ACCION International, June 1990) and *Tools for Microenterprise Programs: Technical Notes and Training Materials*, GEMINI Project (Bethesda, Md.: Development Alternatives, Inc., n.d.). The latter includes sections on delinquency, financial services for women, staff incentives, and financial viability.

- Institutional arrangements for providing credit services should be carefully thought through. There should be close coordination with overlapping sectoral financial and economic policies that affect the operation of institutions responsible for housing, banking, urban environmental management, and water resources.
- Since WS&S loans are a subsection of the market for housing improvements, the location of an on-site WS&S loan program within a housing-improvement portfolio should be evaluated before a specialized WS&S program is considered.

6.5.3 Management Recommendations

- To achieve efficiency objectives, the suppliers of construction services and materials should be private suppliers responding to locally based demand. However, the intermediary should program the cash disbursement of loans in a manner that allows loan officers to audit construction standards. An additional level of control would be to accept only bank-approved and -licensed contractors, who would be expected to deposit a bond with the bank as a guarantee of compliance with construction standards.
- Subsidies from donors, PVOs, or governments should be channeled in such a way that they neither weaken the incentive to mobilize funds from nongrant sources nor create incentives for funds to be invested in low-return activities. If loans for water and sanitation products are not affordable at rates of interest based on costs, it is better to use a partial grant and charge full interest on the balance, than to grant a loan for the full amount but at a subsidized rate.
- Scale and coverage targets should be achieved by varying the activities eligible for loans and by promoting demand and expanding capacity through the location of new branches close to consumers.
- In all credit projects initial emphasis should be placed on using staff with banking and credit experience rather than relying on retraining people with limited financial backgrounds. The major skill categories required will be accounting and simple financial control systems.
- Standardized financial performance criteria for loan programs should be available or adopted in all credit operations that USAID or other donors might support.
- Funding institutions should foster long-term involvement with local counterpart institutions willing to commit themselves to principles of sound finance.

GLOSSARY OF TERMS

- ABILITY TO PAY** a fuzzy concept that does not correspond in social science usage to what we would infer from common sense. Whether or not someone commands enough resources to contract a transaction (cash or credit) is not what is usually meant by the phrase. Ability to pay is a subjective judgment predicated on some assumption as to what people *ought* to pay. Thus, the low-income clients are said to have a lower ability to pay than middle-income earners, irrespective of whether or not they buy the good/service. It is unclear whether the exponents of the ability-to-pay concept would agree that making credit available increases such ability. See *willingness to pay*.
- ADVERSE SELECTION** a term, originating in insurance parlance, which has passed into general use in agency theory. It refers to the tendency of insurers to attract a high-risk clientele in comparison with the general population. Thus, unhealthy people are more likely to take out health insurance, and the *risk-eager* to apply for credit.
- AFFORDABLE** a variant of the ability-to-pay argument requiring value judgments about the distribution of income. If something is "unaffordable" to poor people this might mean they should not purchase it—even if they choose to!—as that will reduce the income they have available to spend on other goods and services the evaluator considers socially more valuable. Thus, poor people "should not" smoke nor drink nor buy entertainment with subsidies provided by the government to compensate for income inequalities. Implicit is the idea that the donor/benefactor should make pricing decisions that correct for an inequitable distribution of income. This in turn implies that when prices are less than costs, someone must ante up a subsidy to cover the difference.
- AGENCY THEORY** a popular theory using the economics of producer and consumer self-interest to explain behavior in organizations. The core problem for the owners of capital is to arrange enforceable contracts to make their agents' interests coincide with their own. It is difficult to accommodate altruistic or idealistic behavior in this paradigm, although even this can be tautologically defined as self-interest.
- ASSET** something with market or exchange value that is part of the wealth or property of the owner.

- BETTERMENT LEVY** a taxation device used to ensure that the beneficiaries of a government-financed project (usually infrastructure) pay for all or part of the costs. An example might be a road opening up a new area; the betterment levy (a percentage) would then be applied to the change in rateable property values attributable to the improvement.
- CAPITAL** an imprecise word used in several different ways. In economics a capital good is one that is used in the process of production and that lasts beyond one accounting period (usually a year). Only longevity distinguishes such goods from raw materials or other inputs. Consumer goods are assumed to be used up in the period in which they are purchased. Consumer durables, another category of goods, mix longevity with a focus on household consumption (e.g., a washing machine, water pump, or latrine). "Capital" also means money used to purchase fixed assets or stocks of inputs; the life of these assets can be of either long or short duration, corresponding to the distinction between working and fixed capital. Capital is provided by the owners of an enterprise themselves or through borrowing (debt)—or more figuratively, "other people's money." The owners of equity capital have a claim on the net worth of the enterprise; this is the difference between assets and other liabilities. Often this number is unknown, however, as the value of assets can be determined only when they are sold. The stock market attempts to value the assets of quoted companies. Accounts indicate only historical prices unless an explicit revaluation is conducted.
- CAPITALIZATION** another confusing term that originally meant the aggregate value of a company, measured by the value of all outstanding equity as shown by stock prices. More recently it has been used to describe the process of providing money capital to start up a productive enterprise or financial institution. Thus, to say the government "capitalized" the new micro bank means it transferred money to a new entity—this could be a gift, a loan at market rates, or a subsidized loan or equity (meaning the government in theory retains control and ownership of the net assets). The term *decapitalization* usually means the process by which running at a loss decreases the amount of capital.

- CASH FLOW** yet another widely used piece of financial jargon best understood in contrast to accounting terms such as *sales* and *costs of production*, which are often imputed values rather than actual sums of money that have changed hands. For example, businesses routinely include the value of sales for which they have not yet been paid by the customer as "accrued income" (accounts receivable). Similarly, an item of capital equipment such as a computer maybe bought at one time for cash but will yield its services over a five-year period. The cost is spread over that period by allocating a part of the cost to each year and calling it *depreciation*. Cash flow is what makes or breaks a business. When there is no cash to pay creditors, consequences range from loss of confidence through seizure of property to bankruptcy proceedings. A "run on a bank" occurs when depositors believe the bank does not have the cash to pay them. This is invariably true, as most of the cash that was deposited has been loaned out to credit customers. Cash flow is measured per unit of time as opposed to "cash," which is a stock accumulated from all the previous periods' cash flows. When cash receipts for a period exceed outlays, cash flow is said to be positive.
- CHANNELED CREDIT** credit made on the understanding that it be used for a specific purpose decided by the lender. It has been associated with planners' attempts to transfer resources to particular sectors of the economy—e.g., agricultural credit.
- COLLATERAL** an asset belonging to a customer that is held by the lender as security in the event of default. The collateral may, for instance, be title to a piece of land or a certificate of ownership of a vehicle. Illiquid savings accounts can also serve as collateral. Collateral increases incentives to repay loans, and uncollateralized loans are the exception rather than the rule in banking.
- COST RECOVERY** an overused term emphasizing that all entities must pay their way or get someone else to do it for them. The degree of cost recovery is the percentage of full costs paid by the user or beneficiary of the goods or services supplied. Any shortfall must be met by a default on a debt or a subsidy/grant from some other internal or external source. Although not an end in itself, cost recovery may be pursued to improve efficiency, or for distributional reasons, or as the only source of funding expansion. As an empirical phenomenon, low cost recovery is often associated with lax financial discipline and low economic efficiency.

COST OF FUNDS (COF)	the cost a lender must pay on the funds lent out to borrowers. For a bank the funds will generally come from savings deposits, retained profits or equity, and loans from other institutions or individuals. Each of these sources can have a different cost, and the overall cost of funds is also referred to as the <i>weighted</i> cost of funds, the weights being the proportion deriving from each source. For realistic comparisons a value for equity should be imputed, as this money could have been invested somewhere else and have earned a return. This alternative return is often referred to as the <i>opportunity cost of capital</i> .
COVENANTS	in this context, promises borrowers make formally or informally to lenders. A good covenant should be capable of being monitored and able to influence borrower behavior.
CREDIT PRODUCTS	a phrase used by bankers to emphasize that different terms and conditions for loans are akin to the different attributes of products that appeal to different groups of consumers. Credit products are in turn marketed to different segments of the overall market for credit—e.g., mortgage loans for house purchase, trade credit for retailers. The major variables are the term (or how long the loan can be held for), the interest rate, the scheduling of installments, and penalties and incentives built into the loan contract.
CREDIT	allowing the use of goods and services without immediate payment. Credit may take the form of consumer credit (granted by retailers and finance houses), trade credit (such as that given by manufacturers to wholesalers and retailers), or bank credit (which may either be for a fixed sum with corresponding fixed repayment schedules or in the form of a variable line of credit or overdraft).
CREDIT EVALUATION	a formal process by which a bank or financial institution judges a customer's credit-worthiness and the risks associated with any activity the bank is financing. In commercial banking this may involve sophisticated financial evaluation, whilst in micro-finance such procedures would be prohibitively expensive. The stronger the available collateral the less the bank is interested in the viability of the borrower's project!
DEBT	an amount of money or some other asset owed by one individual or organization to another. A debtor owes money, while a creditor is owed money.
DEBT CAPACITY	an imprecise term used to indicate a borrower's ability to meet the obligations of the loan contract (service the loan). The usual method of calculation is to compare projected incremental availability of cash to the value of loan installments.

DEFAULT

failure to repay a loan on schedule. Countries, as well as individuals and organization, can default.

EXTERNALITY

also described variously as external effects, external economies/diseconomies, and spillover effects. The concept is used in welfare economics as an example of one sort of market failure. If there were no externalities, competitive markets would ensure an allocation of resources wherein the price paid for each good or service was the same as the cost of the resources required to produce that good or service. Externalities arise because some byproducts of production and consumption are neither owned by nor the responsibility of any single party. Air pollution imposes costs on people (dirty lungs and washing) but will impose costs on the producer only if there are enforceable regulations that force that producer to pay compensation. Another example would be a peri-urban resident who, needing to defecate and having no toilet, uses the street and pays no fee for doing so. The consequences for neighborhood residents, however, may be illness, a nasty smell, reduction in property values, and stigma. These are costs, but there is no corresponding price to be paid by the users of resources (clean streets, sweet-smelling air, disease-free water, etc.). Some externalities can be corrected by establishing property rights and enforcing them through financial liability. Other externalities that by their nature require the production of collective consumption goods (such as law, defense, public health) require government intervention through taxation and public expenditure.

FINANCE

another word with many meanings; commonly taken to mean a source of money to pay for something. More broadly, it is the provision of money when and where it is required. Finance may be required for consumption or for investment and may be long, medium, or short term. The financing question is usually posed as "who will pay for this?" More correctly, finance refers to the whole set of relationships that are defined by formal and informal contracts expressed in terms of monetary obligation. The many alternative ways in which money can be channeled to the borrower, and on what terms, create different incentives and behavior. Thus, in many countries money originating from the state and donors is characterized as *cold money* with no particularly strong moral obligation to repay attached to it. On the other hand, a loan from a relative or neighbor to finance the same activity may be seen as *warm money* with a strong obligation and incentive to repay. In many contexts the best path to development is for poor countries to develop their own mechanisms, using their own resources in the form of savings and equity investment. It is only when financial markets have reached some basic level of maturity that external flows of capital will be efficiently utilized.

**FINANCIAL
INTERMEDIARY**

go-between for parties with excess funds they want to invest and borrowers who are seeking capital or finance. In the absence of financial intermediaries, individuals and businesses wanting to borrow would incur enormous costs in locating and negotiating with savers who had excess funds. By consolidating many different transactions, intermediaries are able to provide essential services by spreading risk, facilitating payments, and transforming maturity terms.

**FINANCIAL
MARKETS**

institutions, laws, and practices defining the way in which the financial intermediaries in an economy (formal and informal) pass money and credit around a country's economy. The more mature the market, the more specialized the niches that are served and the greater the options available. The process by which financial markets expand the scope of their intermediation is sometimes called *financial deepening*.

FUNDS

another fancy word for money, in this case, money available for a specific purpose.

- FUNGIBILITY** the quality of money that makes one individual specimen indistinguishable from another. Anything used as money (gold, shells, bank notes) must have this quality. The fungibility of money makes it difficult for lenders to ensure that borrowers use the loan funds in the way lenders wish; one way they try to get round "misuse of funds" is to lend in *kind*. Often a person will borrow money for one stated purpose, but the effect of the loan is to finance another activity. Say, for example, that I intend to improve my house using savings but someone offers me a home improvement loan on attractive terms. The effect of the loan is not to increase quality of the
- FUNGIBILITY (CONT.)** housing stock, as the lender intended, but to enable me to undertake some other activity I could not otherwise have financed—buying a motorcycle, taking a holiday, or perhaps partying every night. Microfinance lenders such as donors and NGOs tend to dislike this because (a) they don't think poor people should use their limited incomes on such things, and (b) it reduces the funds available for lending to other potential clients or beneficiaries.
- HARD BUDGET CONSTRAINT** a circumstance in which bills have to be paid. The classic example of the contrasting *soft budget* constraint occurs in nationalized industries and government-owned enterprises where deficits are financed by transfers from a central government that cannot afford politically to let these organizations be declared bankrupt.
- IMPRUDENT RISK TAKING** a practice closely related to the problem of moral hazard. In the context of financial institutions the incentives for imprudent risk taking are the major justification for prudential regulation. Imprudent risk taking arises from investment decisions made by the managers who control an institution that makes loans using creditors' and depositors' money. An appropriate level of risk will be one that balances the increased return from greater risk with the declining preferences of depositors/creditors to take those risks. However, managers afflicted by moral hazard allow their decisions to be guided by self-interest, as they stand to make a big return in terms of increased salaries and bonuses if an investment is successful. If the investment fails, they do not lose their assets (unlike the owners of capital). Often, the worst they can expect is diminished employment prospects.

INDEX-LINKED REPAYMENT SCHEME	a loan agreement that allows the value of loan repayments to be linked to an index of prices or a reference interest rate such as that on short-term government bills. In this way short-term funds (such as liquid savings accounts) can finance long-term loans without the problem of <i>liability mismatch</i> (short-term liabilities and long-term assets). Such schemes are useful when inflation is high because the real value of repayments on long-term loans falls. Thus, a fixed-rate loan will provide no corresponding increase in income for the lender. While an <i>inflation premium</i> may be charged to cover this risk, it can be very high.
INTERMEDIATION COSTS	the costs related to making a loan. When a loan is transacted, both borrower and lender incur an interest cost: for the borrower this is the rate paid on the loan, while for the lender it is the cost of funds loaned out. The difference between these two is referred to as the <i>spread</i> and is a measure of gross profit to the lender. This spread must cover all the other noninterest or intermediation costs of making credit available. Borrower costs are usually not measured but are equally real and conceptually should be added to the rate they pay. These costs are for such things as transport to the bank to make payments, time lost from work, and time put into preparing the loan
INTERMEDIATION COSTS (CONT.)	application. The intermediation costs incurred by the bank or financial intermediary are more easily measured and must cover staff costs, buildings and services, a return on equity capital, and loan losses.
INVESTMENTS	in economic parlance, the amount by which the stock of capital goods of a firm or economy changes during a period of time. In everyday language, it is the purchase of an asset or undertaking of a commitment requiring an initial sacrifice followed by subsequent benefits.
LIQUIDITY	the ease with which an asset can be exchanged for money. In banking the assets are largely in the form of outstanding loans, which are of course rather illiquid. Banks are usually required by law as well as prudence to maintain some percentage of their assets in liquid or near liquid form. The lower the liquidity of an asset, the higher the interest rate required to induce investors to acquire it. In everyday terms cash liquidity is needed for small unpredictable purchases that cannot be made by check or credit card. For a micro-entrepreneur liquidity is needed for the investment in materials and fixed assets required to take advantage of a business opportunity. Many of these opportunities are short term and unpredictable, requiring an ongoing investment in working capital.

LOAN OR CREDIT PROGRAM	at a minimum, the details regarding sources of funds for lending, loan terms, application procedures and evaluation criteria, repayment incentives and penalties, target market, and collection mechanism. To be successful and sustainable, the capacity to make good loans (ones that finance economic activities and are paid back to the lender) will depend upon the loan program is being embedded in an institution with financial controls, management structures, and a set of incentives encouraging staff to make good loan decisions.
LUMPY EXPENDITURE	goods or services requiring a large payment at one time to purchase, but whose benefits are enjoyed over a long period of time. If rental markets exist, this is one way in which consumers can enjoy the good or service. Many categories of expenditure such as consumer durables do not have developed rental markets, however, and lumpy expenditures may be financed by loans from retailers or credit unions.
MINIMALISM	an approach to providing financial services to poor people that stresses efficiency and maximum outreach over other objectives stressed by the poverty-lending approach. With a minimalist approach, few additional services such as training and social work are packaged with the loan. Procedures are simple and costs of enforcing requirements for getting a loan (e.g., gender, income, place of residence) are minimized, while maintaining high repayment rates and generating resources for expansion are stressed.
POVERTY LENDING	a lending approach that targets the very poor and commonly seeks to address a wide range of issues beyond the traditional preoccupations of financial institutions. Credit becomes a means to get the poor organized to improve their socioeconomic welfare, and objectives tend to be expressed in terms of social conditions and empowerment of disadvantaged groups. Loans are typically small and subject to a ceiling, after which clients are graduated to keep assistance targeted on the very poor.
PRINCIPAL	the initial amount lent. Loan repayments are accounted for in terms of two components: a return of principal and interest. In calculating interest rates, an allowance should be made for expected inflation that will diminish the purchasing power of the amount of money represented by the principal.

RISK	when a range of uncertainty exists about possible outcomes. In modern corporate finance, risk is identified with measurable probabilities based on historic data. Keynes was among the first to distinguish between risk, which is measurable, and uncertainty, which is not. Uncertainty arises when there is no statistical basis for quantifying risk—the probability of a war in Asia in the next 10 years, for example. Although such prognostications are called <i>political risk analysis</i> , this is a misuse of the term. Some of the risks facing microfinance lenders involve uncertainty and are not amenable to management by quantitative techniques using the principles of diversification and hedging to reduce or manage risk.
SAVINGS	in its fundamental economic sense, a use of income for other than current consumption. In primitive societies with poorly developed financial systems, savings may be made in the form of physical assets such as gold and cattle. Strictly speaking, savings in this sense is a flow concept—so much saving per unit of time. The second use of the term is to refer to money that is held in interest-bearing accounts. When these "savings instruments" become available, the depositors may not increase their rate of saving but merely transfer physical assets to a monetary form. Financial savings are usually measured as stocks of money representing cumulative savings and the interest earned on deposits.
SAVINGS PRODUCTS	a term bankers use to stress the different attributes of services offered to savers. Examples of different savings products are checking accounts, savings accounts, and fixed-term deposits.
SAVINGS MOBILIZATION	the deliberate and planned effort to induce the public to reduce consumption and increase savings. In developing countries it is often an attempt to shift people from saving in unproductive physical forms (e.g., gold, land) to using savings instruments and allowing their purchasing power to be channeled to borrowers who will invest in profitable enterprise.
SEED CAPITAL	an initial amount of capital that is expected to grow (as a plant grows from a seed). The connotation of "seed capital" is that the amount is not large, and future growth will be financed by profits rather than new injections of outside capital.

SOLIDARITY LENDING	an approach to lending with many variations. In its extreme form a loan is made to a group, with joint responsibility for repayment. If one member fails to pay, the others must make up the difference or the loan goes into arrears. More commonly loans are made to individual group members, and in the event of default by any single lender, the other members of the group must either pay the defaulter's loan or lose access to future credit. Solidarity lending may also perform an important function in providing mutual support and building confidence amongst group members. This is particularly so if the lender is trying to make the borrowers into entrepreneurs through the targeting of some sort of microenterprise credit.
SUBSIDY	a payment, made by someone other than the consumer of a good or service, which is supposed to reduce the price paid by the consumer. In general someone purchasing a good or service for less than the market price is receiving a subsidy from somewhere. Financial subsidies are often given in the form of below-market interest rates and grace periods.
TARGETED CREDIT	credit for the use of a defined target subgroup in the population. Ensuring that only eligible borrowers receive loans increases transaction costs and requires compliance monitoring.
TRANSPARENT LOAN TERM	loan terms that are easy to understand, with the information required to understand the underlying obligations and risks easily accessible to all parties involved in the credit transaction.
WILLINGNESS TO PAY	the amount a consumer will pay for a particular quantity of a good or service. In consumer demand theory, willingness to pay automatically implies ability to pay. In contemporary social science writing, "ability to pay" is sometimes contrasted with willingness to pay. The implicit assumption here is that even though people are willing and actually do pay a certain amount, they lack the ability to pay because they should have spent this money on something else. Buying the good (e.g., water) results in a loss of consumption of some other good or service and places the purchasers further below some socially defined minimum-consumption standard.

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